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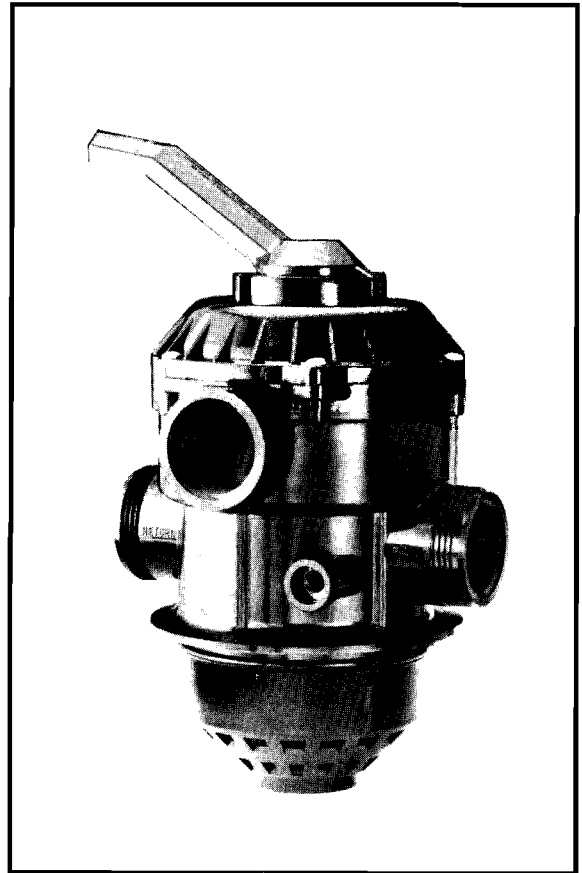
Pool and Spa Systems

# HI FLOW 6 WAY VALVE-1 1/2"

## INSTALLATION, OPERATION & SERVICE MANUAL

### WARNING

THIS MANUAL CONTAINS CRITICAL SAFETY INFORMATION WHICH MUST BE FURNISHED TO THE END USER. FAILURE TO READ AND FOLLOW INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY AND/OR MAJOR PROPERTY DAMAGE.



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Pool and Spa Systems

8/98

This valve operates under pressure. When closed properly and operated without air in the water system, this valve will operate in a safe manner.

**CAREFULLY READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL OR ON FILTER.**

## A. HOW YOUR VALVE WORKS:

Your six position valve is designed to provide all the necessary positions required to operate, maintain, trouble shoot and service your filter. It is provided with six operating positions and one Winterize position. The valve is constructed of high quality corrosion resistant materials and when installed, operated, and maintained in accordance to these instructions your valve will provide years of trouble free operation.

### WARNING

**Air entering the filter and a valve clamp not closed properly can cause the valve to blow off and could cause severe bodily injury and/or property damage. (Some valve models do not have a clamp but thread into the filter tank.)**

1-This valve is equipped with an external air bleeder device -item 12. Always open this air bleeder and stand clear of filter and valve before starting system pump and leave open until a steady stream of water is expelled.

**CAUTION: To prevent equipment damage and possible injury, always turn pump off before changing valve position.**

2-This valve has a closed position. The pump should never be on when the valve is in the closed position. If the pump is operated with the valve closed, the air relief system becomes inoperative and an explosive situation could exist. Additionally, running the system with no flow will seriously damage the equipment.

### VALVE POSITIONS:

- FILTER -** From Pump, through valve downward THRU FILTER up through center pipe to valve RETURN port for normal filter action and vacuuming pool thru filter.
- BACKWASH -** From pump through valve, down through center pipe and to valve WASTE port for cleaning filter by reversing flow.
- RINSE -** From pump, through valve downward up through filter up through center pipe to valve WASTE Port for start-up cleaning and resetting filter bed after backwashing.
- WASTE -** From pump through valve BY PASSES FILTER and goes to WASTE port for vacuuming directly to waste, lowering pool level, or draining pool.
- CLOSED -** NO FLOW - DO NOT USE THIS SETTING WITH PUMP OPERATING.
- RECIRCULATE -** From pump, through valve, bypasses filter and goes to return port for circulating water without going thru filter.

## B. INSTALLATION

1-Check carton for any evidence of damage due to rough handling in shipment. If carton or any valve components are damaged, notify freight carrier immediately.

### NOTICE:

**When working in and around the clamp use caution to prevent potential injury to fingers or hands from sudden contact with sharp edges.**

2-After inspection, carefully remove valve components from carton.

Be sure sand has been placed into filter, sand guide has been removed and top of filter cleaned of any sand or debris.

**NOTE: The filter valve will attach to the filter in one of two ways depending upon the filter and valve type.**

**Clamp style valves utilize a clamp which holds together the flanges of the valve and filter. Follow exactly, steps 3 thru 8 below to attach the valve to the filter. (Disregard steps 9 thru 12).**

3-Check to be sure item 13 o-ring is in place in groove on valve body. (Note: Item numbers in this portion of the instruction booklet refer to the replacement parts list titled Hi-Flow Six Way Valve).

4-Open clamp item 14 wide enough to place over the flange on the tank and rest on the tank before the valve is installed.

5-Place valve over opening in top of tank so that filter centerpipe slips into bore of valve body.

6-Valve ports are labeled with the location of where they should be connected i.e. pump port must go to pump discharge, waste port must go to the waste line and return port must go to the pool return.

7-Orient the valve to allow the ports to be plumbed to the proper location.

8-Press down on valve so that item 13 O-ring is down inside of opening of tank top.

### WARNING

**Improper tank valve assembly could cause the valve to blow off and cause severe injury and/or property damage.**

Lift the clamp item 14 over the tank flange and carefully guide the clamp so that it catches both the valve flange and the tank flange. Tighten "T" bolt nut securely.

**Threaded style valves utilize a large 6" buttress thread that screws directly to the filter tank. Follow exactly, steps 9 thru 12 below to attach the valve to the filter. (Disregard steps 3 thru 8).**

9-Check to be sure o-ring, Item 18, is in place above large thread on valve body and that o-ring is lubricated. If o-ring requires lubrication, use only silicone type lubrication.

### WARNING

**Use of lubricants or pipe sealants other than recommended in this instruction booklet, can damage the valve and cause the valve to blow off and could cause severe bodily injury or property damage.**

10-Check to be sure filter piping assembly is exactly centered about 1/8" below the large threaded opening in the tank.

11-Carefully install the valve inside the filter opening so that the filter piping assembly slips into socket of the valve. Slowly turn valve clockwise until the thread engages with the thread on the tank. Continue to turn valve until the O-ring on valve contacts the tank. Grasp valve by the two opposing ports and tighten as secure as possible by hand.

**READ AND FOLLOW ALL SAFETY INSTRUCTIONS**

## WARNING

Do not install pipes into the threaded ports, for the purpose of gaining mechanical advantage, as this can over tighten and damage the valve and can cause the valve to blow off resulting in severe bodily injury and/or property damage.

**NOTE:** The valve should not become hard to turn when installing in the filter opening until the valve o-ring contacts the filter surface. Failure to position the filter piping assembly in the center of the large filter opening, can cause the valve to not thread properly into the filter tank.

12-Orient the filter with valve to allow the ports to be plumbed to the proper location.

13-The Maximum operating pressure of this valve is 50 psi. The filter unit also has a maximum operating pressure listed on the filter nameplate. DO NOT OPERATE this unit above the maximum operating pressure of the valve or the filter. Never connect the filter and valve unit to a pump which can generate a pressure that exceeds the operating pressure of the filter or valve.

14-Assemble piping and pipe fittings to pump and valve. All piping must conform to local and state plumbing and sanitary codes.

15-Use sealant on all tapered male connections of pipe and fittings. Use only sealant compounds suited for plastic pipe. Support pipe to prevent strains on filter, pump or valve.

## NOTICE:

All valve internal threads are tapered except the air bleeder connection. Do not overtighten tapered thread connections.

6-Install pressure gage in 1/4" NPT port directly across from the pump port.

17-Never store pool chemicals within 10 feet of your pool filter valve. Pool chemicals should always be stored in a cool, dry, well ventilated area.

## WARNING

Chemical fumes and/or spills can cause severe attack of filter valve structural components. Structurally weakened components can cause filter valve or attachments to blow off and could cause severe bodily injury and/or property damage.

## C. REPLACEMENT OF VALVE TOP AND DIVERTER ASSEMBLY

1-Shut off pump and open air bleeder to relieve all internal pressure.

2-Set valve handle to winterize position.

3-Remove 6 cover screws (Item 10).

4-Lift off valve top and diverter assembly.

**NOTICE:** Valve diverter assembly has the sealing gasket attached to the diverter. When handling the diverter use caution to prevent the sealing surface from being damaged during handling.

5-Clean valve body sealing surface with soft clean lint free cloth. Inspect surface for damage such as scratches or nicks. If surface is damaged the valve body must be replaced.

6-Carefully lubricate the new valve top replacement "O" Ring Item 6 with a silicone based lubricant and place appropriately on valve top.

## WARNING

Improper tank valve assembly could cause the valve to blow off and cause severe injury and/or property damage.

7-Place the new valve top handle in the winterize position. Install new valve top and diverter assembly making sure small recess on lid and small bump on valve body are aligned. Start all 6 screws with fingers to insure that the screw is started in the formed thread of the valve body. screws should be tightened progressively by tightening diametrically opposite screws and following a crisscross pattern. Tighten all 6 valve top attachment screws firmly. DO NOT OVERTIGHTEN.

**NOTICE:** Valve top is attached with self-tapping screws. The screws must be aligned properly to prevent cross threading of the screws in the valve body.

## D. VALVE CARE

The valve is a very important part of your pool equipment and installation. Proper care and maintenance will add many years of service and enjoyment to the pool. Follow these suggestions for long trouble free operation.

1-To clean the exterior of the valve of dust and dirt, wash with a mild detergent and water and then hose off. Do not use solvents.

## WARNING

Always visually inspect valve components during normal servicing to insure structural safety. Replace any item which is corroded, bent or otherwise visually defective. Defective valve components can allow the valve or attachments to blow off and could cause severe bodily injury or property damage.

2-The valve clamp used on your valve has been manufactured with high quality corrosion resistant materials. The manufacturing process could allow sharp edges to be present on the parts. When working in and around the clamp use caution to prevent potential injury to fingers or hands from contact with sharp edges.

3-Your valve is a pressure vessel and should never be serviced while under pressure. Always relieve tank pressure and open air bleeder before attempting to service your valve.

4-Open the manual air bleeder and stand clear of the filter/valve before restarting your pump.

## E. WINTERIZING PROCEDURE

1-Shut off pump and open the valve air bleeder.

2-Drain and winterize the pump and filter per manufacturer's instructions

3-Depress valve handle and rotate so valve pointer is on circular rib on valve top at area on valve marked WINTERIZE.

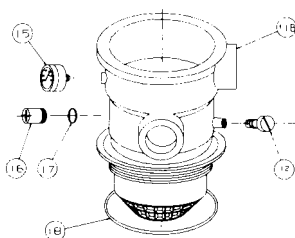
**NOTICE:** The valve should be left in this position during the shutdown season so the valve diverter has no pressure on the rubber seal.

## F. TROUBLESHOOTING GUIDE

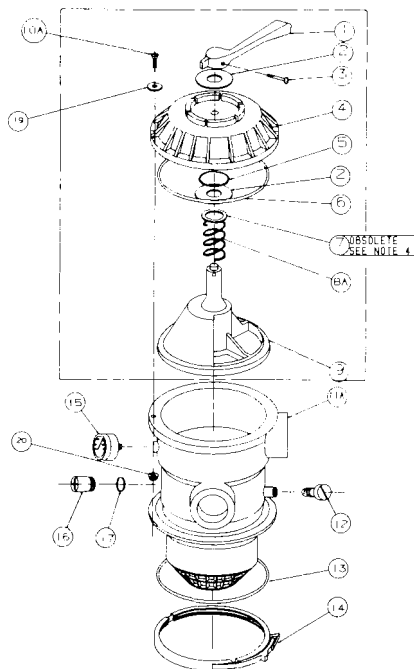
Problem	Cause	Remedy
Leak to waste port	1. Dirt or sand under seal. 2. Damaged seal. 3. Damaged valve body in seal area.	Remove valve top and clean seal area. Replace valve top assembly. Replace valve body.
Leakage at port connections to valve	1. Cracked ports.  2. Did not use sealant on threads.	Replace valve body use proper assembly and do not over tighten port connection. Use sealant.
Sand Returning to Pool	1. Filter problem. 2. Sand blowing thru air vent slots or between filter center pipe in valve.	Refer to filter manual. Sand size too small or flow rate thru filter too high.
Leakage at valve attachment to filter	Leakage past "O" Ring.	Remove valve and inspect "O" Ring & sealing surface replace as necessary.
Leakage at handle	Leakage past "O" Ring.	Replace valve top assembly.
Leakage at top of valve to valve body.	Leakage past "O" Ring.	Remove valve and inspect "O" Ring & sealing surface replace as necessary.
Leakage at sightglass with vacuum breaker	Dirt on Sealing Gasket	Remove sightglass and rinse with cool water to remove dirt. Replace sightglass if damaged.

# HI FLOW

## 6 WAY VALVE



**6" BUTTRESS  
STYLE VALVE**



**CLAMP STYLE  
VALVE**

## REPLACEMENT PARTS

1	27-2520	HANDLE	1
2	27-2505	WASHER-PLASTIC	2
3	27-2405	SCREW-HANDLE	1
4	27-2527	VALVE TOP-BLACK	1
5	27-2511	O-RING — DIVERTER SHAFT	1
6	35-4053	O-RING	1
7	27-2401	WASHER-STAINLESS STEEL (SEE NOTE 4)	1
8	27-2400	SPRING-100 LB. - 1 13/16 O.D. SS (SEE NOTE 4)	1
8A	27-2535	SPRING-100 LB. - 1 3/8 O.D. SS (SEE NOTE 4)	1
9	27-2512	DIVERTER W/GASKET	1
10A	35-4541	SCREW # 10-24 HEX PAN HD (SEE NOTE 5)	6
11A	27-2530	VALVE BODY W/DIFFUSER-CLAMP STYLE	1
11B	27-2538	VALVE BODY W/DIFFUSER-THREADED STYLE	1
12	27-3512	AIR BLEEDER W/O-RING (SEE NOTE 3)	1
13	27-2541	O-RING - 3/16" x 4 5/8" I.D.	1
14	15-2162	CLAMP	1
15	15-5050	PRESSURE GAUGE	1
16	27-1106	SIGHTGLASS	1
16	27-2550	SIGHTGLASS W/VACUUM PROTECTOR	1
17	27-1107	GASKET-SIGHTGLASS 3/8" I.D. x 1" O.D.	1
18	15-4493	O-RING .157" x 5.75" I.D.	1
—	15-5037	CARTON	1
—	27-2517	INSTRUCTIONS - 6 POSITION VALVE	1
19	27-2555	WASHER 9/16 SS (SEE NOTE 5)	6
20	27-2554	NUT- # 10-24 SERRATED FLANGE SS (SEE NOTE 5)	6
21	35-4562	LABEL-NO PETROLEUM	1

**NOTE:**

1. VALVE TOP ASSEMBLY P/N 27-2531 CONSISTS OF ITEMS 1 THRU 9 AND VALVE INSTRUCTIONS 27-2517.
2. VALVES MANUFACTURED BEFORE MARCH 1, 1993 DO NOT CONTAIN ITEM 16 SIGHTGLASS OR ITEM 17 SIGHTGLASS GASKET.
3. CLAMP STYLE VALVES MANUFACTURED BEFORE MARCH 1, 1993 CONTAIN A DIFFERENT AIR BLEEDER WITH O-RING PART NO. 27-2515. THIS PART IS NOT INTERCHANGEABLE WITH PART NO. 27-3512. THREADED VALVES MANUFACTURED BEFORE MARCH 1, 1993 DO NOT CONTAIN AN AIR BLEEDER WITH O-RING.
4. ITEM 8A USED ON VALVES MANUFACTURED AFTER MAY 1, 1992 AND REPLACES BOTH ITEMS 7 AND 8.
5. VALVES MANUFACTURED AFTER APRIL 15, 1994 USE NUT/BOLT DESIGN, SEE ITEMS 10A, 19, 20, & 21.