

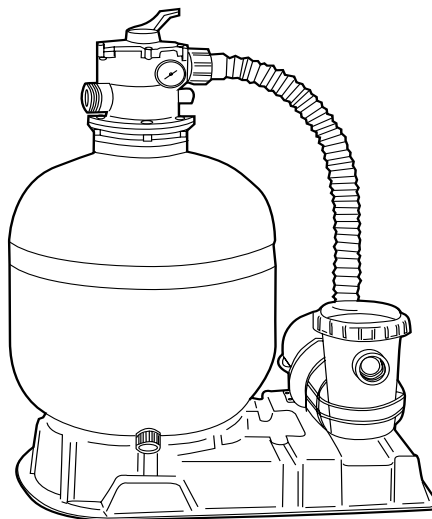
## Laser Sand Filter System

### 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 combined with easy installation and simple service.

The Laser Sand Filter, combined with our Ring-Lok pump, will provide you with many years of pool enjoyment. Ideal for above-ground or vinyl liner in-ground pools, your Laser Sand Filter System allows you to easily clean the filter and the pump strainer basket without any tools. When you choose Jacuzzi, you've chosen the best.

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> .....	4-6	<i>Winterizing Your Filter System</i> .....	13
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### **WARNING**

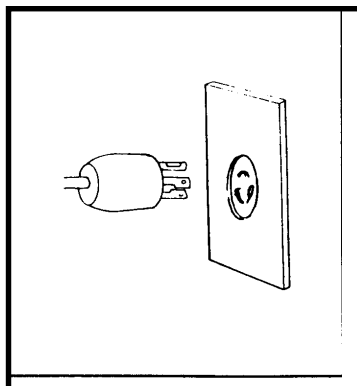
*Warns about hazard that CAN cause serious personal injury and property damage if ignored.*



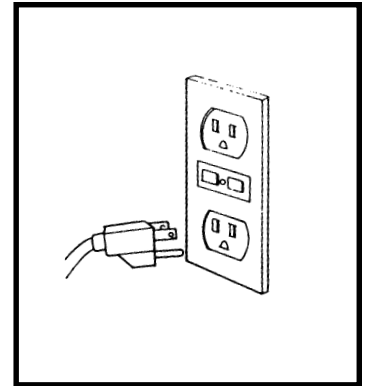
-  (For cord and plug connected units.) Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other lawn equipment.
-  (For cord and plug connected units) To reduce the risk of electric shock, replace damaged cord immediately.
-  (For cord and plug connected units) Risk 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.

## 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 male 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 (GFCI). Motors should have 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.



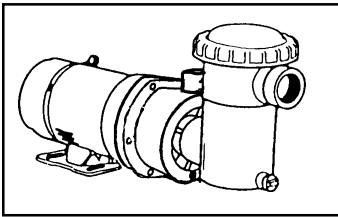
*3-prong twist-lock plug*



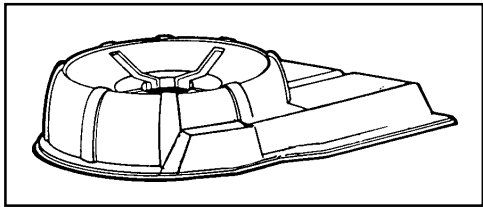
*Standard 3-prong plug*

# What you should have:

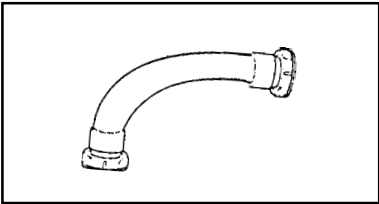
## Contents of carton:



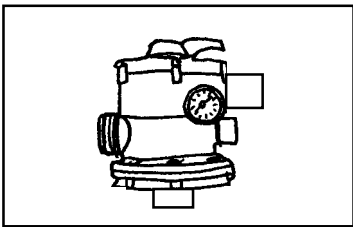
Pump



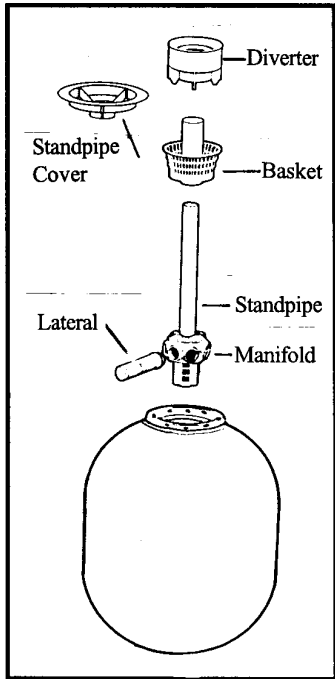
Base



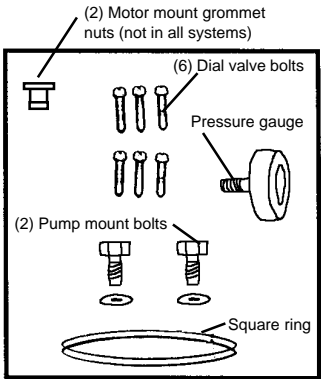
Pump to Filter  
Connecting Hose



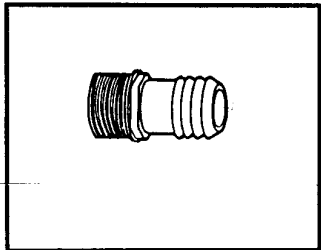
DVK-6 & 7 Dial Valve  
(equipped with 16" - 19" - 22 1/2" filter)



Filter Tank Assembly

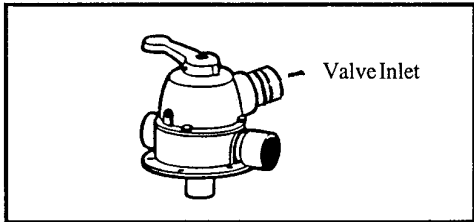


Hardware Kit

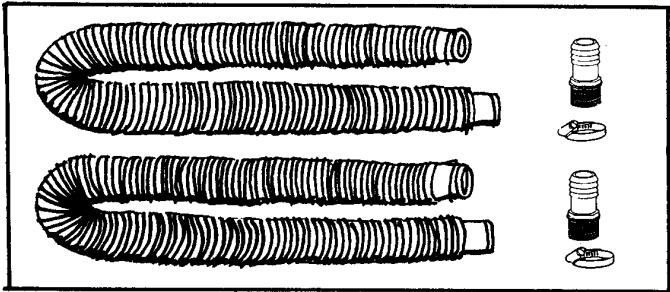


Black Backwash  
Adapter With Small  
Diameter Hole  
(Not in all systems)

**OR**



DVK-4 Dial Valve  
(equipped with some 16" filters only)



System to Pool 6' Hose Kit (included in  
systems with HK6 in model no.)

## Tools you will need:

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



(a)



(b)



(c)

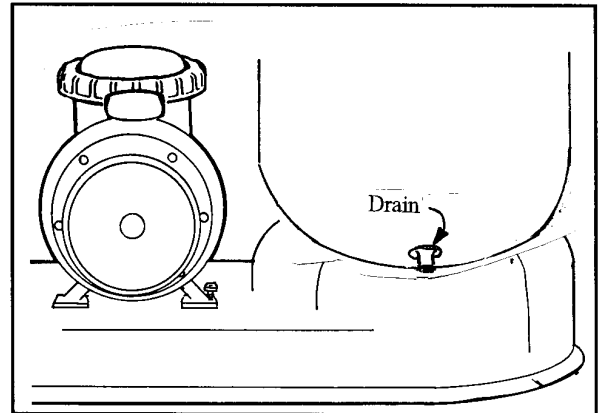
## Setting up your system:

**System location:** Locate system on a solid foundation. Give consideration to U.L. requirements and specific local codes concerning distance that equipment can be installed from the pool. Be sure that the location allows for adequate drainage away from system. See location tips on page 7. When unit has been permanently arranged on its base you are ready to fill the tank with sand.

### Step 1

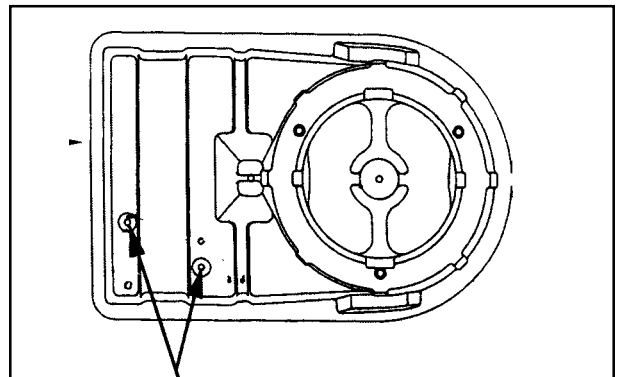
Remove filter, pump and base from the carton. Using (2) 1/4 x 20 bolts and washers, mount pump to base. The pump mounts using the jack nuts installed in the base. The pump should be positioned such that the pump strainer is supported by the system base.

❖Note: Some systems are supplied with push-in grommet nuts for the pump mount. Install these grommets in the base using the pre-drilled holes noted. (See Step 1A).



### Step 1A

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 slots in the pump motor base over the grommet nuts and install the self-tapping screws to secure the pump to the base.

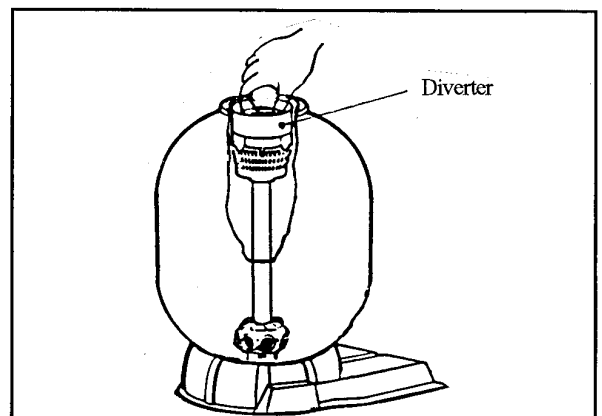


Install grommet nuts in these holes to ensure proper pump location.

### Step 2

Remove diverter and entire standpipe assembly from the tank. The upper parts may come out separate, if so, grasp the lower standpipe and remove from the tank. You are now ready to assemble the lateral flow tubes to the manifold.

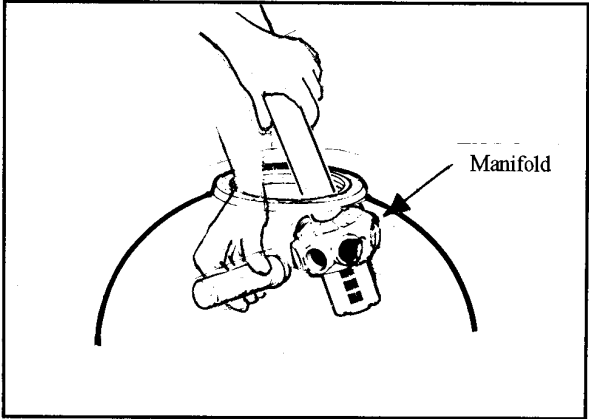
❖NOTE: Lateral flow tubes are factory installed in some models; however, follow procedure to insure they are hand tight in manifold.



# Setting up your system:

## Step 3

Grasp standpipe/manifold assembly as illustrated and lower into tank opening. Hold one of the lateral flow tubes in your other hand, lower into tank opening and screw the tube into one of the threaded openings in the manifold. Repeat this action until all eight (8) lateral flow tubes are installed. Be sure they are all hand tight. Lower assembly into tank and press down to insure that the manifold is securely seated and centered at bottom of the tank.

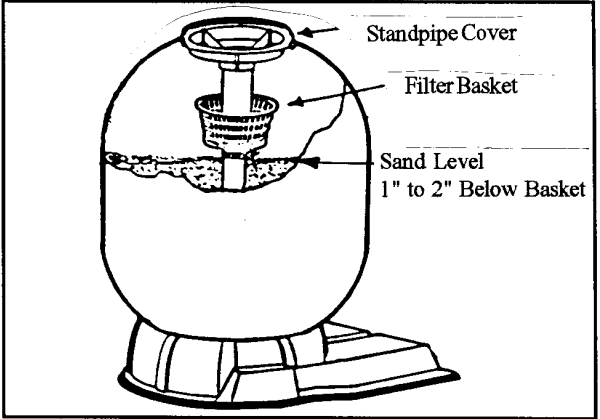


## Step 4

Remove the diverter and place the standpipe cover on the filter basket standpipe to prevent the entrance of sand. Fill the tank approximately 1/2 full of water. Now fill the tank with sand (see chart at right for amount of sand). Be sure the standpipe assembly remains centered while pouring the sand. Now remove the stand-pipe cover and place the diverter on top of the filter basket.

MODEL	LBS. OF SAND
L160	140 lbs.
L190	200 lbs.
L225	250 lbs.

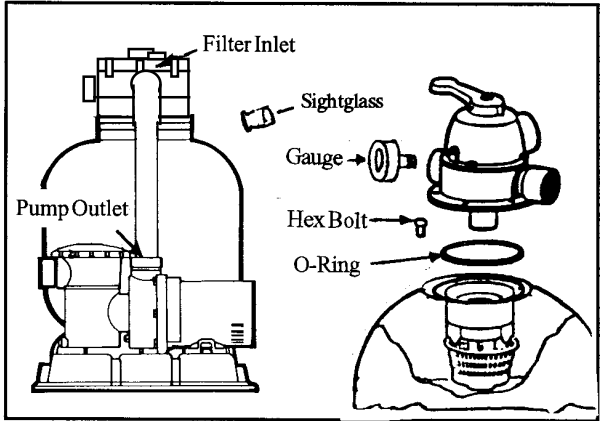
*Note: Recommend #20 silica sand. (.40 mm to .55 mm effective size).*



## Step 5

**DIAL VALVE INSTALLATION:** Carefully remove all sand particles from the mounting location, being especially careful of the bolt holes and O-ring groove. Position the O-ring in the groove. Place valve on tank and rotate until the valve inlet (marked "PUMP") is approximately in line with the pump outlet opening. Install the hex-head bolts and tighten uniformly, being careful not to OVERTIGHTEN. Install pressure gauge, after wrapping brass threads with 4 wraps of teflon tape.

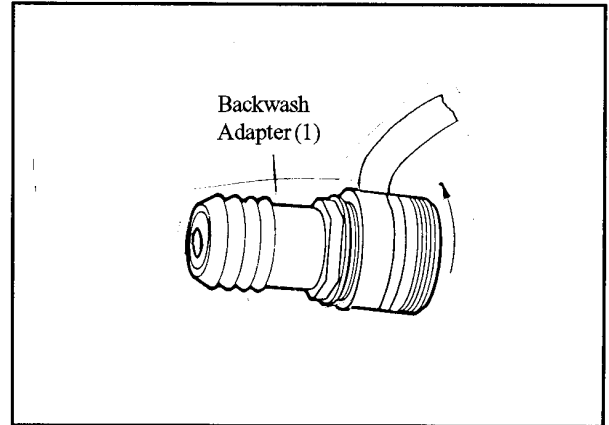
- ❖ NOTE: Seven position valves are equipped with a sight glass which must be HANDTIGHT only.
- ❖ Some pressure gauges come with teflon tape factory installed.



## Setting up your system:

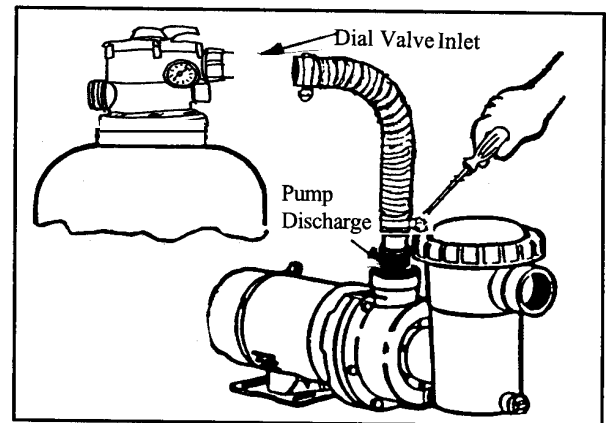
### Step 6

*If your system is supplied with a backwash adapter: Remove threaded adapter and tape from the hardware kit. Prepare backwash fittings by wrapping threads with teflon tape in a clockwise rotation, four to eight wraps is usually sufficient. Install adapter into the waste port of the filter.*



### Step 7

*Connect the pre-assembled plumbing connection from the pump discharge to the valve inlet using the union nuts on either end of the flexible hose. **IMPORTANT:** Ensure the o-rings are in the adapter groove at each end of the hose. These o-rings were shipped installed at the factory and could dislodge during transit.*

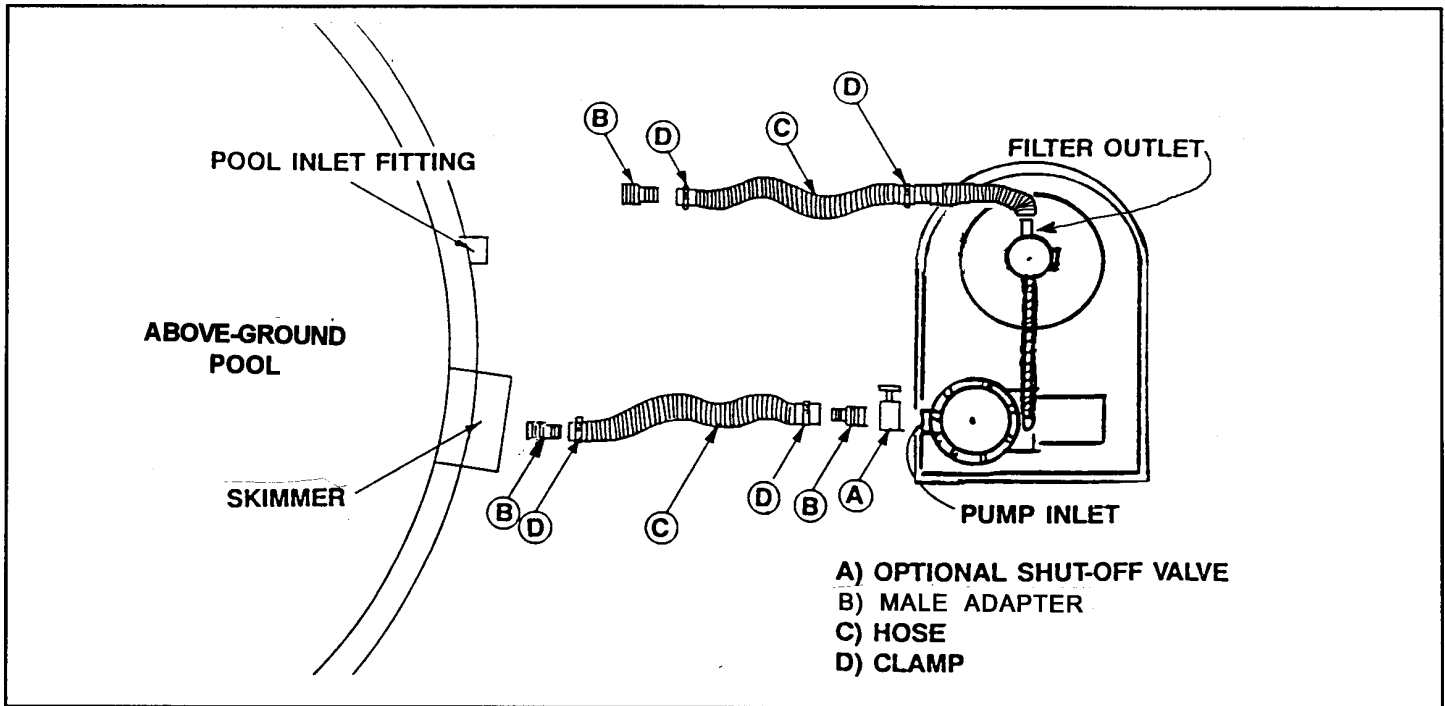


❖ *The adapter o-rings may be supplied in the system hardware kit.*

*For 4-way valve: Install threaded adapter into the pump discharge, tighten handtight plus 1/2 turn. Now install the other adapter into the dial valve inlet, tighten in the same manner. Place one hose clamp over each end of the pump to filter hose, push hose onto each adapter. Position the clamp over barbed section of the adapter and tighten with screw driver until snug.*

**You are now ready to connect the system to your pool (see page 7)**

## Typical system -to-pool plumbing connection:



### □ LOCATION TIPS:

1. Locate system on solid foundation.
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 a shut-off valve (A) be installed in the pump inlet for easy servicing when the system is installed below the water level of the pool.*

## Step 2

*Install four barbed adapters (B) in the following locations:*

- ❖ Pool skimmer (if one is not molded onto skimmer).
- ❖ Pump inlet (or optional shut-off valve).
- ❖ Filter outlet.
- ❖ Pool inlet fitting.

## Step 3

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

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

*You are now ready to fill your pool and begin system startup procedures (see page 8).*

## System startup:

**CAUTION:** *Do not operate your pump until it has been filled with water (primed).*

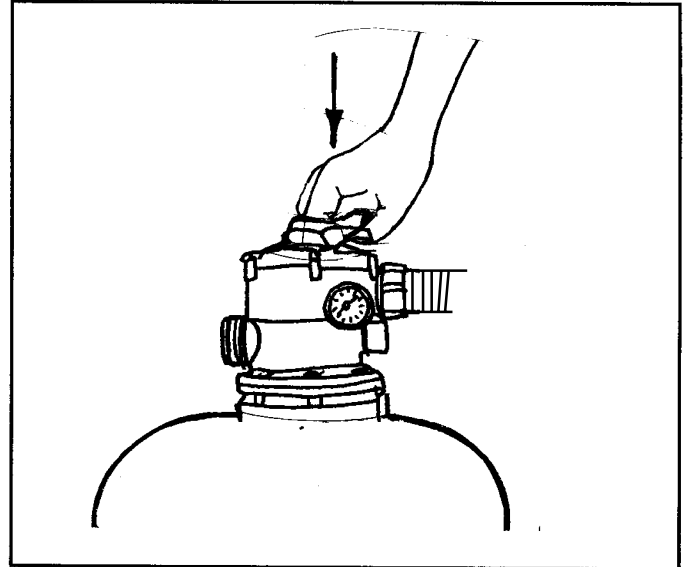
❖*For above-ground pools with system below the pool water level.*

### Step 1A ❖



*Press down on the valve handle and rotate to the FILTER position and release. Pool water will flow into the filter tank, pump and strainer. When water level reaches the clear strainer cover on the pump, the filter is ready for operation.*

❖**NOTE:** *If an optional shut-off valve is installed be sure that it is fully opened.*



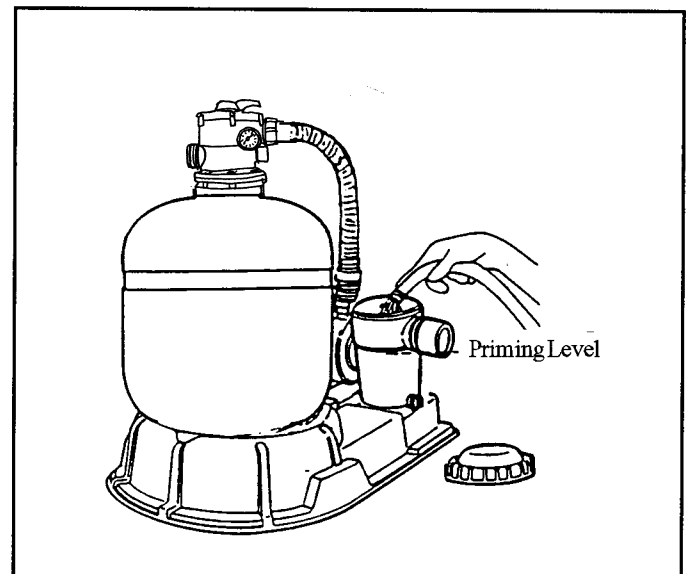
# OR

❖*For in-ground pools with systems above the pool water level.*

### Step 1B ❖



*Unscrew the Ring-Lok nut on the pump and remove the clear strainer cover. Prime the pump by filling the strainer with water to the bottom of the inlet fitting. Replace the clear cover and Ring-Lok nut. **HANDTIGHTEN ONLY.***



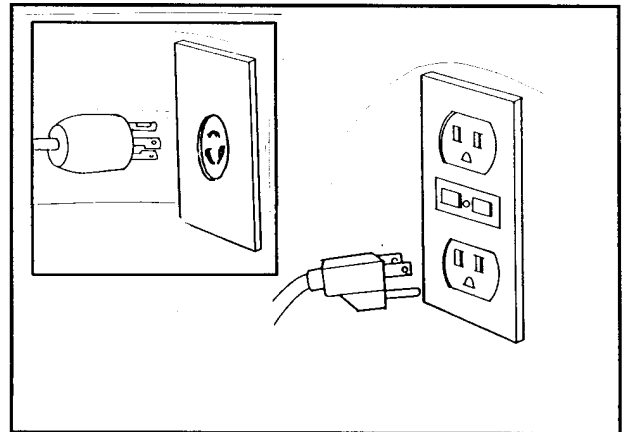


## Step 2

Turn the motor on (for only a few seconds) by plugging the unit into the grounded electrical receptacle.



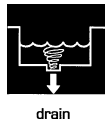
The use of an extension cord may result in a severe voltage drop which could cause damage or shorten the service life of your pump motor.



❖When it has been determined that the pump motor is operating properly, stop the pump and proceed to step 3.

## Step 3

1. Set dial valve to DRAIN position.



2. Start pump.

3. After flow has been established continue to pump for 30 seconds.

4. Stop pump.

5. Set valve to BACKWASH position.



6. Start pump, run for one minute, (this action will clean and level the sand bed).

7. Stop pump.

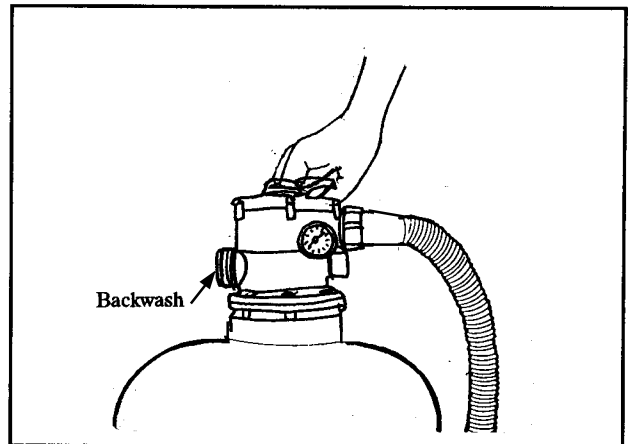
8. Set valve to RINSE position, run for 30 seconds. Stop pump. (7 position valve only)



9. Set valve to FILTER position.



10. Start pump - you are now in the first filtration cycle and your system is filtering your pool.



## Cleaning the pump strainer:

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

**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.

**OR**

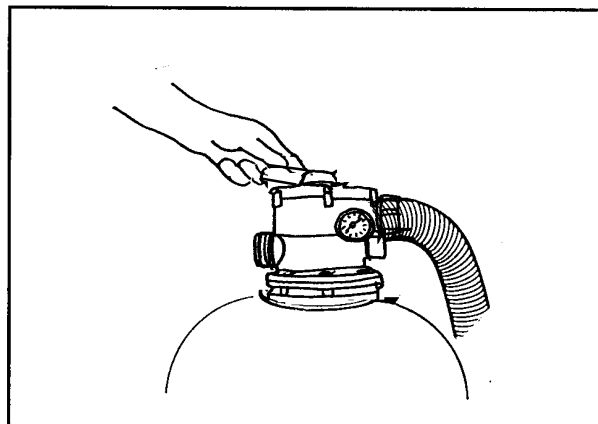
❖ For in-ground pools with the filter system located above the pool water level.



Your system is full of water. If you remove the pump strainer cover, 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.

**Step 2** →

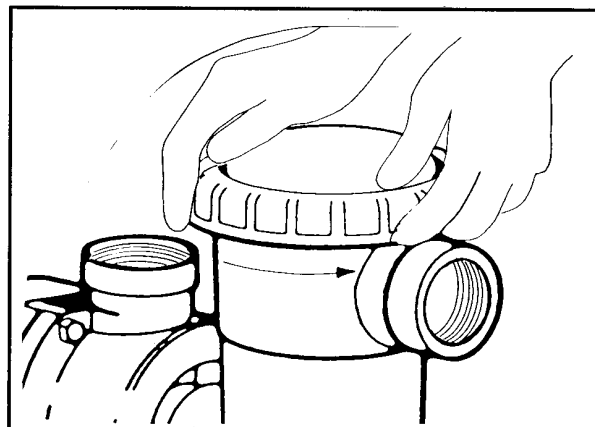
Press down on the dial valve handle and rotate to **WINTERIZE**, release the handle. This action will allow air into the tank and prevent excessive back-flow through the strainer.



**Step 3** →

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

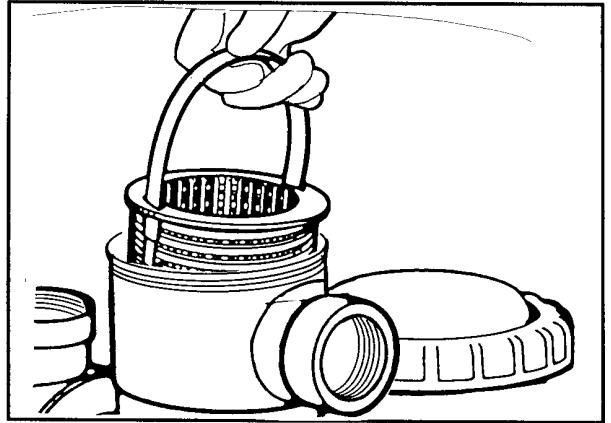
**CAUTION:** Some remaining water may spill out of the strainer body when the clear strainer cover is removed.



## Cleaning the pump strainer:

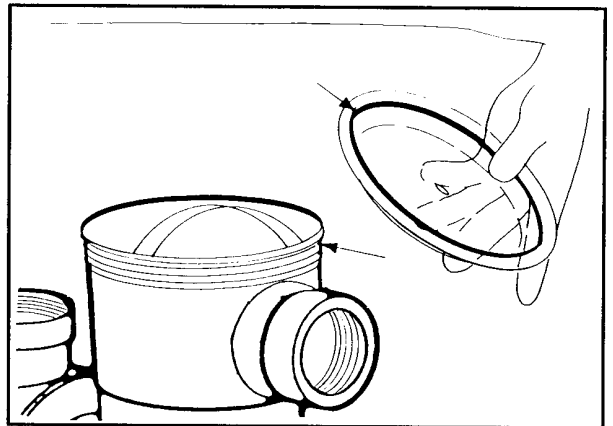
### Step 4

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



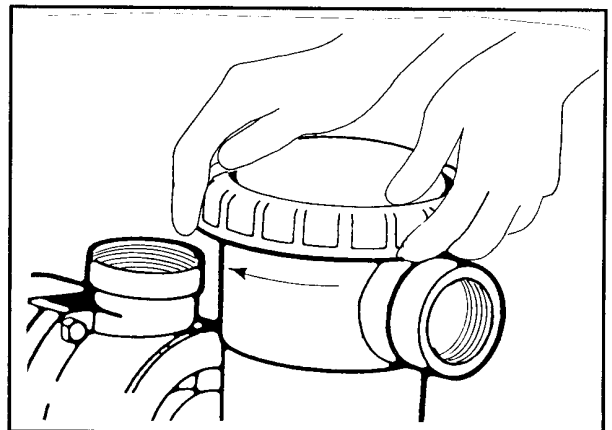
### Step 5

*Clean the O-ring on the clear cover 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 page 8).**

## Backwashing (cleaning) the filter:

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

**IMPORTANT:** When the filter system is first placed in service, with service-line valves fully open, note the reading on the pressure gauge. When the gauge reads 10 PSI above the original reading it is time to backwash as indicated.

**Step 1** → ⚠ Unplug the pump cord.

**Step 2** →

1. Set dial valve to BACKWASH.
2. Start pump.
3. Observe water flow in sight glass and when clear (usually 2-3 minutes) stop pump.
4. Set valve to RINSE, run for 20-30 seconds. This action removes any debris trapped in the filter during backwash. (7 position valve only).
5. Stop pump.
6. Set valve to FILTER.
7. Start pump, you have now resumed filtering your pool.



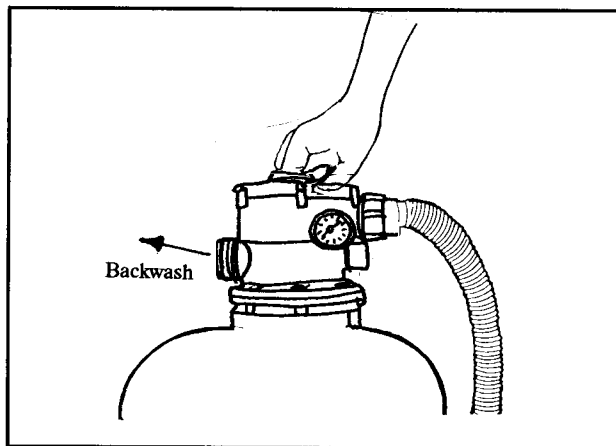
backwash



rinse



filter



## Winterizing the filter system:

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

**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.

**OR**

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



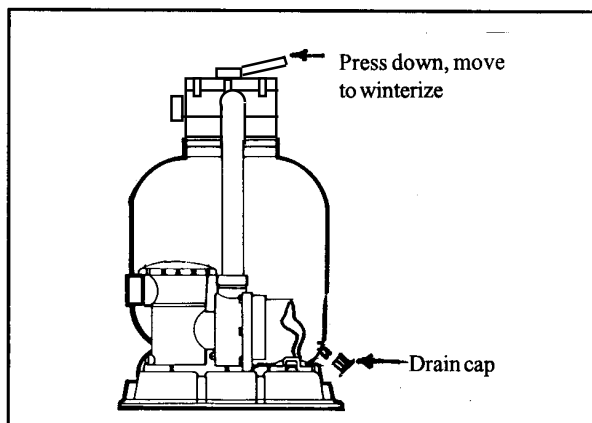
Follow pool manufacturer's or pool builder's recommendations for winterizing the pool. Your system is full of water, winterize as directed below.

**Step 2** →

Drain the filter tank by first removing the drain and then set dial valve to WINTERIZE. Replace the drain cap once filter is drained.

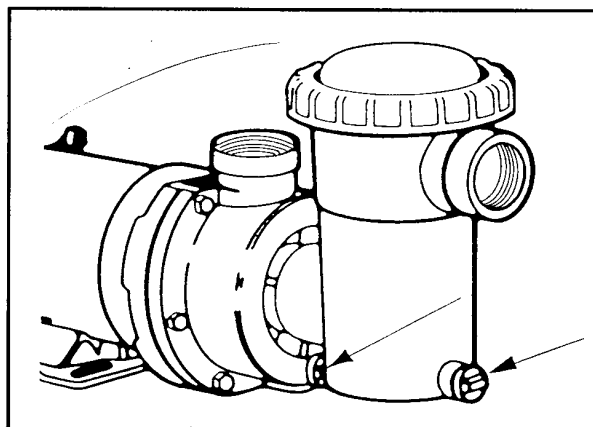


❖ **TIP:** A hose bib and garden hose can be connected to allow drainage into a convenient area.



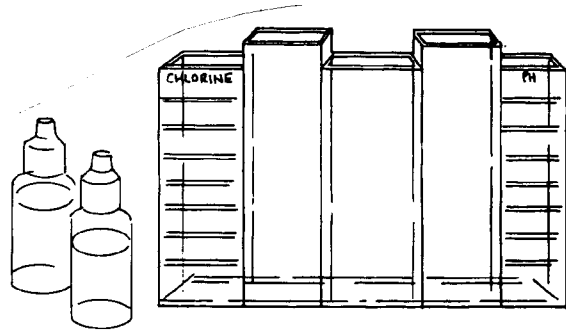
**Step 3** →

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



# 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.**



# Parts identification:

## PARTS DIAGRAM FOR MODEL LR PUMPS

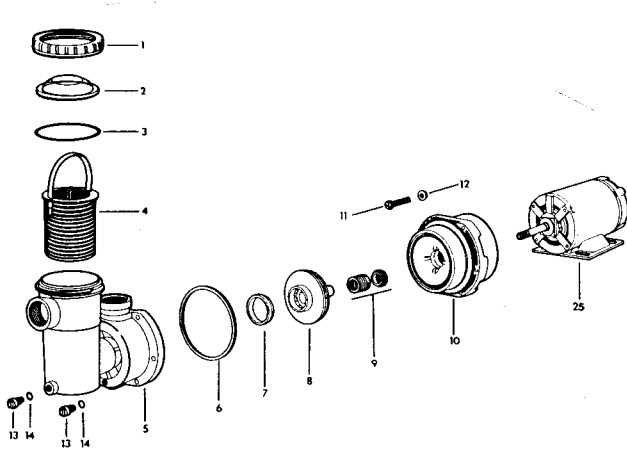
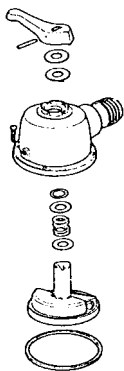


FIG. NO.	PART NO.	DESCRIPTION
1	42-1678-09-R	Strainer Nut
2	39-0753-04-R	Strainer Cover
3	47-0352-41-R	O-Ring
4	16-0240-02-R	Basket LR
5	16-0307-02-R	Strainer Case Assy. w/ plugs LR
6	47-0258-53-R	Square Ring 6 x 1/8 x 1/8
7	10-1462-07-R	Seal Ring
8	05-3760-09-R	Impeller for S7LR6 & S7LR3 & 7LRDV
	05-3759-02-R	Impeller for S1LR6 & S1LR3 & 1LRDV
	05-3821-06-R	Impeller for S15LR6 & S15LR3
	05-3853-07-R	Impeller for 15LRDV
	<b>10-0002-06</b>	Mechanical Seal
9	02-1388-08-R	Bracket
10	14-4238-00-R	S.S. Hex 10-24 x 1-1/4 (6 required)
11	14-4239-09-R	S.S. Hex Nut 10-24 (6 required)
12	31-1609-06-R	Plug
13	47-0112-00-R	O-Ring
14		
25		Motor (Consult dealer for proper selection)

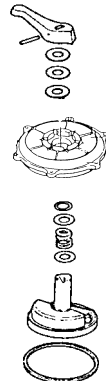
### DV-4 Repair Kit



4-Position  
Part No. 39-2620-01-RKIT

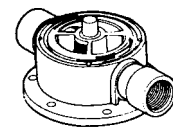
### DIAL VALVES

### DV6/ 7 Repair Kit

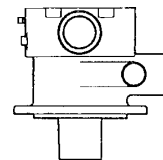


7-Position  
Part No. 39-2626-05-RKIT

### DIAL VALVE BODY



4-Position  
Part No. 39-0696-38-R



7-Position  
Part No. 39-2627-04-R

*Note: These valve kits are shipped completely assembled because special fixtures are required for proper assembly.*

# Parts identification:

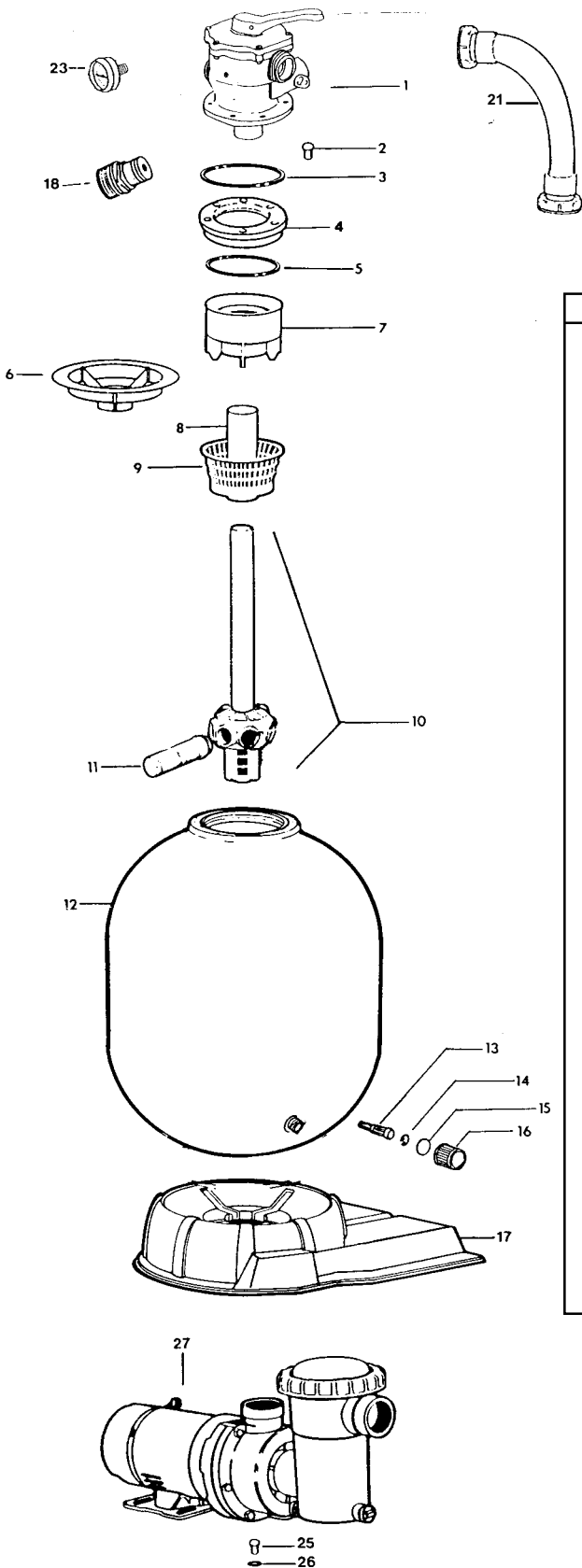


FIG NO	PART NO.	DESCRIPTION
1	39-2628-03	7-position Dial Valve
2	14-0743-06-R	Hex Capscrew 5/16 - 18 x 1 (6 required)
3	13-0378-09-R	Gasket
4	85-8133-00-R	Laser Tank Adapter Flange
5	47-0434-01-R	O-Ring Laser 5-5/8 x 6-1/8 x 1/4 - BN
6	22-5522-02-R	Fill Spout 9869
7	43-0715-05-R	Diverter 011175
8	31-0113-64-R004	Upper Pipe 1-1/2 x 4-1/2 PVC 160
9	88-1580-01-R	Filter Basket (Effective 11/1/90)
10	42-3531-02-R	Laser 160 Standpipe/Manf. Assy.
	42-3510-07-R	Laser 190 Standpipe/Manf. Assy.
	42-3516-01-R	Laser 225 Standpipe/Manf. Assy.
11	42-3532-01-R	Laser 160 Lateral Kit (8 ea. 85-5320-00)
	42-3511-06-R	Laser 190/225 Lateral Kit (8 ea. 85-5321-09)
12	9408-3689	Laser 160 Tank Assy. Includes 12,13,14,15,16,4,5
	9408-3664	Laser 190 Tank Assy. Includes 12,13,14,15,16,4,5
	9408-6238	Laser 225 Tank Assy. Includes 12,13,14,15,16,4,5
13	85-8533-00-R	Laser Drain Nozzle
14	14-4254-09-R	Drain Nozzle Retainer
15	13-1023-06-R	Drain Nozzle Gasket
16	85-8263-00-R	Drain Cap
17	12-1115-06-R	Base Assy. w/jacks
18	31-1650-04-R	Laser 160 Backwash Adapter
	31-1652-02-R	Laser 190 Backwash Adapter
	31-1653-01-R	Laser 225 Backwash Adapter
21	31-1709-05	Laser 160 25" Hose/Union Assy.
	31-1710-02	Laser 190 27" Hose/Union Assy.
	31-1711-01	Laser 225 30" Hose/Union Assy.
23	9193-4158-R	Pressure Gauge 0-60#
25	14-1268-17-R	PI Hex Capscrew 1/4-2 x 1 (2 req'd)
26	14-0738-52-R	PI Washer 5/16 x 3/4 x 1/16 (2 req'd)
27	9402-7588	Pump S7LR6
	9402-7620	Pump S1LR6
	9402-7794	Pump S15LR6
	9402-7927	Pump S7LR3
	9402-7935	Pump S1LR3
	9402-7943	Pump S15LR3
	9402-6937	Pump 7LRDB
	9402-6945	Pump 1LRDV
	9402-6952	Pump 15LRDV
	9402-7950	Pump S15LRDV6

**⚠ WARNING** Disconnect power to motor main circuit breaker to avoid electrical shock.

◆ **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 SAND FILTERS:**

**◆ SHORT FILTER CYCLE:**

- ✓ Excessive dirt load.
- ✓ Excessive swimming load.
- ✓ Dirty make-up water.
- ✓ Algae growth.
- ✓ Excessive filter rate.
- ✓ Inadequately cleaned filter.
- ✓ Coagulants or algaeicide added to pool.
- ✓ Inadequate backwash line.
- ✓ Calcification of filter media.
- ✓ Sand depth too low.

**◆ INADEQUATE FILTERING ACTION:**

- ✓ See possible causes above.
- ✓ Flow rate is too low.
- ✓ Improper media.
- ✓ Channeled filter media.
- ✓ Air accumulating in filter.
- ✓ Dial valve in intermediate position.

**◆ DIRT OR RUST RETURNED TO POOL:**

- ✓ Excessive dirt load.
- ✓ Excessive swimming load.
- ✓ Flow rate is too high.
- ✓ Dial valve in intermediate position.
- ✓ Air accumulating in filter.
- ✓ Pool water not kept in continuous chemical balance.
- ✓ Excessive chlorination.
- ✓ Non-use of "Rinse" position (6-position dial valves only).

**◆ ABNORMAL LOSS OF POOL WATER:**

- ✓ Excessive dirt load.
- ✓ Internal leak in dial valve to drain..
- ✓ Dial valve set to WINTERIZE or other intermediate position.

**◆ SAND RETURNED TO THE POOL:**

- ✓ Improper media.
- ✓ Flow rate is too high.
- ✓ Calcification of media.
- ✓ Air accumulating in filter tank.
- ✓ Damaged internal filter parts.

**◆ LEAKS AT HOSE CONNECTION:**

- ✓ Position hose clamp over barbed section of adapter.

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

**SERVICE & 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 Bros. Division (JBD) warrants its new products to be free from defects in workmanship and material for a period of 1 year from the date of initial installation or 3 years from date of manufacture, whichever comes first. Laser and ST filter tanks are warranted to be free of defects in material and workmanship for a period of 5 years from date of installation or 6 years from date of manufacture, whichever comes first. This warranty excludes damage or failure caused by freezing. Internal filter components and valves are warranted to be free of defects in material and workmanship for 1 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 supplier. 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.

Requests for service under this warranty shall be made by contacting the installing JBD dealer (point of purchase) as soon as possible after the discovery of any alleged defect. JBD will subsequently 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 SUPERSEDES ANY WARRANTY NOT DATED OR BEARING AN EARLIER DATE. 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 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. 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.

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

