

# Installation and Operation Manual

## Jandy® Diatomaceous Earth Pool Filters

### DEL Series Filters



### **WARNING**

**FOR YOUR SAFETY - This product must be installed and serviced by a professional pool/spa service technician. The procedures in this manual must be followed exactly. Improper installation and/or operation can create dangerous high pressure which can cause the filter lid to be blown off, possibly causing death, serious injury or property damage. Improper installation and/or operation will void the warranty.**

**Before installing this product, read and follow all warning notices and instructions that accompany this filter. Failure to follow warning notices and instructions may result in property damage, serious injury, or death.**



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<b>EQUIPMENT INFORMATION RECORD</b>	
<b>DATE OF INSTALLATION</b> _____	
<b>INITIAL PRESSURE GAUGE READING (WITH CLEAN FILTER)</b> _____	
<b>PUMP MODEL</b> _____	<b>HORSEPOWER</b> _____
<b>FILTER MODEL</b> _____	<b>SERIAL NUMBER</b> _____
<b>NOTES:</b> _____ _____ _____	

## Section 1. Safety Information

### 1.1 Important Safety Warning

#### WARNING

**NEVER OPERATE OR TEST THE FILTER SYSTEM AT MORE THAN 50 PSI.**



THIS FILTER OPERATES UNDER HIGH PRESSURE. WHEN ANY PART OF THE CIRCULATING SYSTEM, i.e., FILTER, PUMP, VALVE(S), CLAMP, ETC. IS SERVICED, AIR CAN ENTER THE SYSTEM AND BECOME PRESSURIZED WHEN THE SYSTEM IS RESTARTED. PRESSURIZED AIR CAN CAUSE THE FILTER LID TO BE BLOWN OFF WHICH CAN RESULT IN DEATH, SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. TO AVOID THIS POTENTIAL HAZARD, FOLLOW ALL OF THE INSTRUCTIONS IN THIS MANUAL.

### 1.2 General Safety Instructions



#### **ATTENTION INSTALLER:**

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

1. Before repositioning valve(s) and before beginning the assembly, disassembly, or adjustment of the clamp, or any other service of the circulating system; (A) **turn the pump off** and shut off any automatic controls to ensure the system is not inadvertently started during servicing; (B) open the air release valve; (C) wait until all pressure is relieved (air will have stopped flowing from the air release valve).
2. Whenever installing the filter clamp **follow Section 3.4** of this manual, "**Clamp Installation**".
3. Once service on the circulation system is complete, **follow Section 4** of this manual, "**Start-up and Operation**".
4. Maintain circulation system properly. Replace worn or damaged parts immediately.
5. Be sure that the filter is properly mounted and positioned according to these installation instructions.
6. Do not pressure test above 50 PSI. Pressure testing must be done by a trained pool professional.

***SAVE THESE INSTRUCTIONS.***

## Section 2. General Information

### 2.1 Introduction

This manual contains information for the proper installation and operation of the Jandy® DEL Series Diatomaceous Earth (DE) Filters. Procedures in this manual must be followed exactly. To obtain additional copies of this manual contact us at 707.776.8200 ext. 237. For address information see back cover.

### 2.2 Description

Dirty water flows into the filter through the lower bulkhead on the bottom of the tank and is directed through the DE grids. The debris is collected on the surface of the grids as the water flows through them. The clean water is directed into the manifold, then through the outlet tube, and finally, out of the filter through the upper bulkhead on the bottom half of the tank. The filtered water then goes into a MPV (Multiport Valve) and is returned through the piping system to the pool.

As debris collects in the filter, the pressure will rise and water flow to the pool will diminish. The filter will eventually become so plugged with debris that it will be necessary to perform the backwash procedure. It is important to know when to backwash the filter. See Section 6 for further discussion of backwashing the filter.

**NOTE** A filter removes dirt and other suspended particles but does not sanitize the pool. Pool water must be sanitized and chemically balanced for clear water. The filtration system should be designed to meet local health codes. At a minimum, the system should turnover the total volume of water in your pool two to four times in a 24 hour period.

### 2.3 General Requirements

1. For best overall performance place the system as close to the pool as possible.
2. The filter should be located on a level concrete slab so that the orientation of the valve outlets and the pressure gauge are convenient and accessible for the installation and operation of the unit.
3. Protect the filter from the weather.
4. If fitting a chlorinator and/or any other device into the filtration plumbing circuit, great care must be exercised to ensure that the appliance is installed in accordance with the Manufacturer's Instructions and any standards that may exist.
5. We recommend the use of barrel unions to connect each component of the water conditioning system to ease in future servicing. Barrel unions are provided with all Jandy filters.

### ⚠ WARNING

The maximum working pressure for this filter is 50 psi. Never subject the filter to pressure exceeding 50 psi, even when conducting hydrostatic pressure tests. Pressures above 50 psi can cause the lid to be blown off.

6. When performing hydrostatic pressure tests or when testing for external leaks of the completed filtration and plumbing system, ensure that the maximum pressure the filtration system is subjected to *does not exceed the maximum working pressure of any of the components within the system.*

### 2.4 DE Requirements

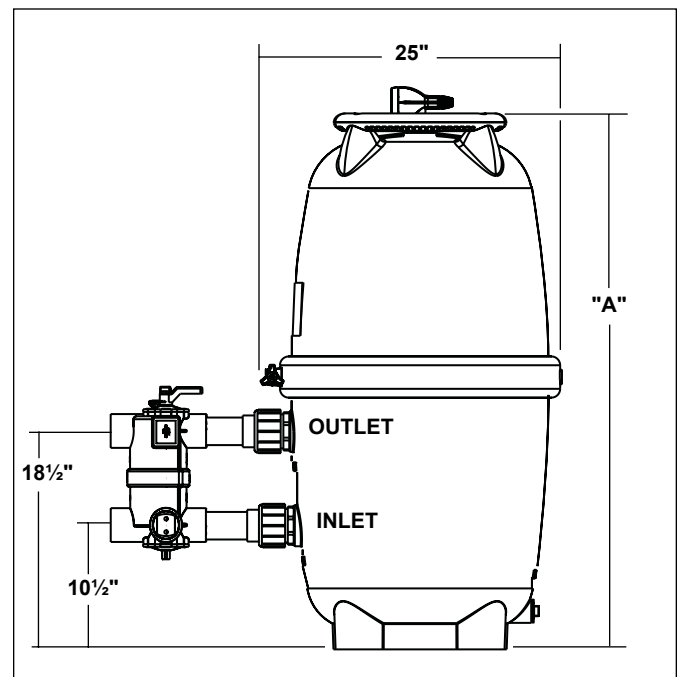
See your local pool distributor or dealer for DE type recommendations. See Table 2 on page 9 for the amount of DE to be used.

### 2.5 Specifications and Dimensions

See Table 1 and Figure 1.

**Table 1. DE Filter Specifications**

	<b>DEL48</b>	<b>DEL60</b>
Filter Area (ft <sup>2</sup> )	48	60
Design Flow Rate (gpm/ft <sup>2</sup> )	2.00	2.00
Max. Flow (gpm)	96	120
Six Hour Capacity (gal.)	34,560	43,200
Normal Start Up Pressure (psi)	6-15	6-15
Max. Working Pressure (psi)	50	50
Dimension "A"	41 in	47 in.



**Figure 1. Dimensions, Jandy DEL Series Filter with Jandy NeverLube® Backwash Valve**

## Section 3. Installation Instructions

### 3.1 Filter Location

1. Select a well-drained area, one that does not flood when it rains. Damp, non-ventilated areas should be avoided.
2. Provide solid mounting for the filter and pump system. Install system on a concrete slab or solid concrete blocks to avoid risk of settlement. Do not use sand to level the filter as the sand will wash away. Filters, once loaded with media, can weigh up to 800 lbs.
3. Install electrical controls at least five (5) feet from the filter. This will allow enough room to stand away from the filter during start-up.
4. Allow sufficient clearance around the filter to permit a visual inspection of the clamp ring (see Fig. 2).
5. Allow sufficient space above the filter to remove the filter lid and filter element for cleaning and servicing.
6. Position the filter to safely direct water drainage. Align the air release valve to safely direct pressurized purged air or water.

#### WARNING

Water discharged from an improperly positioned filter or valve can create an electrical hazard which can cause death, serious injury or property damage.

#### CAUTION

Maintain your pressure gauge in good working order. The pressure gauge is the primary indicator of how the filter is operating.

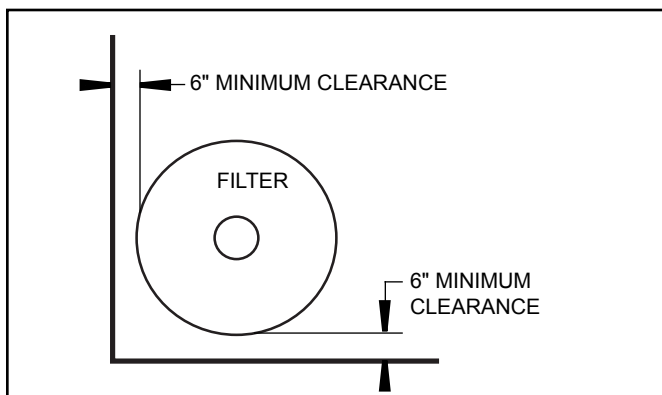


Figure 2. Filter Location

7. If the filter needs to be located above the water level of the pool, it can be raised 2.5 ft. without affecting the pump efficiency. A check valve is recommended on the suction line to the pump.
8. If the filter is to be installed below the water level of the pool, isolation valves should be installed on both the suction and return lines to prevent back flow of pool water during any routine servicing that may be required.

### 3.2 Filter Preparation

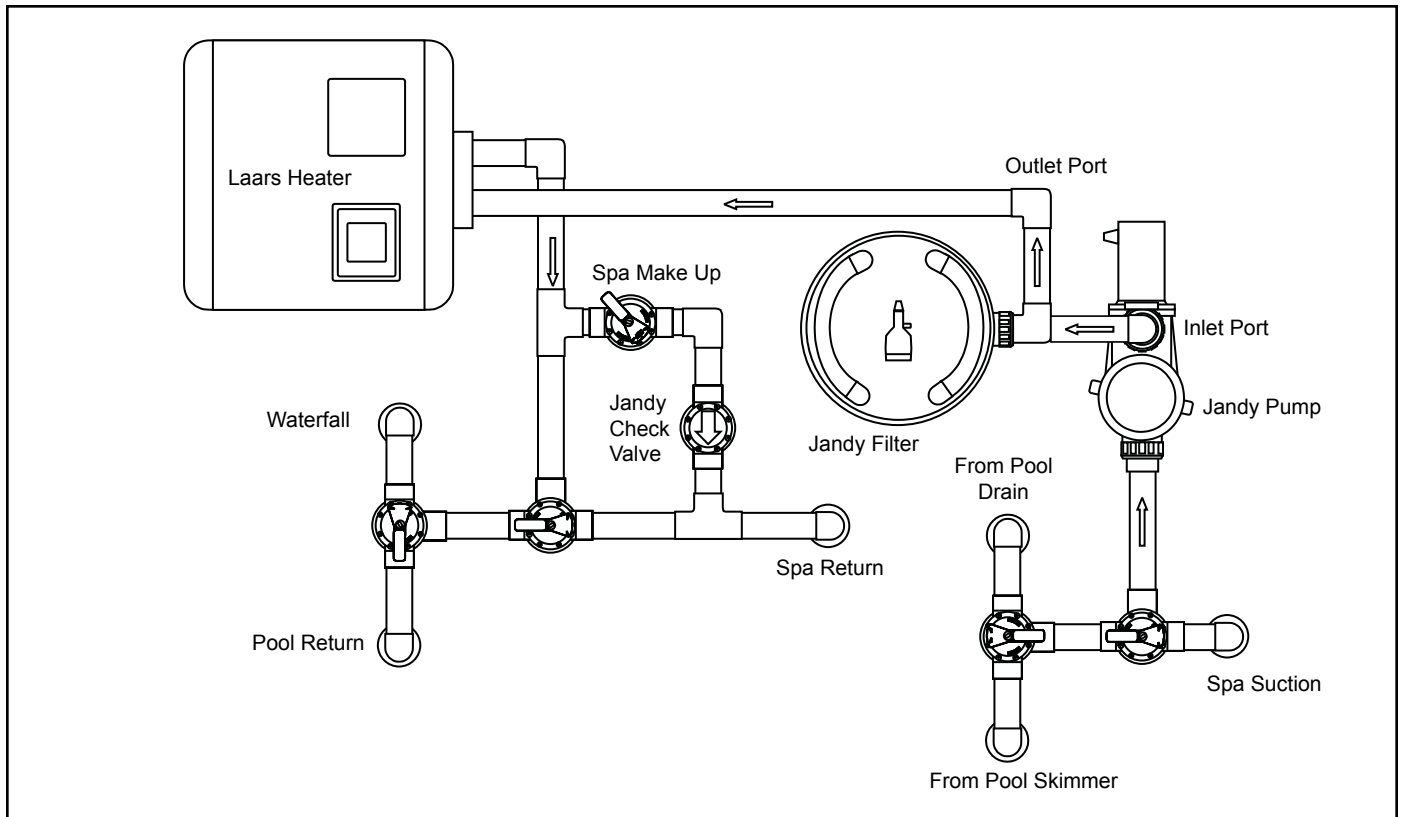
1. Check carton for damage due to rough handling in shipment. If carton or any filter components are damaged, notify carrier immediately.
2. Carefully remove the accessory package.
3. With the carton in an upright position, remove the filter tank from the carton.
4. A visual inspection of all parts should be made now. See parts list on page 14.

#### CAUTION

DO NOT move the filter tank without the shipping screw in place or the filter grids may be damaged while installing the filter tank.

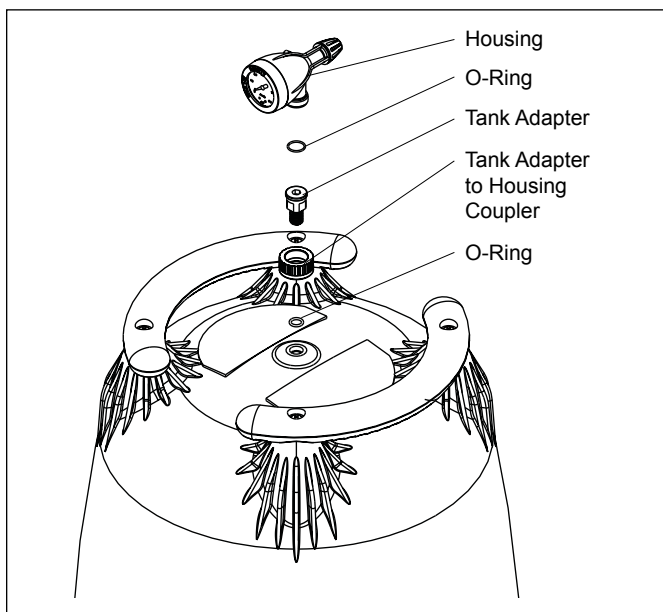
### 3.3 Filter Installation

1. This filter operates under pressure. When clamped properly and operated without air in the water system, this filter will operate in a safe manner.
2. If doubt exists as to the pressure which the system will be subjected to, install an ASME approved automatic Pressure Relief Valve or Pressure Regulator in the circulation system set to the lowest working pressure of any of the components in the system.
3. Place the filter on the concrete pad, lined up with the inlet/outlet pipes (see Fig. 3). **Remove the shipping screw.**
4. To mount the pressure gauge/air release assembly to the top of the filter tank (located in the accessory bag):
  - a. Place the smaller, thicker o-ring onto the threads of the tank adapter (see Fig. 4). Slide the tank adapter through the coupling nut and into the filter tank. Use the flats on the tank adapter to tighten. Do not overtighten.
  - b. Place the larger, thinner o-ring onto the gauge housing. Thread the housing into the coupler on the tank adapter.



**Figure 3. Basic Pool/Spa Combination Plumbing**

- c. Orient the gauge/air release assembly in the desired position. Raise and thread the locknut onto the bottom of the gauge/air release assembly. **Hand tighten the nut only.** Using a wrench to tighten the nut may damage the nut, gauge or air release assembly.
- 5. To reduce pressure losses, 2" (minimum) piping is recommended for plumbing the system.
- 6. For best efficiency use the fewest possible number of fittings. This will prevent a restriction in the water flow.
- 7. Make all plumbing connections in accordance with local plumbing and building codes. Filter connections are provided with an o-ring seal. To avoid damage to the o-rings, use only a silicone base lubricant on the o-rings. **Do not use pipe joint compound, glue or solvent on inlet/outlet union coupling nuts.**
- 8. Keep piping tight and free of leaks. Pump suction line leaks may cause air to be entrapped in filter tank or loss of prime at the pump. Pump discharge line leaks may show up as dampness or jets of water.
- 9. Support the inlet/outlet pipes independently to prevent any undue strains on the filter MPV.
- 10. Connect the pipes using the unions supplied with the filter. **Do not use teflon tape or pipe dope on any unions.** Assemble the unions dry and hand tighten.



**Figure 4. Pressure Gauge/Air Release Assembly**

**⚠ Caution**

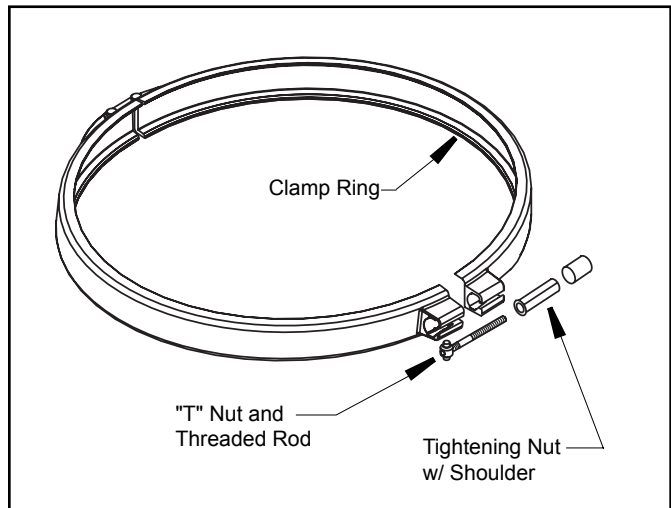
Be sure that all provisions for wastewater disposal meet local, state or national codes. One hundred gallons (100 gals.) or more of pool water will be discharged during filter backwashing. Do not discharge water where it will cause flooding or damage.

**⚠ WARNING**

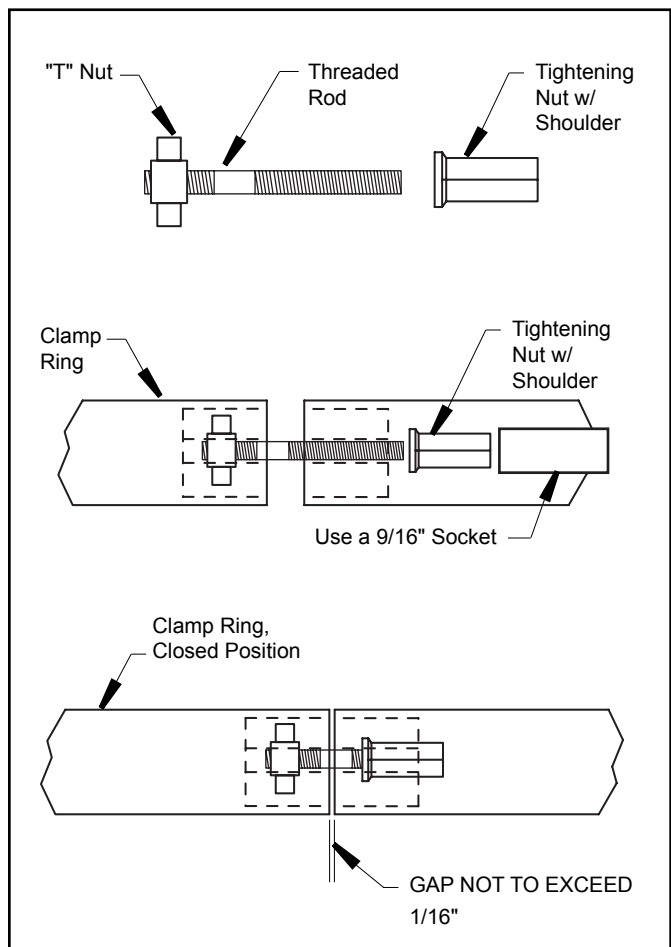
Follow these instructions carefully. Improper clamp installation can cause the filter lid to be blown off which can result in death, serious personal injury or property damage.

### 3.4 Clamp Installation, DEL Series

1. Be certain the o-ring is in position in the lower tank half. Press the filter lid over the lower half sandwiching the o-ring between the two halves.
2. Holding the ends of the filter clamp apart, position the hinged segment of the filter clamp over both upper and lower tank flanges. Bring the ends of the filter clamp together.
3. Place the "T" nut and threaded rod assembly into the clamp. Be sure the "T" nut is seated in the clamp in the proper orientation (See Fig. 6).
4. Use a 9/16" socket on the tightening nut until the clamp ring halves touch each other, or are within 1/16" (See Fig. 6) **but do not overtighten as the clamp can break**. If unable to tighten as indicated, do not operate the filter and **call a service technician immediately**.
5. After the first week of operation, check the clamp and retighten if necessary.
6. Check the filter clamp at least once a month.



**Figure 5. Filter Clamp Ring**



**Figure 6. Filter Clamp Ring Assembly**



## Section 4. Start-Up and Operation

 **WARNING**

**NEVER** start pump while standing within five (5) feet of the filter. Starting the pump while there is pressurized air in the system can cause the filter lid to be blown off, which can cause death, serious personal injury or property damage.

 **WARNING**

**NEVER** operate the filter system at more than 50 psi of pressure. Operating the filter system in excess of 50 psi can cause the filter lid to be blown off, which can cause death, serious personal injury or property damage.

 **WARNING**

Changing the multiport valve handle while there is pressurized air in the system can cause the filter lid to be blown off, which can cause death, serious personal injury or property damage.

 **Caution**

Dust released during normal handling of diatomaceous earth can cause eye and respiratory irritation. Prolonged breathing of excess concentrations of dust may cause lung damage.

 **Caution**

**Never** operate filter in excess of three (3) minutes without use of diatomaceous earth (DE). DE is the substance that filters the water, the filter cloth merely supports the DE. Operating without DE will damage filter grids and shorten filtering cycles.

 **Caution**

**DO NOT** operate filter at water temperatures above 120° F (65.5° C). Water temperatures above the manufacturer's recommendations will shorten the life span of the filter and void the warranty.

### 4.1 Preparing Diatomaceous Earth

Your filter requires diatomaceous earth (DE) for proper filtration and operation. The filter grids must be precoated with DE in order to protect their surfaces and provide the most efficient filtering action. Refer to Table 3 for the proper quantity of DE to use with your filter.

- Using a one (1) pound coffee can, fill the can with diatomaceous earth (DE). Do not pack or compress the DE into the can.
- Mix the required amount of DE with sufficient water in a separate bucket to make a thin, milky mixture (slurry).

**NOTE** Excess DE will clog the system. Use amount specified in this manual.

- Use the following instructions to coat the filter grids.

**Table 2. DE Slurry Mixture**

Model No.	DE Quantity		No. of 1 lb. Coffee Cans
	(lbs.)	(kg.)	
DEL48	5.0	2.0	10
DEL60	6.0	2.7	12

### 4.2 Coating the Filter Grids

- Prepare recommended amount of DE as outlined in Section 4.1.
- Start the filter system as outlined in Section 4.3.
- With the pump running and the pool skimmer valve open, slowly pour the mixture directly into the pool's skimmer basket. The slurry will be drawn into the filter.
- After coating of grids, rotate the bezel of the pressure gauge so that the arrow next to the word "CLEAN" is aligned with the needle of the gauge. This marks the original starting pressure of the system.
- Clean the filter when the pressure of the system increases so that needle of the gauge aligns with the arrow next to the word "DIRTY" on the bezel of the gauge. This indicates an increased pressure of between 10 and 12 psi above original starting pressure.

### 4.3 New Pool and Seasonal Start-up

1. Set the filter valve (MPV or backwash) to the "FILTER" position.
2. Open the pump hair/lint pot lid and fill the pump basket with water to prime the system. Replace the lid. (You may have to do this several times on new and seasonal start-ups.)
3. Completely open the air release valve on the gauge/air release assembly by turning the knob on the back of the assembly fully counterclockwise (do not remove the knob).
4. Be sure to open any filter isolation valves that were installed in the system and that the filter drain plug is in place.
5. **Stand clear of the filter** and start the pump to circulate water through the system. When a steady stream of water starts to come out of the air release valve, close the valve.
6. If this is a new filter, or the filter has just been backwashed, add the DE slurry as described in section 4.2.
7. Watch the pressure gauge to be sure that the pressure does not exceed 50 psi in the filter for normal operation. If the pressure approaches these limits, turn off the pump and backwash the filter (see Section 6.2). If the pressure remains high after backwashing and reapplying the DE slurry, refer to the troubleshooting guide on page 13 to identify possible causes and solutions.
8. After the pressure gauge has stabilized, turn the bezel ring so that the arrow next to the word "CLEAN" aligns with the needle of the gauge. As the filter cleans the water, the grids will clog over time, and the pressure will increase. When the needle of the pressure gauge aligns with the arrow next to the word "DIRTY" on the bezel ring, it is time to backwash the filter (see Section 6.2).

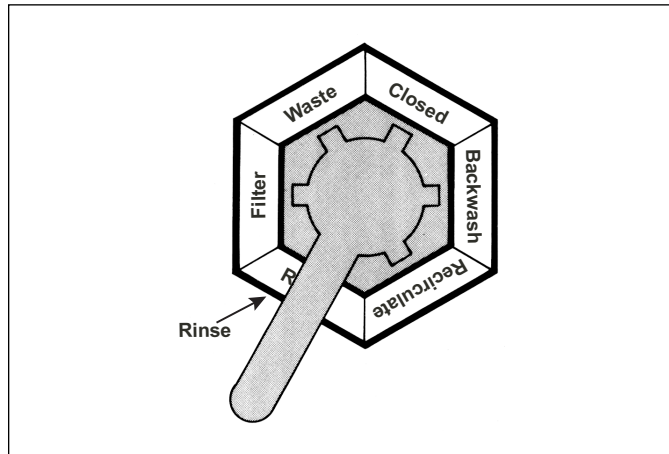
### 4.4 Valve Operation

1. The flow of water through a DE filter is controlled by an optional backwash valve or multiport valve (MPV).
2. The handle on top of the backwash valve or MPV can be moved to different positions. The function of each position is described below (see Fig. 7).

**NOTE** Depending on the model of backwash valve or MPV installed with your filter, it may have all or only some of the positions described in Table 3.

**Table 3. Valve Positions for Multi Port Valve**

Position	Function
FILTER	Normal filtration and vacuuming.
BACKWASH	Cleaning filter by reversing the flow.
RINSE	Used after backwash to flush dirt from the valve.
WASTE	Bypasses filter; used for vacuuming to waste or lowering water level.
RECIRCULATE	Bypasses filter for circulating water to the pool.
CLOSED	Shuts off all flow to the filter and pool.



**Figure 7. Multi Port Valve Handle Positions**

## Section 5. Filter Disassembly and Assembly

### **⚠ WARNING**

**NEVER** attempt to assemble, disassemble or adjust the filter when there is pressurized air in the system. Starting the pump while there is any pressurized air in the system can cause the filter lid to be blown off, which can cause death, serious personal injury or property damage.

### 5.1 Filter Tank Disassembly/Assembly

1. Backwash filter according to the instructions in Section 6.2 (omit this step when first starting a new filter).
2. Turn off the pump. Switch off the circuit breaker to the pump motor.
3. **IMPORTANT: Completely open air release valve on top of the filter tank to release all pressure from inside the tank and system.**
4. Close the filter isolation valves on the system to prevent flooding. Remove the drain plug located at the bottom of the filter tank and allow the tank to drain.

5. Remove the tank clamp ring from the filter and remove the tank lid. Inspect the tank o-ring for cracks or tears and replace if necessary
6. Pull the DE filter grid assembly out of the filter tank bottom. Use the handles molded into the manifold to aid lifting.
7. While the DE filter grid assembly is out of the filter tank, rinse the inside of the tank with water. Replace drain plug.
8. Gently rinse the grids with water. After cleaning the filter grids, place the grid assembly back into the filter tank bottom (see Sections 6.4 and 6.5 for further grid cleaning instructions).
9. Replace the tank o-ring and tank lid.
10. Reinstall the tank clamp ring. See Section 3.4 for tank clamp ring installation.

## 5.2 Filter Grid Disassembly/Assembly

1. Remove the complete grid assembly by following the instructions in Section 5.1, steps 2-6.
2. Remove the manifold by first unscrewing the tie rod knob in the center of the manifold. Then lift the manifold assembly off of the grids and the outlet tube.
3. Remove the top spacer from the grids.
4. The individual filter grids can now be removed from the grid support. Use care to avoid damaging the grids.
5. See Figure 8 for the arrangement of filter grids in the filter grid assembly.
6. To reassemble the filter grid assembly, arrange the filter grids into position on the bottom plate (see Fig. 8). Use the plastic top spacer to hold the grids in place.
7. Inspect the o-ring at the top of the outlet tube for cracks or excessive wear. Replace if necessary.
8. Assemble the manifold to the top of the assembly. Make sure that the grids and outlet tube fit securely into the manifold and that the retaining rod extends up through the hole in the center of the manifold.
9. Place the tie rod knob on the tie rod and tighten. Tighten until the filter grid assembly is snug. Do not overtighten.
10. Reassemble the tank o-ring and tank lid.
11. Reinstall the tank clamp ring. See Section 3.4 for clamp installation.

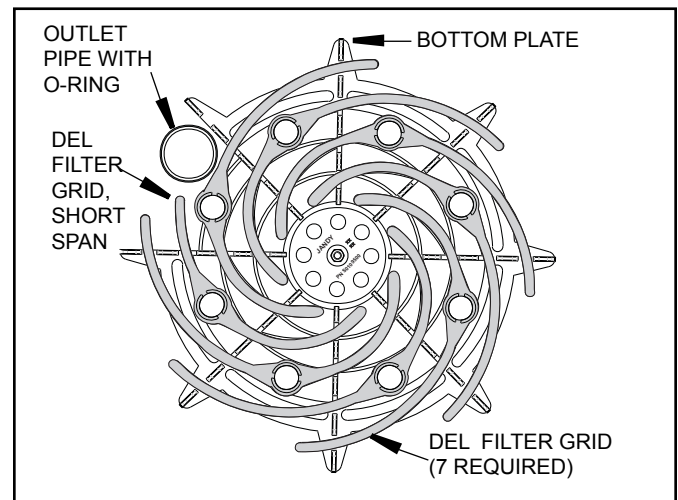


Figure 8. Filter Grid Arrangement

## Section 6. Maintenance

### 6.1 General Maintenance

1. Wash outside of filter with a mild detergent and water. Rinse off with a hose. **Do not use solvents to clean the filter, solvents will damage the plastic components of the filter.**
2. Inspect the DE filter grids at least twice a year. Remove any foreign material which has not been backwashed out of the system.
3. Check pressure during operation at least once a week.
4. Remove any debris from the pumps and pool skimmer baskets.
5. Check pump and filter for any leaks. If any leaks develop, **turn off the pump and call a qualified pool service technician.**
6. Product safety signs or labels should be periodically inspected and cleaned by the product user as necessary to maintain good legibility for safe viewing distance.
7. Product safety signs or labels should be replaced by the product user when a person with normal vision, including corrected vision, is no longer able to read the safety signs or label message panel text at a safe viewing distance from the hazard. In cases where the product has an extensive expected life or is exposed to extreme conditions, the product user should contact either the product manufacturer or some other source to determine means for obtaining replacement signs or labels.
8. Installation of new replacement safety signs or labels should be in accordance with the sign or label manufacturer's recommended procedure.

## 6.2 Backwashing

1. With filter pump off, set the backwash valve or MPV handle to the "BACKWASH" position.
2. Open air release valve.

### Caution

Be sure that all provisions for wastewater disposal meet local, state or national codes. One hundred gallons (100 gals.) or more of pool water will be discharged during filter backwashing. Do not discharge water where it will cause flooding or damage.

3. Stand clear of the filter, start the pump to circulate the water backwards through the filter to the waste line.
4. When a steady stream of water is expelled through the air release valve, close the valve.
5. Run the pump until the backwash discharge water is clear (repeat steps 1 thru 5 if required).
6. Switch the filter pump *off*.
7. Follow the procedure for coating the filter grids as described in Section 4.2.

## 6.3 Pressure Gauge

1. During operation of the filtration system, check the pressure gauge/air release assembly for air or water leaks at least once a week.

### Caution

Maintain your pressure gauge in good working order. The pressure gauge is the primary indicator of how the filter is operating.

2. Keep the pressure gauge in good working order. If you suspect a problem with the gauge, Jandy recommends you call a qualified service technician to do any work on the filter/pump system.

## 6.4 Cleaning the Filter Grids with Water

1. Turn off the pump and switch of the circuit breaker to the pump motor. Open the air release valve on top of the filter tank. Close the filter isolation valves. Remove the drain plug
2. ***Once all pressure has been relieved***, remove the clamp ring and the filter lid. Inspect the o-ring for cracks or tears replace if necessary.
3. Remove the filter grid assembly from the filter. Follow instructions in Section 5.1.

4. Using a garden hose, thoroughly flush all contaminates from the filter grid surfaces.
5. See Section 5.2 for reassembly of the filter tank and filter grids.

## 6.5 Cleaning Filter Grids with Muriatic Acid

1. Check with your local pool store or service company to see if they offer filter grid de-scaling services.
2. Stiffening of the filter grid fabric is caused by mineral deposit buildup. It is usually due to deposits of either magnesium, calcium, alkalines or carbonates. Removal of these deposits may be accomplished by soaking the filter grids in a plastic tub or pail with six (6) parts water to one (1) part hydrochloric acid (muriatic acid).

### WARNING

Working with muriatic acid can be dangerous. When cleaning filter grids always wear rubber gloves and eye protection. Add acid to water, do not add water to acid. Splashing or spilling acid can cause severe personal injury and/or property damage.

3. Wear rubber gloves and eye protection when mixing the solution, and handling or rinsing the filter grids.
4. Soak for at least four (4) hours.
5. Rinse the filter grids thoroughly with water.
6. See Sections 5.1 and 5.2 for reassembly of the filter tank and filter grids.

## Section 7. Winterizing

1. Turn *off* the pump and circuit breakers.
2. Open air release valve and move the MPV handle to a position between two ports. This will allow air to flow to all ports.
3. Remove the drain plug at the base of the filter to ensure that the tank is empty. Store the drain plug and seal in a safe place. Do not reinstall until next season at start-up.
4. Drain system piping of all water.
5. Cover the system with a tarpaulin or plastic sheet to protect it from the weather.

## Section 8. Troubleshooting

- For a list of common problems and solutions see the Troubleshooting Guide below.
- Jandy recommends that you call a qualified service technician to do any work on the filter/pump system. For technical service call 707.776.8200, ext. 260.

**Table 4. Troubleshooting Guide**

<b>Fault Symptom</b>	<b>Possible Problems</b>	<b>Solutions</b>
Water is not clear.	Insufficient disinfectant level. Incorrect pool chemistry. Heavy bathing and/or dirt loads. Insufficient running times. Filter is dirty. Hole in filter element.	Check and adjust disinfectant level. Test and adjust water chemistry. Adjust filter time and/or water chemistry. Increase pump run time. Backwash filter per instructions. Replace filter grids.
Low water flow.	Filter system strainer baskets dirty. Air leaks on suction side of pump.  Restrictions or blockage in either suction or return lines. Filter grids need to be cleaned or replaced. Pool water level too low. Pump not primed. Pump impeller vanes blocked. Pump operating under speed (low voltage).	Check and clean skimmer and pump baskets. Check all connections between pool intake and pump. Check all lines for debris or partially closed valves. Clean or replace filter grids per instructions.  Fill pool so level is above pump inlet line. Fill pump with water at basket and replace lid. Technician required. Technician or electrician required.
Short filter cycles.	Presence of algae clogging filter. Incorrect water chemistry. Strainer baskets not being used and/or broken. (Allow debris into pump.) Pump output exceeds design flow rate of filter. Ineffective cleaning.	Check disinfectant content. Check pH, total alkalinity and TDS. Replace baskets.  Check pump performance.  Clean or replace filter grids per instructions.
High pressure on start-up.	Small eyeball fitting in Pool/Spa. Partially closed valve on return line. Too large of pump. Filter grids dirty.	Replace with larger diameter fitting. Check and fully open all valves on return line. Check pump and filter selection. Clean filter grids per instructions.
Dirt returns to pool.	Hole in filter grid fabric. Worn o-ring seal inside filter.	Replace filter grid per instructions. Replace o-ring.

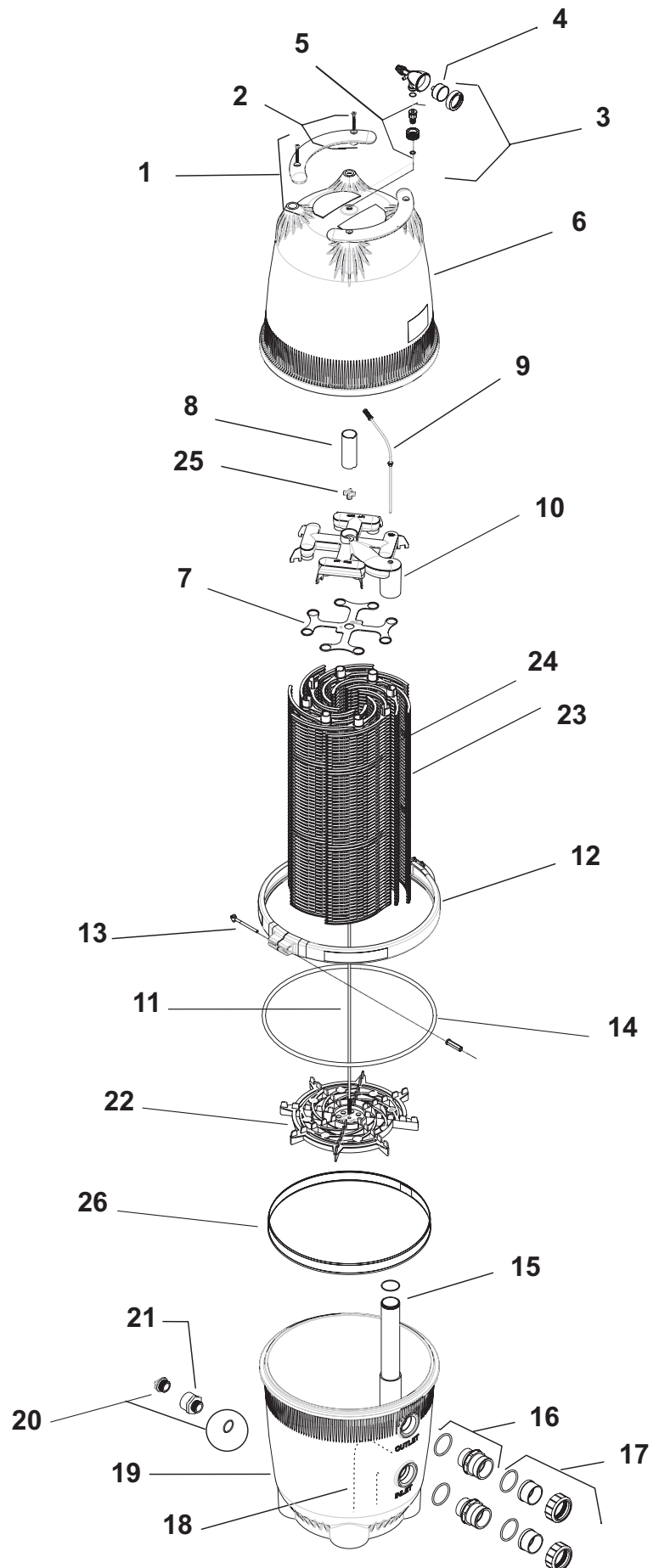


## Section 9. Parts List and Exploded View

### 9.1 Jandy® DEL Filter Parts List

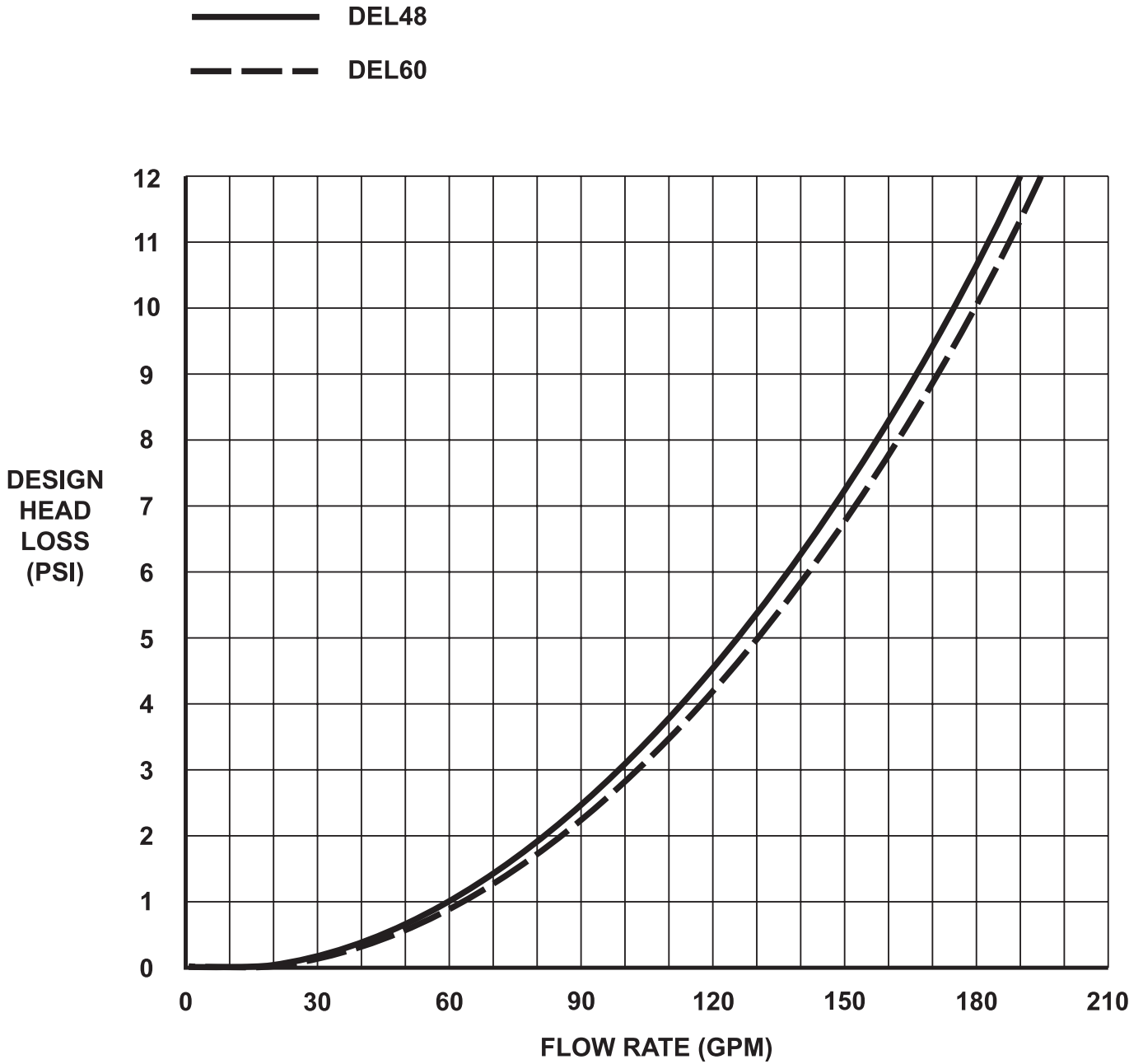
Key No.	Description	Part No.
1	Handle Assembly w/ hardware (set of 2)	R0357100
2	Handle Hardware (set of 4)	R0359900
3	Gauge/Air Release Assembly	R0357200
4	Pressure Gauge	R0569600
5	Tank Adapter w/O-ring	R0552000
6	Tank Lid DEL60	R0357300
	Tank Lid DEL48	R0554700
7	Top Spacer for DE Grids	R0359700
8	Spacer, DEL48/60, Large Filter	R0405100
9	Breather Tube Assembly	R0358700
10	Manifold Assembly	R0359000
11	Tie Rod w/Knob & Lock Nuts, DEL 60	R0359300
	Tie Rod w/Knob & Lock Nuts, DEL 48	R0554800
12	Tank Clamp Ring w/Knob Assembly	R0357400
13	Clamp Ring Knob Assembly w/Threaded Rod and Retainer	R0357500
14	Tank O-ring	R0357800
15	Outlet Tube/Elbow Assembly w/O-rings, DEL60	R0358100
	Outlet Tube/Elbow Assembly w/O-rings, DEL48	R0555100
16	Bulkhead Assembly w/O-ring	R0358200
17	Coupling Nuts w/ Flange and O-ring (set of 2)	R0327300
18	Inlet Elbow w/O-ring	R0358400
19	Tank Bottom w/Drain Plug	R0358600
20	Drain Plug w/O-ring	R0358800
21	Large Tank Drain Adapter w/O-ring	R0395500
22	DE Grid Support	R0359500
23	DE Grid, Full Size, DEL60 (7 required)	R0359100
	DE Grid, Full Size, DEL48 (7 required)	R0555000
24	DE Grid, Short Span, DEL60 (7 required)	R0359200
	DE Grid, Short Span, DEL48 (7 required)	R0554900
25	Tie Rod Knob	R0359400
26	Ring, Retaining	R0405200
27	O-ring Replacement Kit (not shown)	R0358000
28	Installation/Instruction Manual (not shown)	H0238800

### 9.2 Jandy® DEL Filters Exploded View



## Section 10. Head Loss Curves

### 10.1 Jandy® DEL Filter Design Head Loss Curves



## LIMITED WARRANTY

Thank you for purchasing Jandy® pool and spa products. Water Pik Technologies (manufacturer of Jandy products, including Laars® pool and spa heaters, Air Energy Heat Pumps, and Clormatic Electronic Chlorine Generators) warrants all parts to be free from manufacturing defects in materials and workmanship for a period of one year from the date of retail purchase, with the following exceptions:

- AquaLink® RS units installed with Jandy Surge Protection Kits will be covered for two years.
- NeverLube® valves are warranted for the life of pool and/or spa on which they were originally installed.
- AquaPure™ Electronic Chlorine Generator Electrolytic Cells carry a 5 year limited warranty on a prorated basis.

This warranty is limited to the first retail purchaser, is not transferable, and does not apply to products that have been moved from their original installation sites. The liability of Water Pik Technologies shall not exceed the repair or replacement of defective parts and does not include any costs for labor to remove and reinstall the defective part, transportation to or from the factory, and any other materials required to make the repair. This warranty does not cover failures or malfunctions resulting from the following:

1. Failure to properly install, operate or maintain the product(s) in accordance with our published Installation, Operation and Maintenance Manuals provided with the product(s).
2. The workmanship of any installer of the product(s).
3. Not maintaining a proper chemical balance in your pool and/or spa [pH level between 7.2 and 7.8, Total Alkalinity (TA) between 80 to 120 ppm, Total Dissolved Solids (TDS) less than 2000].
4. Abuse, alteration, accident, fire, flood, lightning, rodents, insects, negligence or acts of God.
5. Scaling, freezing, or other conditions causing inadequate water circulation.
6. Operating the product(s) at water flow rates outside the published minimum and maximum specifications.
7. Use of non-factory authorized parts or accessories in conjunction with the product(s).
8. Chemical contamination of combustion air or improper use of sanitizing chemicals, such as introducing sanitizing chemicals upstream of the heater and cleaner hose or through the skimmer.
9. Overheating, incorrect wire runs; improper electrical supply; collateral damage caused by failure of O-Rings, DE grids, or cartridge elements; or damage caused by running the pump with insufficient quantities of water.

### LIMITATION OF LIABILITY:

This is the only warranty given by Water Pik Technologies. No one is authorized to make any other warranties on Water Pik Technologies' behalf. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY. WATER PIK TECHNOLOGIES EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT OR PUNITIVE DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY.** This warranty gives you specific legal rights. You may also have other rights which vary by state or province.

### WARRANTY CLAIMS:

For prompt warranty consideration, contact your dealer and provide the following information: proof of purchase, model number, serial number and date of installation. The installer will contact the factory for instructions regarding the claim and to determine the location of the nearest designated service center. If the dealer is not available, you can locate a service center in your area by visiting [www.jandy.com](http://www.jandy.com) or by calling our technical support department at (707) 776-8200 extension 260. All returned parts must have a Returned Material Authorization number to be evaluated under the terms of this warranty.

H0238600D



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