

JACUZZI®

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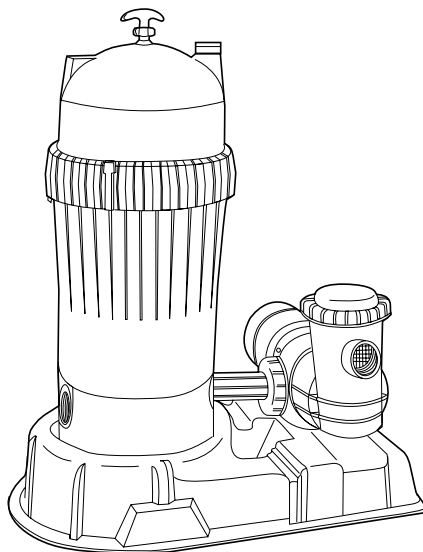
Avananche™ D.E. Filter System

Owner's Manual and Installation Guide

Congratulations! You have purchased one of the most user-friendly pool filter systems available. Jacuzzi is a leader in providing superior products, combining easy installation and simple service.

This filter system manufactured by Jacuzzi Bros. will provide you with many years of pool enjoyment. Ideal for above-ground or inground pools, your filter system with the Ring-Lok filter and Ring-Lok pump, allows you to easily clean the filter grids and the pump strainer basket without any tools.

This step-by-step installation and maintenance guide will provide the necessary information for you to install your new pool system and easily maintain the equipment.



Introduction:


INSIDE:


<i>Setting Up your Equipment.....</i>	<i>4-5</i>	<i>Winterizing Your Filter System.....</i>	<i>21</i>
<i>Plumbing The System To Your Pool.....</i>	<i>6</i>	<i>Water Maintenance.....</i>	<i>21</i>
<i>Starting Your System.....</i>	<i>7-8</i>	<i>Filter System Parts Breakdown.....</i>	<i>22</i>
<i>Filter Regeneration.....</i>	<i>9-11</i>	<i>Troubleshooting.....</i>	<i>23-24</i>
<i>Cleaning The Pump Strainer.....</i>	<i>12-13</i>	<i>Manufacturer's Warranty.....</i>	<i>25</i>
<i>Cleaning The D.E. Grid Cassette.....</i>	<i>14-20</i>		


WARNING


Warns about hazard that CAN cause serious personal injury and property damage if ignored.

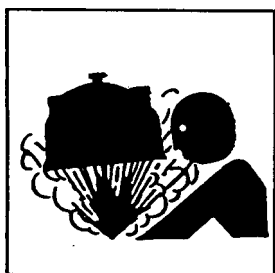



 (For cord and plug connected units.) Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other lawn equipment.

 (For cord and plug connected units) To reduce the risk of electric shock, replace damaged cord immediately.


 (For cord and plug connected units.) Risk of electric shock. Connect only to a grounding type receptacle protected by a ground-fault circuit interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.

 (For cord and plug connected units) To reduce the risk of electric shock, do not use an extension cord to connect unit to electric supply; provide a properly located outlet.



 To guard against low voltage which can damage the pump motor, use minimum wire gauge shown below:

Wire Length		
HP	50 Ft.	100Ft.
3/4	#14G	#12G
1	#12G	#10G

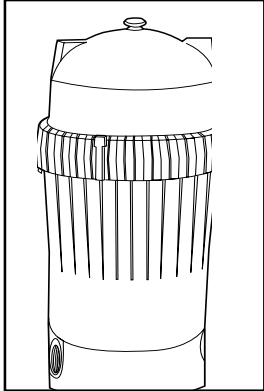
 If filter Ring-Lok is removed or adjusted under pressure the filter cover may blow off, causing injury or property damage.

What you should have:

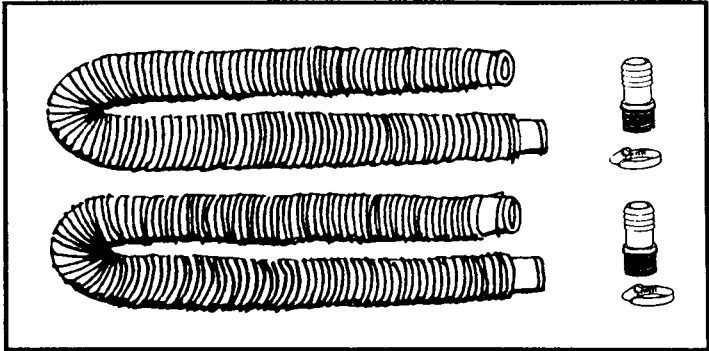
Contents of carton:



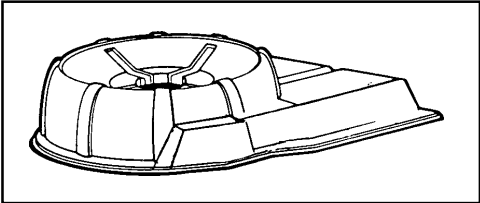
Pump



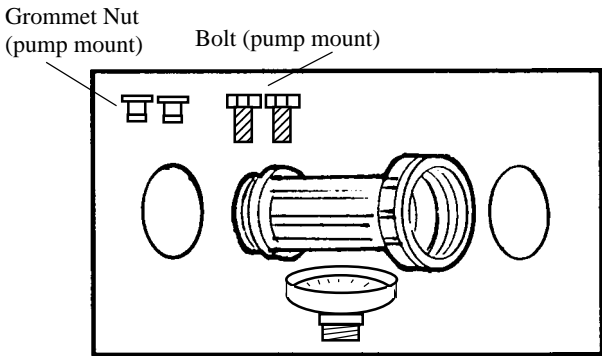
D.E. Filter



System to Pool 6' Hose Kit (Included in Systems With HK6 in Model Number.)



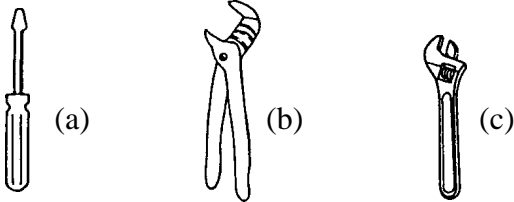
Base



Pump to Filter Connecting Pipe and Hardware Kit

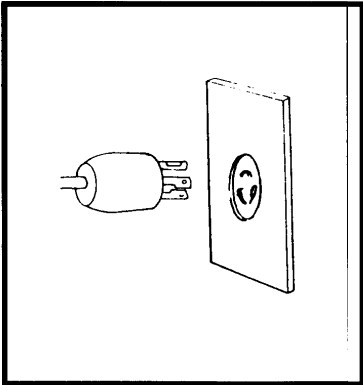
Tools you will need:

For most installations all you will need are (a) screwdriver (b) wide mouth pliers and (c) adjustable wrench.

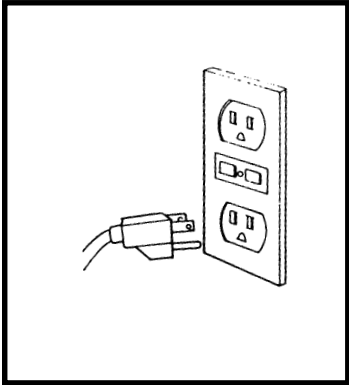


Electrical Data

Refer to information on motor nameplate for electrical service data. If the pump on your system is supplied with a 3-prong twist lock 115V plug, then the appropriate female receptacle should be installed. **For systems with a standard 3-prong 115V plug, we recommend a grounded receptacle be installed with a built-in ground fault circuit interrupter** having a fused disconnect switch or circuit breaker and wire size large enough for pump horsepower and distance from power source. Wiring should be done in accordance with applicable codes by a competent electrician.



3-prong twist-lock plug



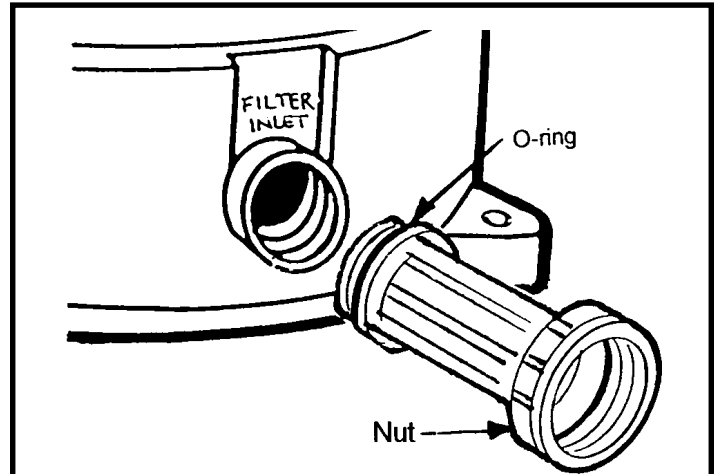
Standard 3-prong plug

Setting up your system:

Step 1

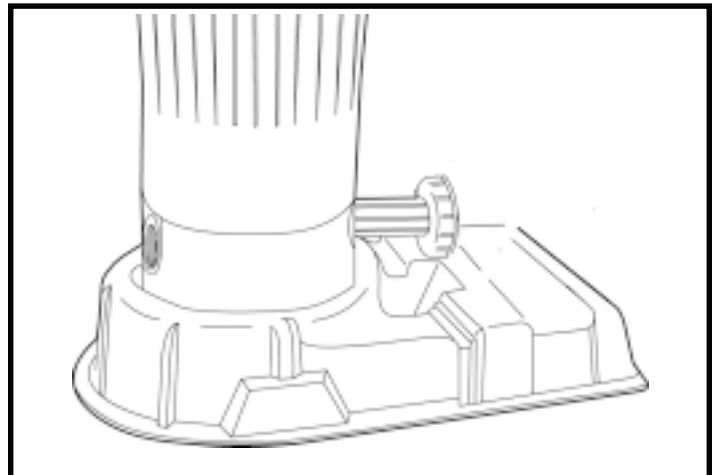
Install threaded end of interconnect pipe into the filter "INLET." Tighten until O-ring seals against filter.

NOTE: Be sure union nut is placed on interconnect pipe before it is threaded into filter. Threads on union nut should face away from the filter.



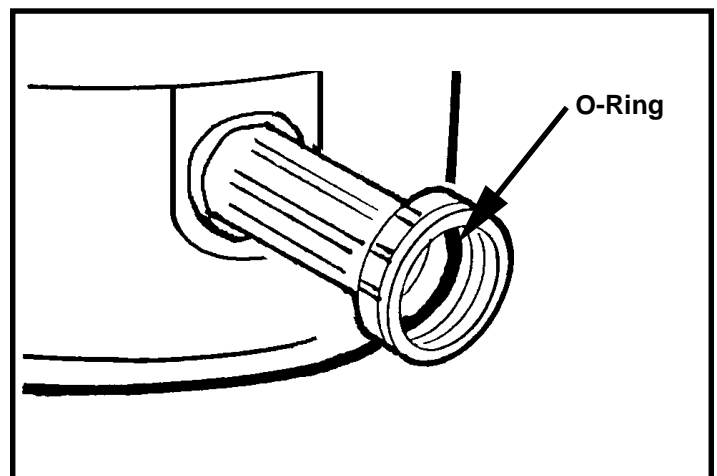
Step 2

Place filter on base in upright position with interconnect pipe facing the pump position. Press firmly down on filter, pushing it down into base.



Step 3

Be sure that O-ring is firmly seated in O-ring groove in the end of interconnect pipe.

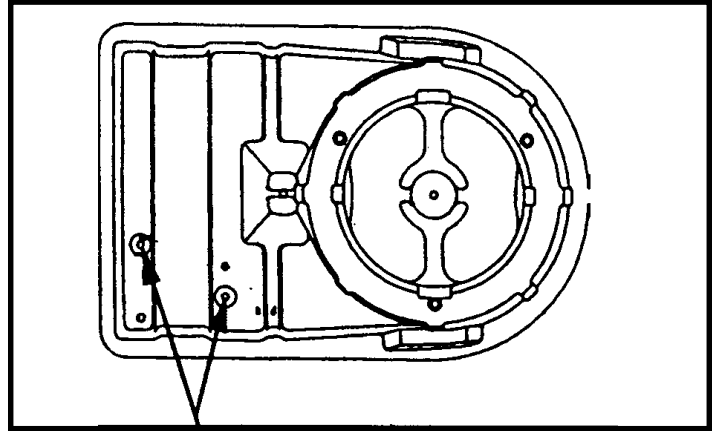


Step 4

Push the grommet nuts into the pre-drilled holes in the system base. Use the illustration at the right to ensure the correct holes are used. Position the pump on the base and connect the union nut on the interconnect pipe to the pump discharge and hand tighten only. Install the supplied pump bolts into the grommet nuts to secure the pump to the base.

TIP: Do not fully tighten pump bolts until system set-up is complete.

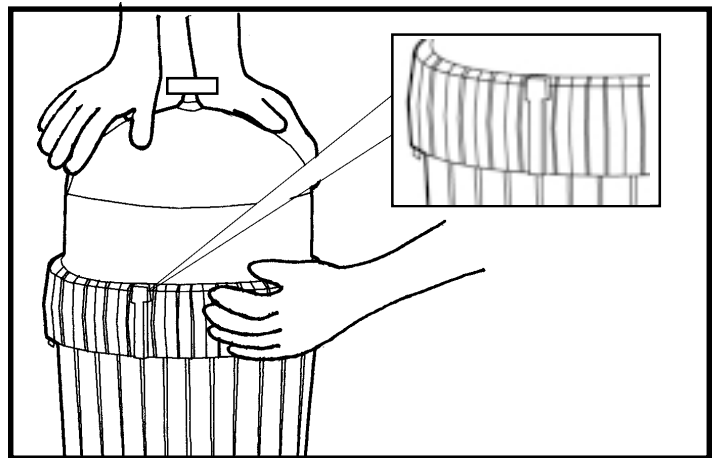
NOTE: Some systems come with grommet nuts, or equivalent, factory installed.



Install grommet nuts in these holes to ensure proper pump location.

Step 5

Be certain that the filter cover is pushed completely down and the Ring-Lok nut is tightened to the "built-in stops" and yellow safety latch is engaged.

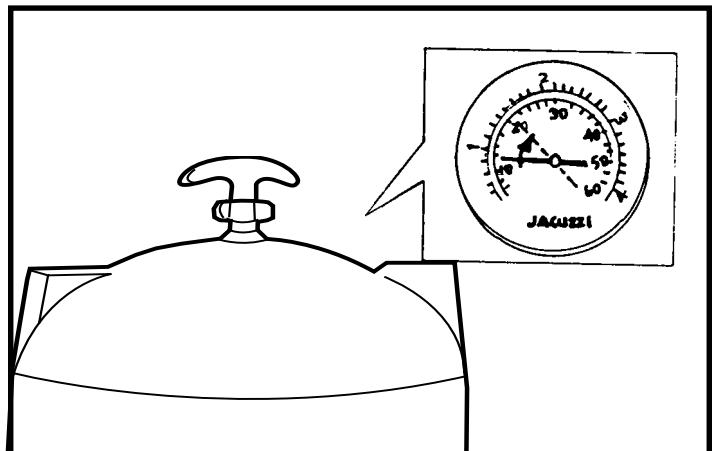


If the Ring-Lok nut is not tightened so yellow safety latch is engaged, the filter cover may blow off causing injury or property damage.

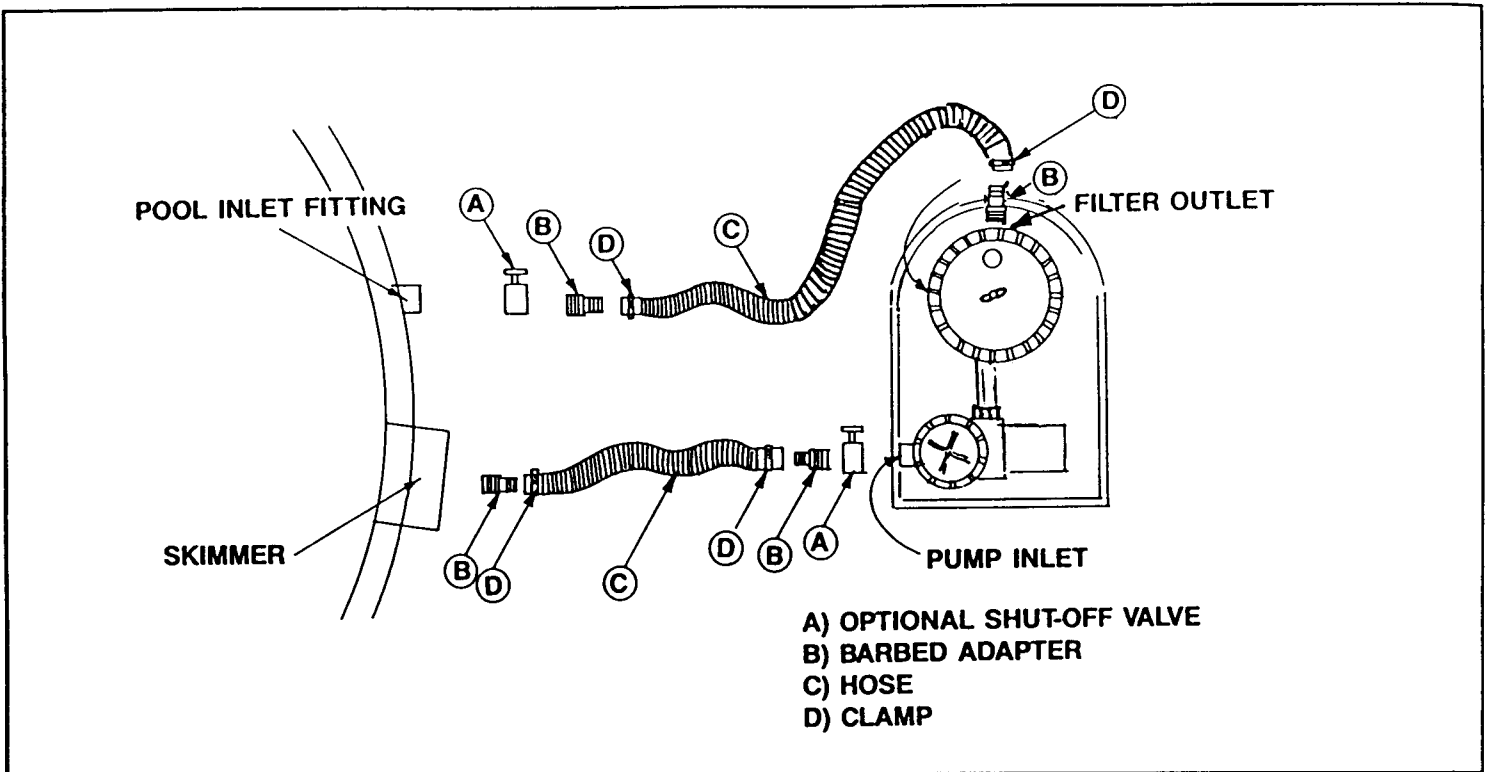
Step 6

Carefully install the pressure gauge into the filter cover after wrapping the brass threads with 4 wraps of teflon tape (Note: Some gauges have teflon tape factory installed.)

TIP: Install pressure gauge only hand tight plus 1/4 turn.



Typical above-ground pool connection:



□ LOCATION TIPS:

1. Locate system on solid foundation as close to pool inlet-outlet as possible.
2. U.L. listed systems with 115V twist lock plug must be installed at least 5 feet from the pool. Give consideration to any other local codes that may apply.
3. Location should have adequate access for future servicing and winterizing.
4. Provide for adequate drainage away from equipment.
5. If you cover your system be certain to provide adequate ventilation.

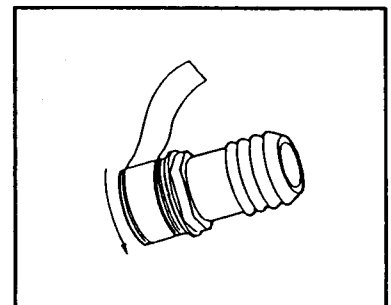
Step 1

Although optional, we recommend shut-off valves (A) be installed in the pump inlet and pool inlet fitting for easy servicing when the system is installed below the water level of the pool.

Step 2

Prepare hose adapters by wrapping threads with teflon tape. Install four hose adapters (B) in the following locations.

- ❖ Pool skimmer.
- ❖ Pump Inlet (or optional shut-off valve).
- ❖ Filter outlet.
- ❖ Pool Inlet fitting (or optional shut-off valve).



Step 3

Attach hose (C) using hose clamps (D) to male adapters (B) according to the diagram shown.

❖ NOTE: Refer to the pool manufacturer's installation instructions for more detail.

You are now ready to fill your pool and begin system startup procedures (see page 7).

CAUTION: Water acts as a coolant for the seal. Do not operate your pump until it has been filled with water (primed).

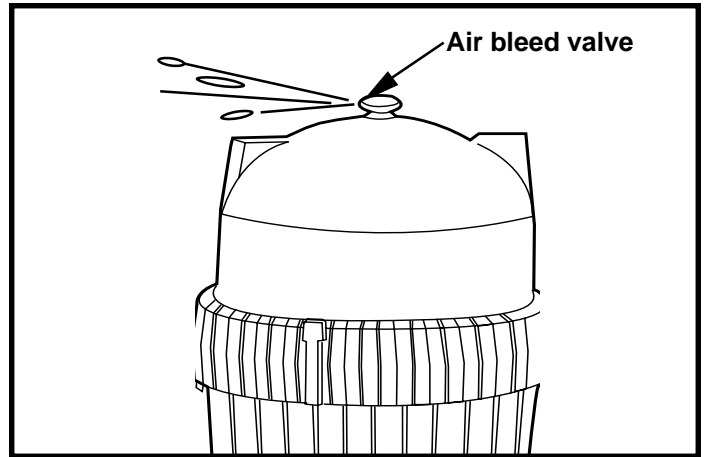
IMPORTANT: This filter is a diatomaceous earth (D.E.) type filter and requires D.E. in order to operate. **DO NOT OPERATE FILTER WITHOUT D.E.**

For above-ground pools with system below the pool water level.

Step 1 →

Open the air bleed valve on top of the filter to allow captured air to escape. When a steady stream of water appears, close valve.

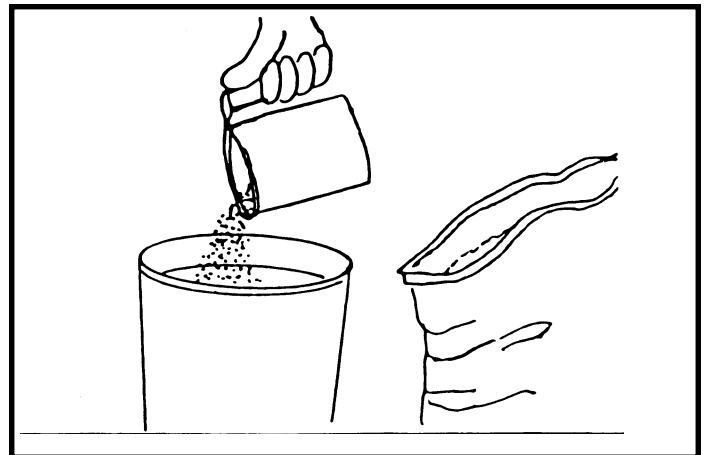
NOTE: If optional shut-off valves are installed be sure that both valves are fully opened.



Step 2 →

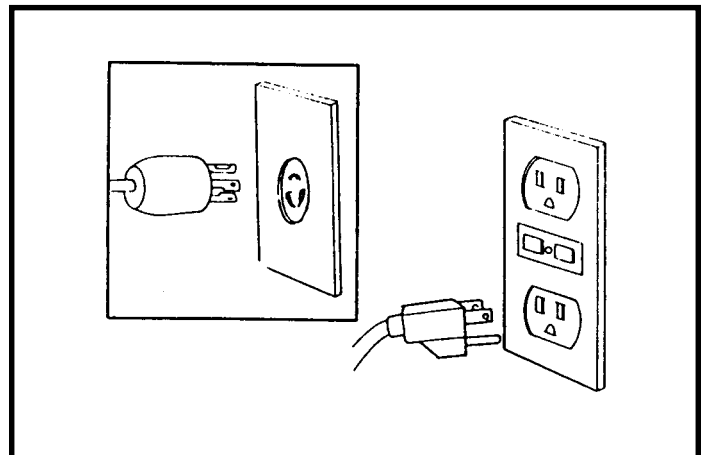
Mix diatomaceous earth in a bucket of water. See Chart for appropriate amounts. The D.E. scoop this is supplied with your system should be used for measuring. Set bucket of D.E. mixture aside.

Filter	Scoops of D.E.
AV40	3
AV60	4
AV80	5



Step 3 →

Turn the motor on by plugging the unit into a grounded electrical receptacle.

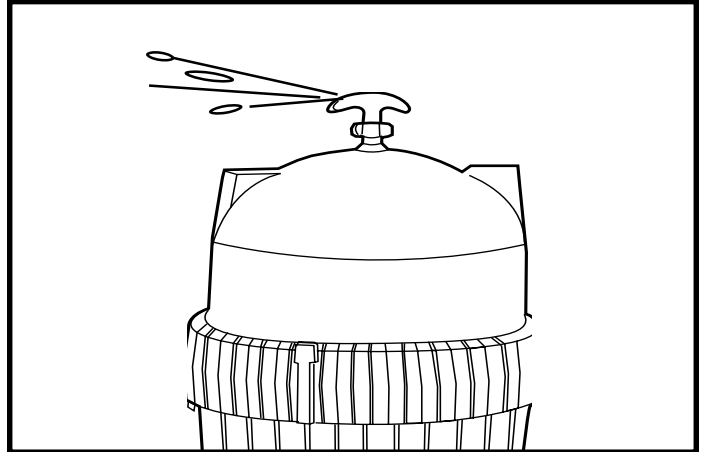


WARNING
The use of an extension cord may result in a severe voltage drop which could cause damage or shorten the service life of your pump motor.

System startup:

Step 4

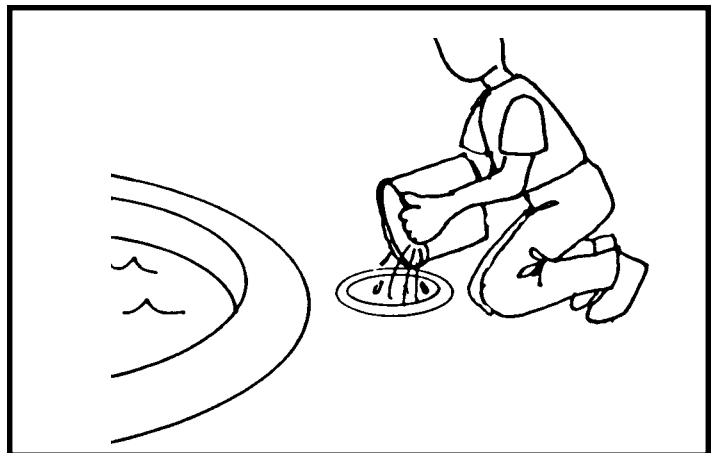
Open air bleed valve to release any additional trapped air. When a steady stream of water appears, close the valve.



Step 5

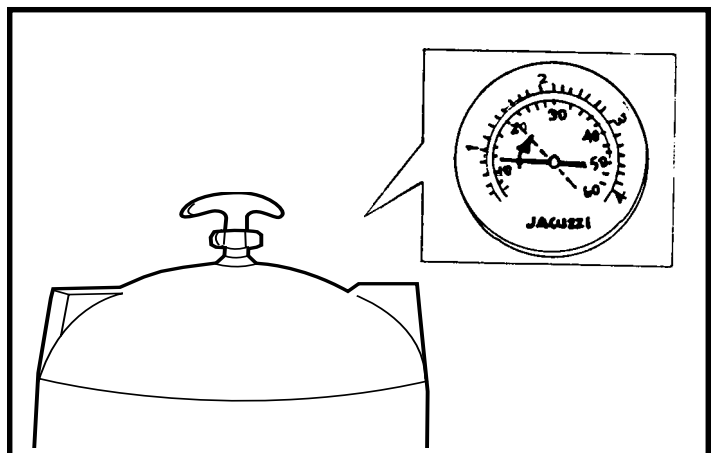
Pour D.E. mixture into pool skimmer slowly to allow D.E. to be pumped into the filter for coating. Allow 3-5 minutes for grids to coat sufficiently.

IMPORTANT: Do not operate filter for extended periods without D.E.



Step 6

The filter is equipped with a pressure gauge to assist in determining when the filter grid cassette should be cleaned. Note the gauge reading when filter is started up, "CLEAN." As the filter becomes dirty, the needle will move to the right. When the needle has moved 10 psi above the "CLEAN" reading, regenerate the D.E. (see FILTER REGENERATION pages 9-10.)



NOTE: Regeneration of the D.E. filter is done to extend the filter cycle before cleaning of the grid cassette becomes necessary. If a 10 p.s.i. increase is indicated by the filter pressure gauge, follow the filter regeneration steps below.

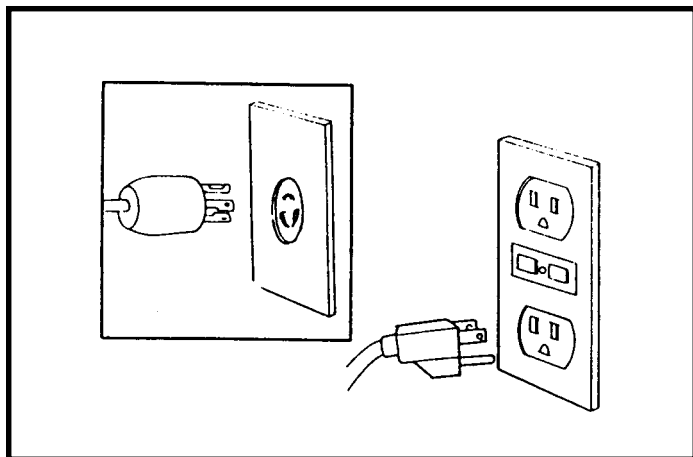


If filter Ring-Lok is removed or adjusted under pressure, the filter cover may blow off, causing injury or major property damage.

Step 1

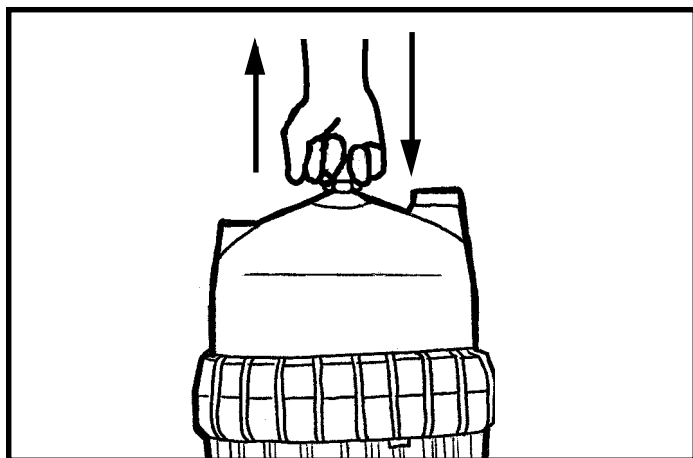
Unplug the pump cord. However, if the system has not been operating, plug pump cord into 3-prong grounded electrical receptacle, allow to run for 5 to 8 minutes, then unplug pump cord.

NOTE: Do not attempt to regenerate filter while pump is running.



Step 2

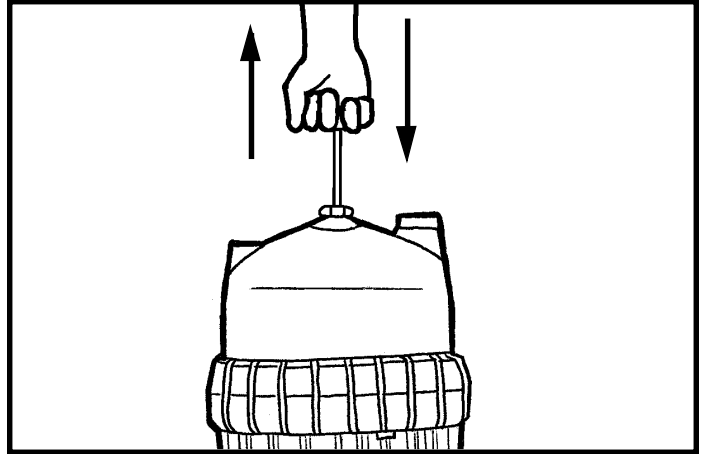
Grasp wiper handle on top of filter. D.E. cake may prevent easy up and down movement of wiper plates. To dislodge the D.E. cake, pump the handle up and down until it moves freely. Several pumps may be necessary to initiate any movement of the regenerative system.



Filter regeneration:

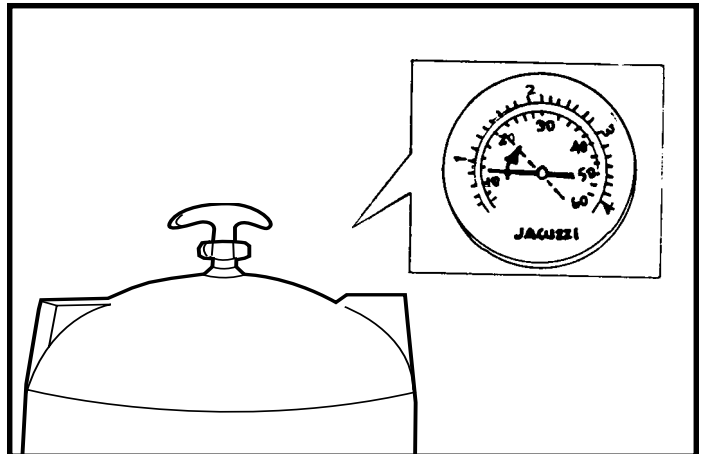
Step 3

When full stroke is obtained, slowly move handle up and down 4 to 5 times, then return wiper blades to bottom position of stroke.



Step 4

Plug pump into 3 prong grounded electrical receptacle. Note pressure reading. If pressure gauge reading increases 10 p.s.i. within 72 hours, grid cassette must be cleaned. Follow "cleaning the D.E. grid cassette," instructions on page 13-20.



Cleaning the pump strainer:



To avoid electrical shock, unplug the pump before performing any service or maintenance.



If filter Ring-Lok is removed or adjusted under pressure, the filter cover may blow off, causing injury or major property damage.

Step 1 → ⚠ **Unplug the pump cord.**

For above-ground pools with the filter system located below the pool water level.



Your system is full of water. If you remove the pump strainer cover, water will run out freely from your pool. You must close the shut-off valves, if installed, or make provisions to stop the flow of water from your pool. To remove the water that is still captured in your system, drain the filter tank before proceeding.

OR

For in-ground pools with the filter system located above the pool water level.

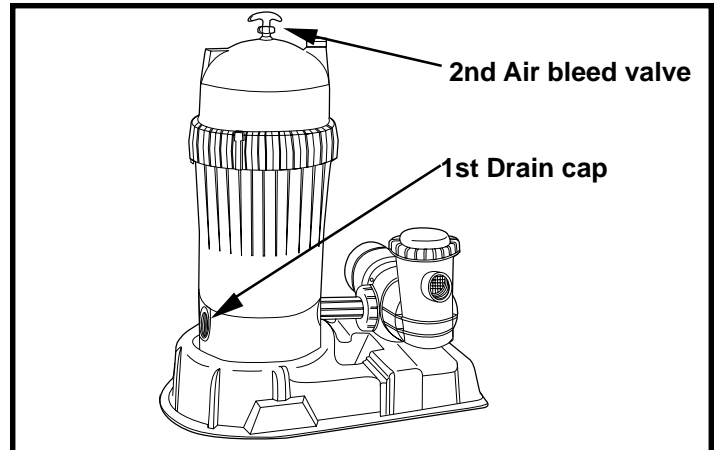


Your system is full of water. If you remove the pump strainer cover before draining the filter tank, water in the filter tank will flow out of the pump freely and dirty water may run back into your pool.

Step 2 →

Drain the filter tank by first removing the drain cap and then opening the air bleed valve. Replace the drain cap once filter is drained.

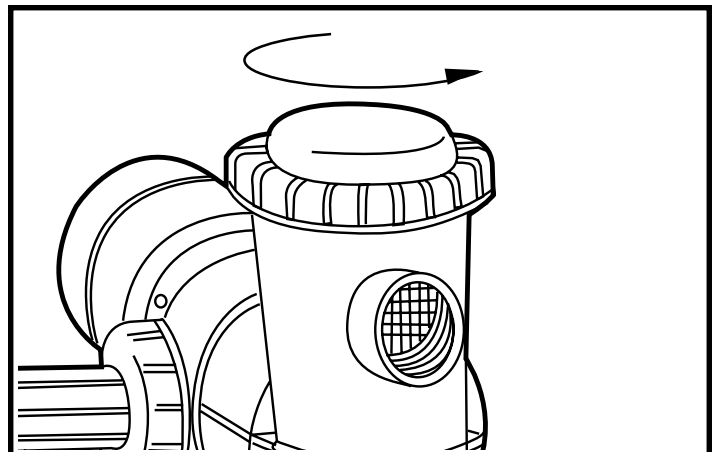
TIP: A hose bib and garden hose can be connected to allow drainage into a convenient area.



Step 3 →

Unscrew the strainer RING-LOK nut and remove the clear strainer cover.

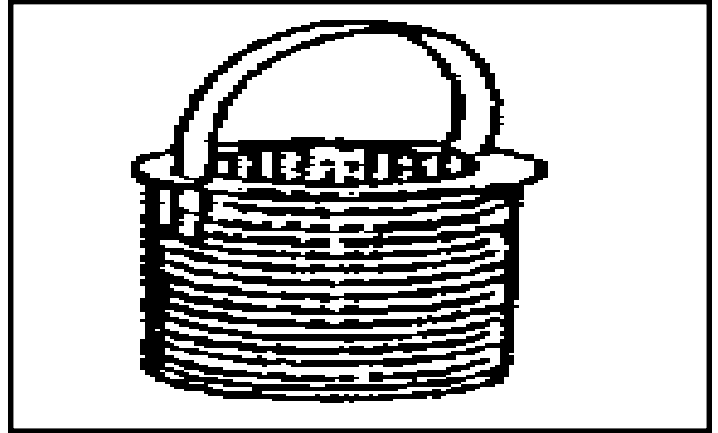
CAUTION: Some remaining water may spill out of the strainer body when the clear strainer cover is removed.



Cleaning the pump strainer:

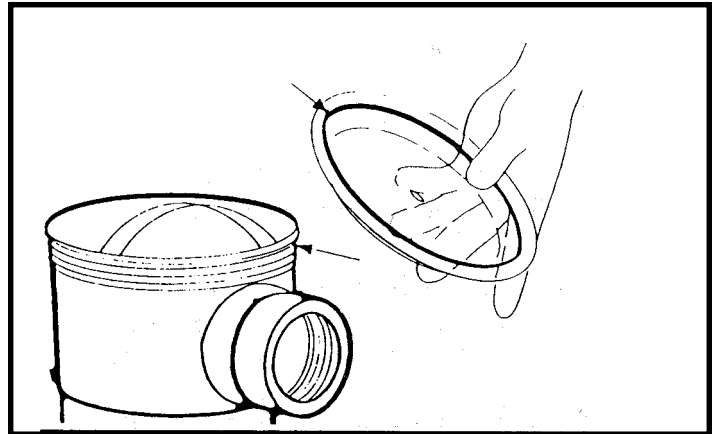
Step 4

Lift the basket out of the strainer and remove the debris. Reinstall the basket.



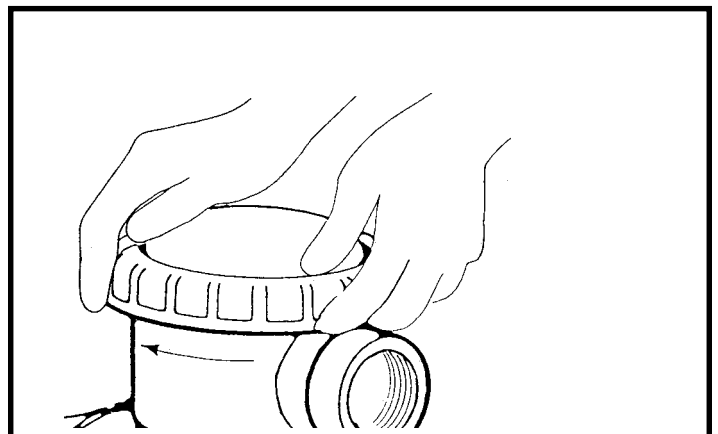
Step 5

Clean the o-ring on the clear strainer lid and re-lubricate with petroleum jelly. Also, clean all surfaces that come in contact with the o-ring to assure a good seal.



Step 6

Replace the clear cover and strainer Ring-Lok. **HAND TIGHTEN ONLY.** Open the optional valves if installed.



You are now ready to perform the system start-up (see pages 7-8).

Cleaning the D.E. grid cassette:



To avoid electrical shock, unplug the pump before performing any service or maintenance.



If filter Ring-Lok is removed or adjusted under pressure, the filter cover may blow off, causing injury or major property damage.

Step 1 → ⚠ *Unplug the pump cord.*

For above-ground pools with the filter system located below the pool water level.



Your system is full of water. If you remove the pump strainer cover, water will run out freely from your pool. You must close the shut-off valves, if installed, or make provisions to stop the flow of water from your pool. To remove the water that is still captured in your system, drain the filter tank before proceeding.

OR

For in-ground pools with the filter system located above the pool water level.

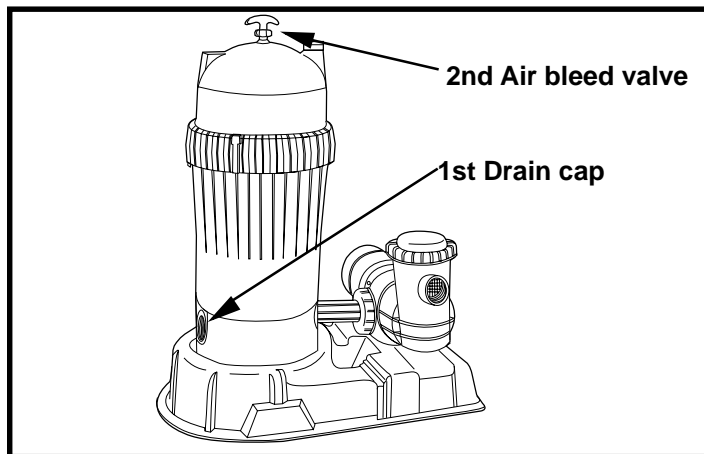


Your system is full of water. If you open the filter air bleed valve or remove the filter cover before draining the filter tank, dirty water may run back into your pool.

Step 2 →

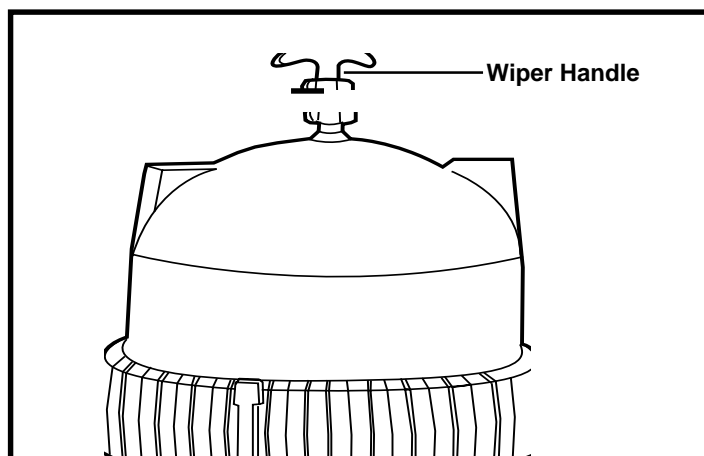
Drain the filter tank by first removing the drain cap and then opening the air bleed valve.

TIP: A hose bib and garden hose can be connected to allow drainage into a convenient area.



Step 3 →

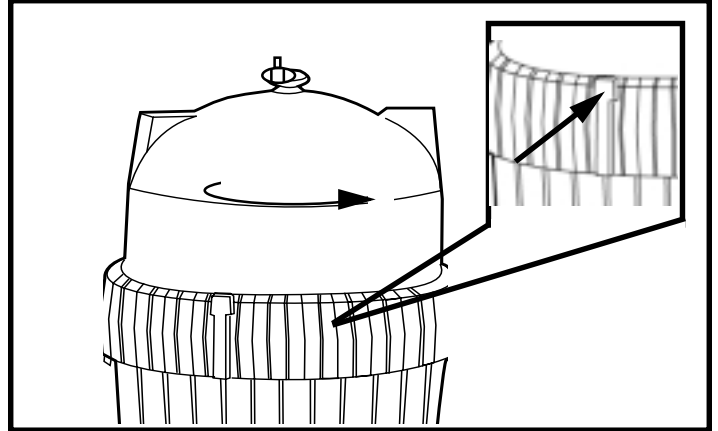
Unscrew the wiper handle and set aside. Then loosen the air bleed valve. (It is not necessary to remove air-bleed valve.)



Cleaning the D.E. grid cassette:

Step 4

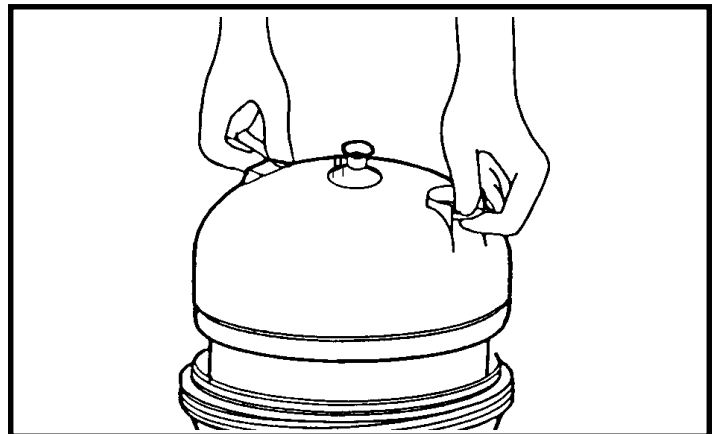
Press down on yellow safety latch and rotate the large Ring-Lok nut counter-clockwise. Using both hands continue to unscrew the Ring-Lok nut. Remove and set aside.



Step 5

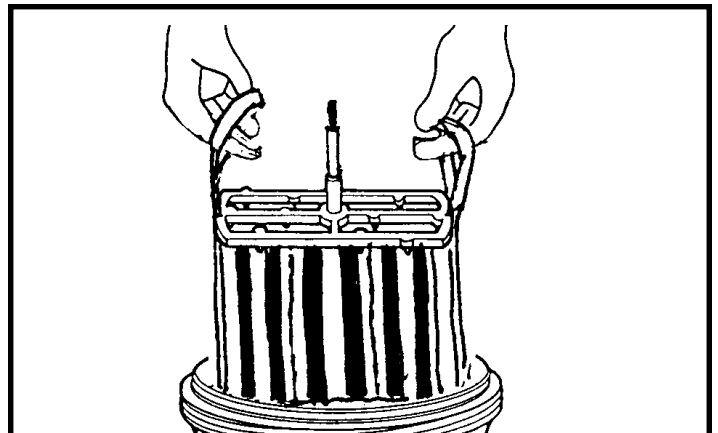
Remove the cover by pulling upward on the handles, rocking gently if necessary.

NOTE: Be sure not to bend the threaded wiper rod protruding from the top of the filter cover.



Step 6

Grasp the two lifting straps and lift the grid cassette out of the filter tank. Rocking gently if necessary.

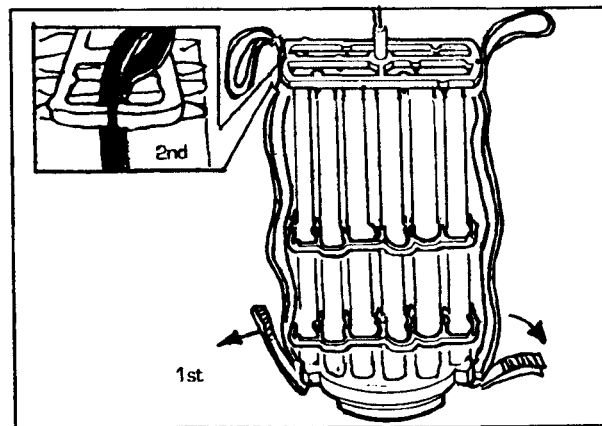


Step 7

Remove lifting strap from both sides of top grid support.

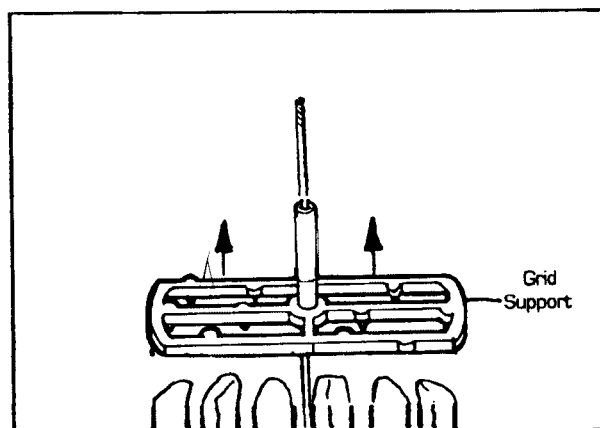
♦TIP: Loosen velcro fastener on strap at bottom manifold first to relieve tension on top support.

♦Note: Some models use a plastic buckle in place of velcro. Pull downward on the buckle to release the strip tension. Pinch the straps to remove them from the support plate and manifold.



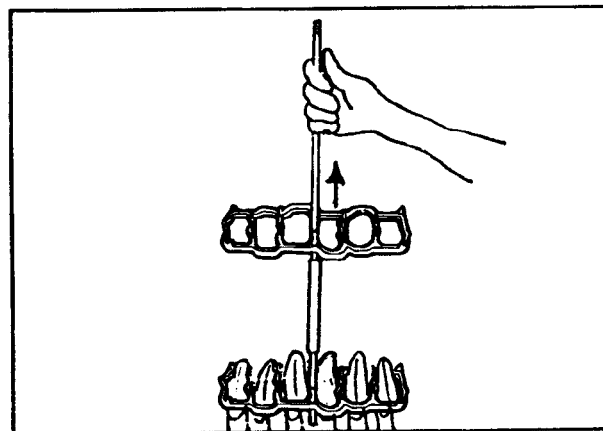
Step 8

Slide the grid support off of the wiper rod.



Step 9

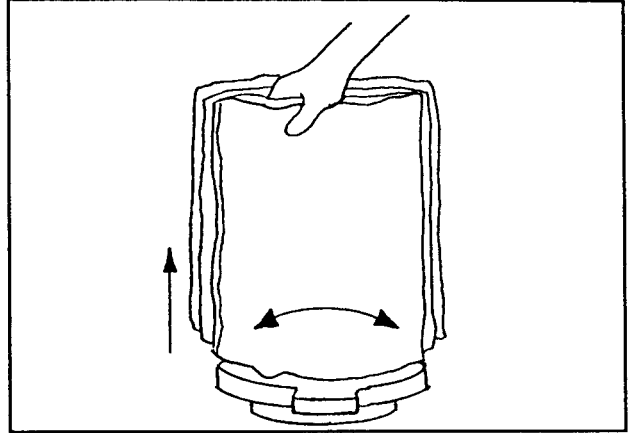
Grasp the wiper rod and lift the wiper assembly off of the grids.



Cleaning the D.E. grid cassette:

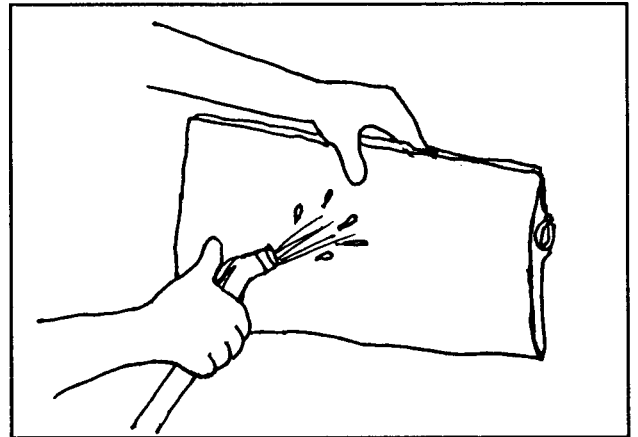
Step 10

Remove all the grids from the manifold by gently rocking grid and pulling upward.



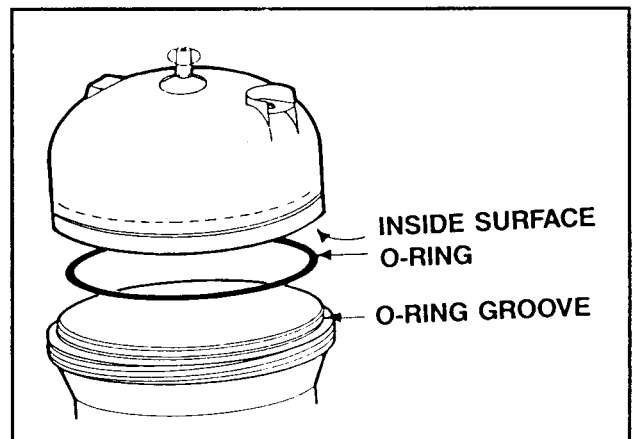
Step 11

Clean the grids and bottom manifold with a high pressure nozzle on a garden hose. Also, wash out any debris remaining in the filter tank and replace drain cap.



Step 12

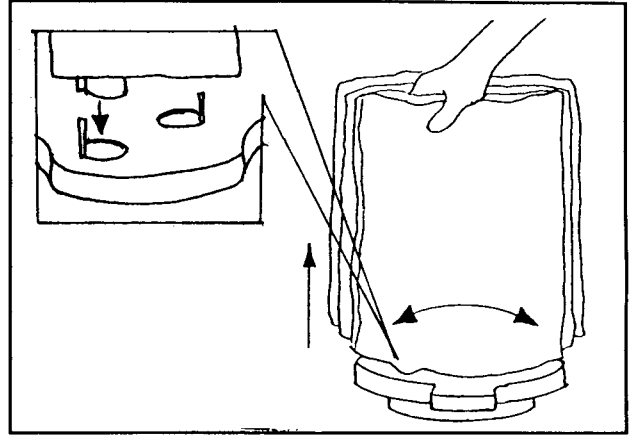
Clean the O-ring on the filter body and re-lubricate with petroleum jelly. Also, clean all surfaces that come in contact with the O-ring to assure a good seal. Install O-ring on filter body.



Cleaning the D.E. grid cassette:

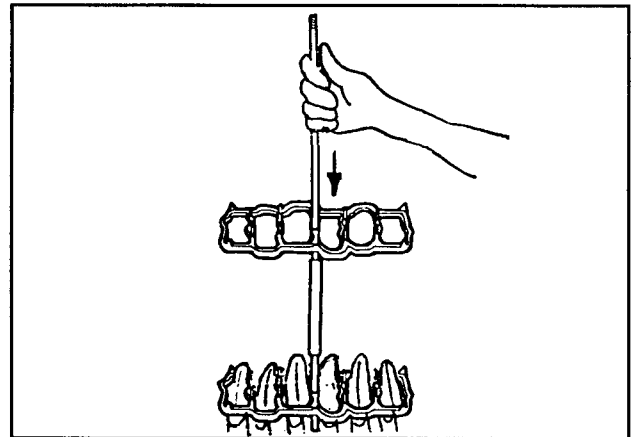
Step 13

Install clean grids into bottom manifold.
NOTE: Pin on bottom manifold must be aligned with slot in grid tubing that is exposed.
❖**TIP:** Bottom manifold is labeled for easy locating of 7" and 8 1/2" grids.



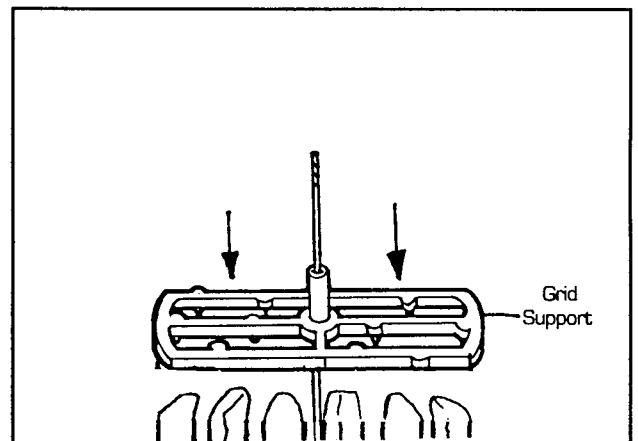
Step 14

Slide wiper assembly onto grid cassette.



Step 15

Slide top support plate onto wiper rod and position grids so support plate sits down evenly.



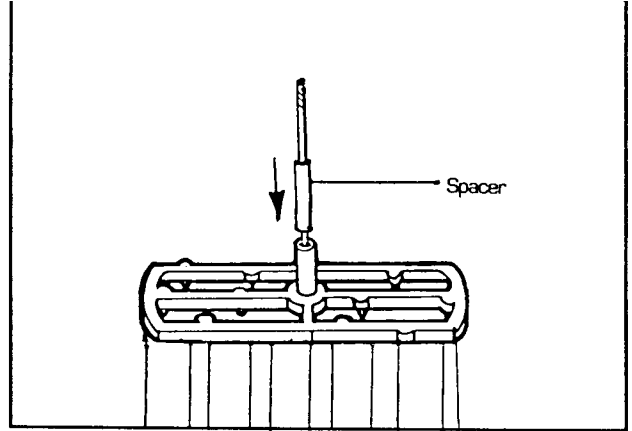
Cleaning the D.E. grid cassette:

Step 16

Slide plastic spacer onto wiper rod.

❖NOTE: Model LS70 filter does NOT have a plastic spacer.

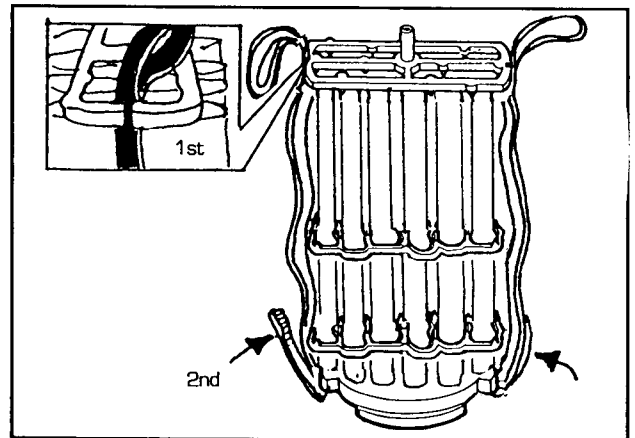
Ensure plastic spacer is inserted into collar on the support plate.



Step 17

Place lifting straps in both sides of top grid support. Tighten strap and fasten velcro to assure a tight grid cassette.

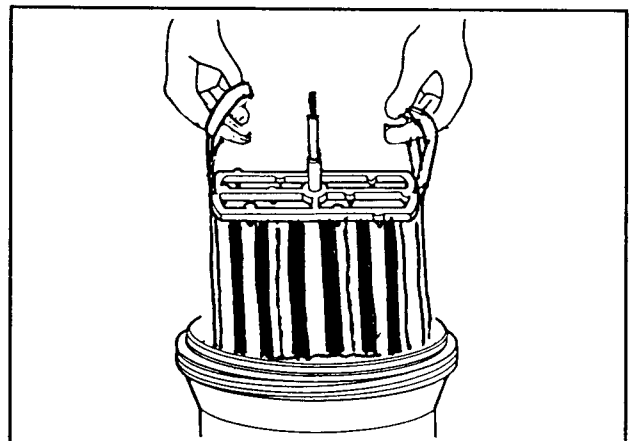
NOTE: Some models have a plastic buckle in place of the velcro. Once the straps are in place, pull upward on the buckle to tighten the straps.



Step 18

Place the grid cassette back into the filter tank, making sure that it is seated properly.

NOTE: To ensure the grid cassette seats properly, align the straps with the filter inlet and outlet ports as you replace the cassette.

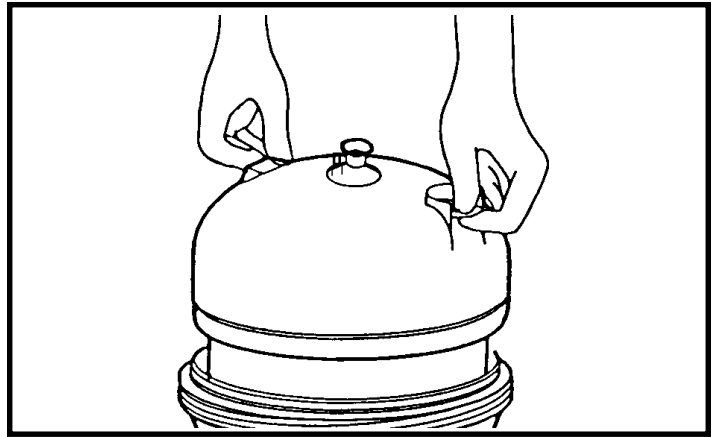


Cleaning the D.E. grid cassette:

Step 19

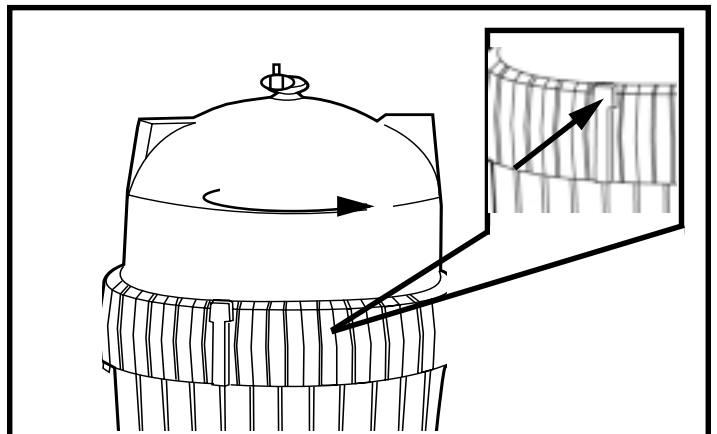
Align wiper rod to fit through hole in top of the cover. Place the cover on the filter body and press firmly downward until the cover comes to a stop against the filter body.

TIP: It is easier to replace the filter cover if the air bleed valve is open.



Step 20

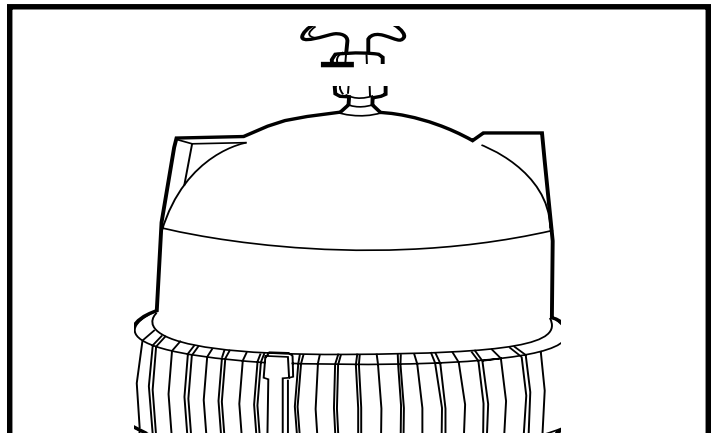
Clean the threads of the Ring-Lok nut and the threads on the filter body with water or a cloth. Place the Ring-Lok nut on the filter and tighten to the "built-in stops." Be sure that the yellow safety latch is engaged.



If the Ring-Lok nut is not tightened to built-in stops, the filter cover may blow off causing injury or property damage.

Step 21

Tighten air bleed valve into cover. Screw wiper handle on to exposed threads of wiper rod.



You are now ready to perform the system start-up (see pages 7-8).

Winterizing the filter system:



To avoid electrical shock, unplug the pump before performing any service or maintenance.



If filter Ring-Lok is removed or adjusted under pressure, the filter cover may blow off, causing injury or major property damage.

Step 1 →  **Unplug the pump cord.**

For above-ground pools with the filter system located below the pool water level.

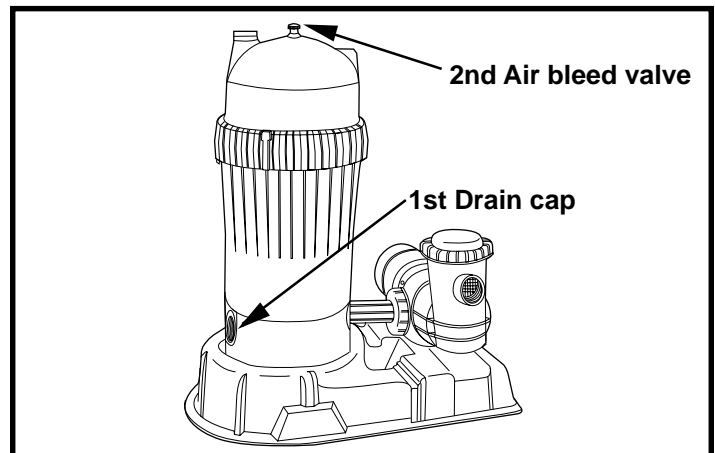


You must drain the water in the pool below the skimmer and inlet fitting. Follow pool manufacturer's recommendations for winterizing the pool. Your system is full of water. To remove the water that is still captured in your piping and system, drain the filter tank before proceeding.

Step 2 →

Drain the filter tank by first removing the drain cap and then opening the air bleed valve. Replace the drain cap once filter is drained.

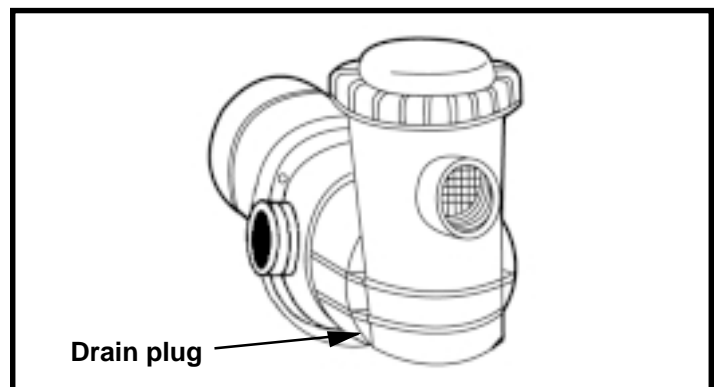
TIP: A hose bib and garden hose can be connected to allow drainage into a convenient area.



Step 3 →

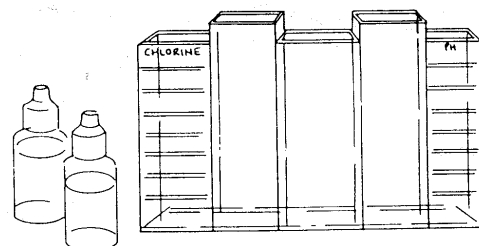
Drain the pump strainer and pump case by loosening the plug shown. The pump will drain without completely removing the plugs from the pump.

NOTE: If temperatures in the winter are severe, you may choose to disconnect your filter system from the pool and move it to a protected area.



Water maintenance:

A proper and consistent use of chemicals is necessary to maintain clean, sanitary water, to prevent a spread of germ infection and control the growth of algae which can spoil the appearance and enjoyment of your pool or spa. See your pool professional for proper chemical maintenance.



Trouble Shooting



Disconnect power to motor main circuit breaker to avoid electrical shock.



If filter Ring-Lok is removed or adjusted under pressure, the filter cover may blow off, causing injury or property damage.

◆ THE MOTOR DOES NOT START WHEN YOU PLUG IT IN.

- ✓ Disconnect the switch or circuit breaker in the OFF position.
- ✓ Fuses may be blown or the thermal overload is open.
- ✓ Motor shaft is locked.
- ✓ Motor windings are burned out.
- ✓ A defective starting switch inside the single-phase motor.
- ✓ Wiring may be disconnected or defective.
- ✓ Low voltage in outlet.

◆ THE MOTOR DOES NOT REACH ITS FULL SPEED.

- ✓ Low Voltage
- ✓ Two-speed model set on low speed.
- ✓ Motor windings connected for wrong voltage on dual voltage model.

◆ THE MOTOR OVERHEATS AND THE PROTECTOR TRIPS.

- ✓ Low Voltage
- ✓ Inadequate ventilation.
- ✓ Motor windings connected for wrong voltage on dual voltage model.

◆ NO WATER IS DELIVERED BY PUMP.

- ✓ Pump is not primed.
 - ✓ Closed valve in suction or discharge line.
 - ✓ Leakage of air into the suction system.
 - ✓ Impeller clogged.
- ### ◆ AIR BUBBLES APPEAR AT INLET FITTINGS.
- ✓ Air may be leaking into the suction line at the connections or valve stem.
 - ✓ Cover gasket or lint strainer may need cleaning.
 - ✓ Restriction in suction line or low water level in pool.

◆ LOW CAPACITY WHEN PUMP IS TURNED ON.

- ✓ Valve in suction or discharge line is partly closed.
- ✓ Suction or discharge line is partly plugged.
- ✓ Suction or discharge line is too small.
- ✓ The basket in the skimmer or the lint strainer may be clogged.
- ✓ The filter may be dirty or the impeller may be clogged.

◆ LOW PRESSURE WHEN PUMP IS TURNED ON.

- ✓ The discharge valve or inlet fittings may be open too wide.

◆ HIGH PRESSURE WHEN PUMP IS TURNED ON.

- ✓ The discharge valve or inlet fittings may be closed too much.

◆ EXCESSIVE NOISE COMING FROM PUMP OR MOTOR.

- ✓ The basket in the skimmer or the lint strainer may be clogged.

- ✓ The motor bearing may be worn out.

- ✓ Valve in suction line may be partly closed.

- ✓ Suction line may be partly plugged.

- ✓ The vacuum hose may be plugged or too small.

- ✓ The pump may not be supported properly.

◆ WATER LEAKS FROM SHAFT.

- ✓ Shaft seal requires replacement

◆ SERVICE & REPAIR PARTS

Refer all service to your local dealer. Order all repair parts through your dealer. Give the following information when ordering repair parts:

- ✓ Unit nameplate information and description of part.

✓ If the recommendations in the "Questions?" portion of this manual do not solve your particular problem please contact your local dealer for service.

Trouble Shooting



Disconnect power to motor main circuit breaker to avoid electrical shock.

◆ TROUBLE SHOOTING DE FILTERS:

POOL WATER NOT SUFFICIENTLY CLEAN:

1. Pool chemistry not adequate to stop algae growth. Maintain pool chemistry or consult pool service technician.
2. Dirty filter needs to be regenerated or cleaned. Use chemical cleaning of grid assembly if necessary.
3. Inadequate turnover rate. Run system for longer time or consult dealer or pool service technician.

HIGH FILTER PRESSURE

1. Dirty filter. Regenerate filter or clean if necessary. Use chemical cleaning of grid assembly if necessary.
2. Partially closed valve or restriction. Open valve or remove obstruction in return line.

SHORT CYCLES

1. Dirty filter. Regenerate filter or clean if necessary. Use chemical cleaning of grid assembly if necessary.
2. Pool chemistry not adequate to stop algae growth. Maintain pool chemistry or consult pool service technician.

RETURN FLOW TO POOL DIMINISHED, LOW FILTER PRESSURE

1. Obstruction in pump strainer. Clean basket in strainer.
2. Obstruction in pump. Disassemble and clean pump.
3. Obstruction in suction line to pump. Clean skimmer basket. Remove obstruction in lines. Open valves in suction line.

LEAKAGE AT RING-LOK

1. Dirt or contamination on the o-ring sealing surface. Shutoff pump and relieve tank pressure. Remove tank top, clean o-ring sealing surfaces. Reassemble tank properly.
2. Damaged or cut o-ring. Same as above except replace o-ring.

DIRT OR D.E. RETURNING TO POOL

1. After regenerating and re-coating the filter with D.E., some amount of "puffback" is normal. The D.E. will eventually be filtered out of the pool. No action is necessary.
2. Grid assembly not properly seated in filter. Check assembly for proper seating.
3. Grid element torn. Insure that grid assembly is installed properly. Check for tear in grid cloth. Replace if necessary.
4. Missing or defective check valve. Install or repair check valve.

NOTE: If these recommendations do not solve your particular problem(s), please contact your local dealer for service.

SERVICE AND REPAIR PARTS

Refer all service to your local dealer as his knowledge of your equipment makes him the best qualified source of information. Order all repair parts through your dealer. Give the following information when ordering repair parts:

1. Unit nameplate data.
2. Description of part.

Manufacturer's Warranty:

JACUZZI LIMITED WARRANTY

Jacuzzi Bros. Division (JBD) warrants its products to be free of defects in material and workmanship for a period of 1 year from date of purchase or 3 years from date of manufacture, whichever comes first; Jacuzzi Bros. also provides additional warranty coverage on specific products as specified herein.

Magnum Force pumps- 12 years limited: the case, RingLoks, impeller, diffuser, seal plate, and pump lid have 5 years full and 7 years pro-rated thereafter; the o-rings, basket, seal and other hardware have one full year from the date of installation. The motor carries a 3 year original manufacturer's warranty.

Cygnets pumps- 10 years limited; the case, RingLoks, impeller, diffuser, seal plate, and pump lid have 5 years full and 5 years pro-rated thereafter; the o-rings, basket, seal and other hardware have one full year from the date of installation. The motor carries a 3 year original manufacturer's warranty.

LR pumps- 4 years limited: the case, RingLoks, impeller, diffuser, seal plate, and pump lid have 2 years full and 2 years pro-rated thereafter; the o-rings, basket, seal and other hardware have one full year from the date of installation. The motor carries a 1 year original manufacturer's warranty.

SherLok filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; all internal components have one full year from date of installation.

TricLOPS filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; all internal components have one full year from date of installation.

Avalanche filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; all internal components have one full year from date of installation.

EarthWorks filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; the valve and all other components have one full year from date of installation.

Laser filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; the valve and other internal components have one full year from date of installation.

SandStorm filters- 12 years limited: the tank body and RingLok have 5 full years and 7 years pro-rated thereafter; the valve and other internal components have one full year from date of installation.

JBD's warranty obligation with regard to equipment not of its own manufacture is limited to the warranty actually extended to JBD by its suppliers. Performance of equipment is further warranted to be in accordance with stated ratings when properly installed under normal conditions of operation.

This warranty extends only to the original retail purchaser and only during the time in which the original retail purchaser occupies the site where the product was originally installed. **The product warranty card must be on file with Jacuzzi Bros. to qualify for the additional warranty coverage listed above. Otherwise, Jacuzzi Bros. is limited to paragraph one above.**

Warranty claims shall be made by contacting the installing JBD dealer (point of purchase) as soon as possible after the discovery of any alleged defect. If the claim is determined to be valid, JBD will take corrective action as promptly as reasonably possible.

JBD at its discretion may replace or repair any product that fails under this warranty after inspection by an authorized company representative or after JBD has received the product at our factory. Replacement or repair cannot be made until after the product is inspected. All charges or expenses for freight to and from the factory, removal and reinstallation of the product, or installation of a replacement product are the responsibility of the purchaser.

THIS WARRANTY IS EFFECTIVE JANUARY 1, 1998. ANY IMPLIED WARRANTIES WHICH THE PURCHASER MAY HAVE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. IN NO EVENT SHALL JBD BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

This warranty applies to products used in swimming pool, spa, & aquaculture applications only and does not apply to any product which has been subjected to negligence, alteration, accident, abuse, misuse, improper installation, vandalism, civil disturbances, or acts of God (including but not limited to freeze damage, lightning strikes, and other damage caused by catastrophic events). The only warranties authorized by JBD are those set forth herein. JBD does not authorize other persons to extend any warranties with respect to its products, nor will JBD assume liability for any unauthorized warranties made in connection with the sale of its products.

Products carrying a pro-rated warranty will be replaced using the following percentages against the list price in effect at the time of replacement:

12 year limited warranty - Magnum Force pumps, SherLok, TricLOPS, Avalanche, EarthWorks, Laser, SandStorm filters.

year 6 = 50% year 7 = 40% year 8 = 30% year 9 = 20% year 10 = 15% year 11 = 10% year 12 = 5%

10 year limited warranty - Cygnets pumps

year 6 = 50% year 7 = 40% year 8 = 30% year 9 = 20% year 10 = 10%

4 year limited warranty - LR pumps

year 3 = 40% year 4 = 25%

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

JACUZZI.

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