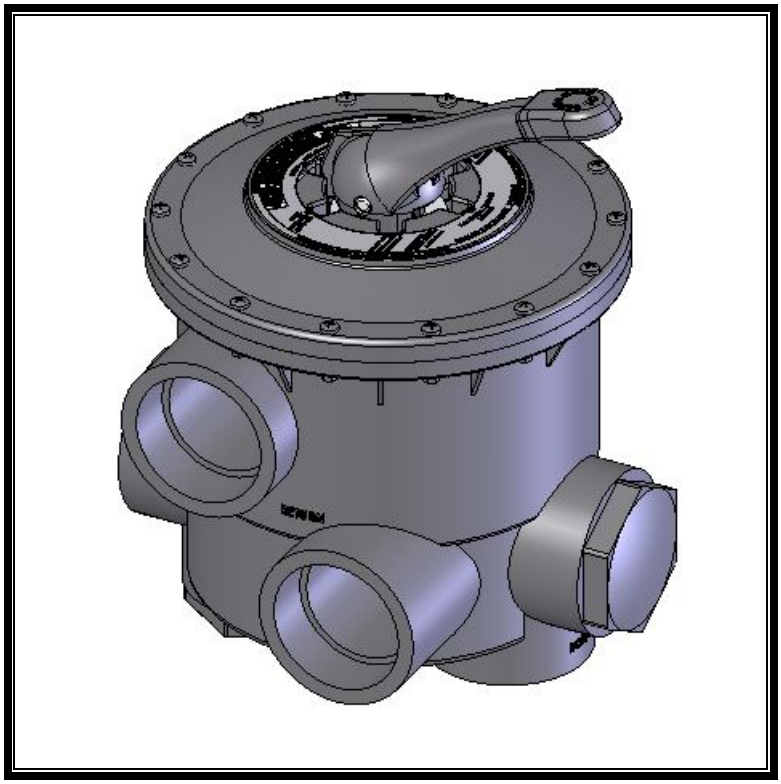
Commercial Filter Valve

Instruction Manual



Model HCV375

For Filter Models HCF343T and HCF363T

SAVE THIS INSTRUCTION MANUAL

Hayward Commercial
10101 Molecular Dr. Suite 200, Rockville, MD 20850
Phone: 1-800-657-2287
www.hayward-commercial-pool.com

Table of Contents

1. IMPORTANT SAFETY INSTRUCTIONS

Before installing or servicing this equipment, turn power supply OFF to the pump.

Basic safety precautions should always be followed, including the following: Failure to follow instructions may result in injury.

⚠ This is the safety-alert symbol. When you see this symbol on your pump or in this manual, look for one of the following signal words, and be alert to the potential for personal injury.

⚠ **WARNING** warns about hazards that **could** cause serious personal injury, death or major property damage and if ignored presents a potential hazard.

⚠ **CAUTION** warns about hazards that **will** or **can** cause minor or moderate personal injury and/or property damage and if ignored presents a potential hazard. It can also make consumers aware of actions that are unpredictable and unsafe.

The **NOTICE** label indicates special instructions that are important but not related to hazards.

⚠ **WARNING** – Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

⚠ **WARNING** – This product should be installed and serviced only by a qualified professional.

Use of non-Hayward® replacement parts voids warranty.

ATTENTION INSTALLER - THIS MANUAL CONTAINS IMPORTANT INFORMATION ABOUT THE INSTALLATION, OPERATION, AND SAFE USE OF THIS VARIABLE SPEED DRIVE THAT MUST BE FURNISHED TO THE END USER OF THIS PRODUCT. FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.

⚠ **WARNING** – To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times. Components such as the filtration system, pumps, and heaters must be positioned to prevent children from using them as a means of access to the pool.

⚠ **WARNING** – Pool and spa components have a finite life. All components should be inspected frequently and replaced at least every ten years, or if found to be damaged, broken, cracked, missing, or not securely attached.

⚠ **WARNING** – **Suction Entrapment Hazard.**
Suction in suction outlets and/or suction outlet covers, which are damaged, broken, cracked, missing, or unsecured cause severe injury and/or death due to the following entrapment hazards (symbols complements of APSP):

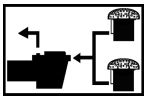
Hair Entrapment - Hair can become entangled in suction outlet cover.

Limb Entrapment - A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing, or not securely attached can result in a mechanical bind or swelling of the limb.

Body Suction Entrapment - A differential pressure applied to a large portion of the body or limbs can result in an entrapment.

Evisceration/ Disembowelment - A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is damaged, broken, cracked, missing, or unsecured can result in evisceration/disembowelment.

Mechanical Entrapment - There is potential for jewelry, swimsuits, hair decorations, fingers, toes, or knuckles to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.



⚠ WARNING – To Reduce the risk of Entrapment Hazards:

- When outlets are small enough to be blocked by a person, a minimum of two functioning suction outlets per drive must be installed. Suction outlets in the same plane (i.e. floor or wall), must be installed a minimum of three feet (3') [0.91 meter] apart, as measured from near point to near point.
- Dual suction fittings shall be placed in such locations and distances to avoid "dual blockage" by a user.
- Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- The maximum system flow rate shall not exceed the values shown in the "Pipe Sizing Chart" found below.
- Never use pool or spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- In addition to two or more suction outlets per drive installed in accordance with latest IAF (formerly NSPI) standards and CPSC guidelines, follow all national, state, and local codes applicable.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.

⚠ WARNING – Hazardous Pressure. Pool and spa water circulation systems operate under hazardous pressure during start-up, normal operation, and after drive shut-off. Stand clear of circulation system equipment during drive start-up. Failure to follow safety and operation instructions could result in violent separation of the drive housing and cover due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool and spa water circulation system, all system and drive controls must be in off position and filter manual air relief valve must be in open position. Before starting system drive, all system valves must be set in a position to allow system water to return back to the pool. Do not change filter control valve position while system drive is running. Before starting system drive, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water (not air or air and water mix) is discharged from the valve. All suction and discharge valves MUST be OPEN when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.

⚠ WARNING – Separation Hazard. Failure to follow safety and operation instructions could result in violent separation of drive components. Strainer cover must be properly secured to drive housing with strainer cover lock ring. Before servicing pool and spa circulation system, all system and drive controls must be in off position and filter manual air relief valve must be in open position. Do not operate pool and spa circulation system if a system component is not assembled properly, damaged, or missing. Do not operate pool and spa circulation system unless filter manual air relief valve body is in locked position in filter upper body. All suction and discharge valves MUST be OPEN when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.

⚠ WARNING – Never operate or test the circulation system at more than 50 PSI maximum.

⚠ WARNING – Failure to install according to defined instructions may result in severe personal injury or death.

2. Installation

This valve was designed to be used with the following Hayward Pool Products Sand Filter models HCF343T and HCF363T. This Filter must be purchased separately. A Hayward 3" piping kit HCV375KIT may be purchased separately to connect this valve to the Sand Filter.

2.1. Materials Needed

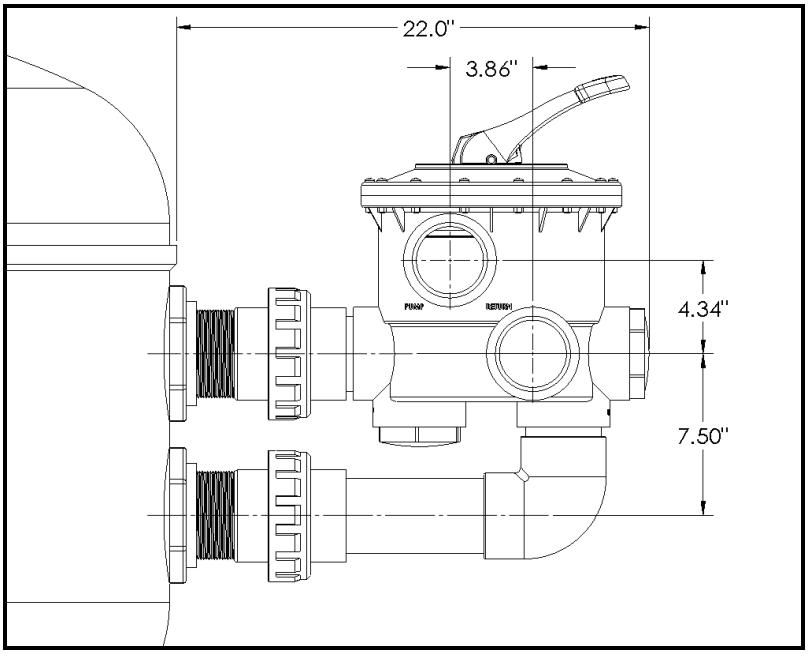
To properly assemble this valve to the sand filter using the 3" piping kit HCV375KIT, some gluing supplies will be required. See Table 1 below for a list of supplies.

Table 1

Item	Qty.	Description
1	as needed	Plumbers Teflon tape (or equivalent)
2	as needed	ABS to PVC Transition Cement
3	as needed	ABS to ABS Cement
4	as needed	P-70 Primer for PVC Pipe Nipples and Fittings

2.2. Assembly

It is recommended to read through this assembly section first and dry fit parts together first before gluing. Note: For **all** final pipe connections, please refer to sections **4. Standard PVC Socket Connection Gluing Practices** or **5. Standard Threaded Connection Practices**, respectfully.



(Refer to Figure 2-1 and Figure 2-2)

2.2.1. Glue the two plugs into the correct valve ports as shown using ABS to ABS Cement. No primer is needed on ABS parts.

2.2.2. **Slide a Union Nut (thread toward union) onto the short pipe assembly from the 3" Piping Kit HCV375KIT.** Glue the nipple end into valve body port labeled "TOP" as shown. Use P-70 Primer on pipe nipple only and ABS to PVC cement.

2.2.3. Glue the elbow assembly section from the Piping Kit HCV375KIT into the valve body port labeled "BOTTOM" as shown. Make sure the two pipe sections are aligned parallel before gluing. Use P-70 Primer on pipe nipple only and ABS to PVC cement.

Figure 2-1

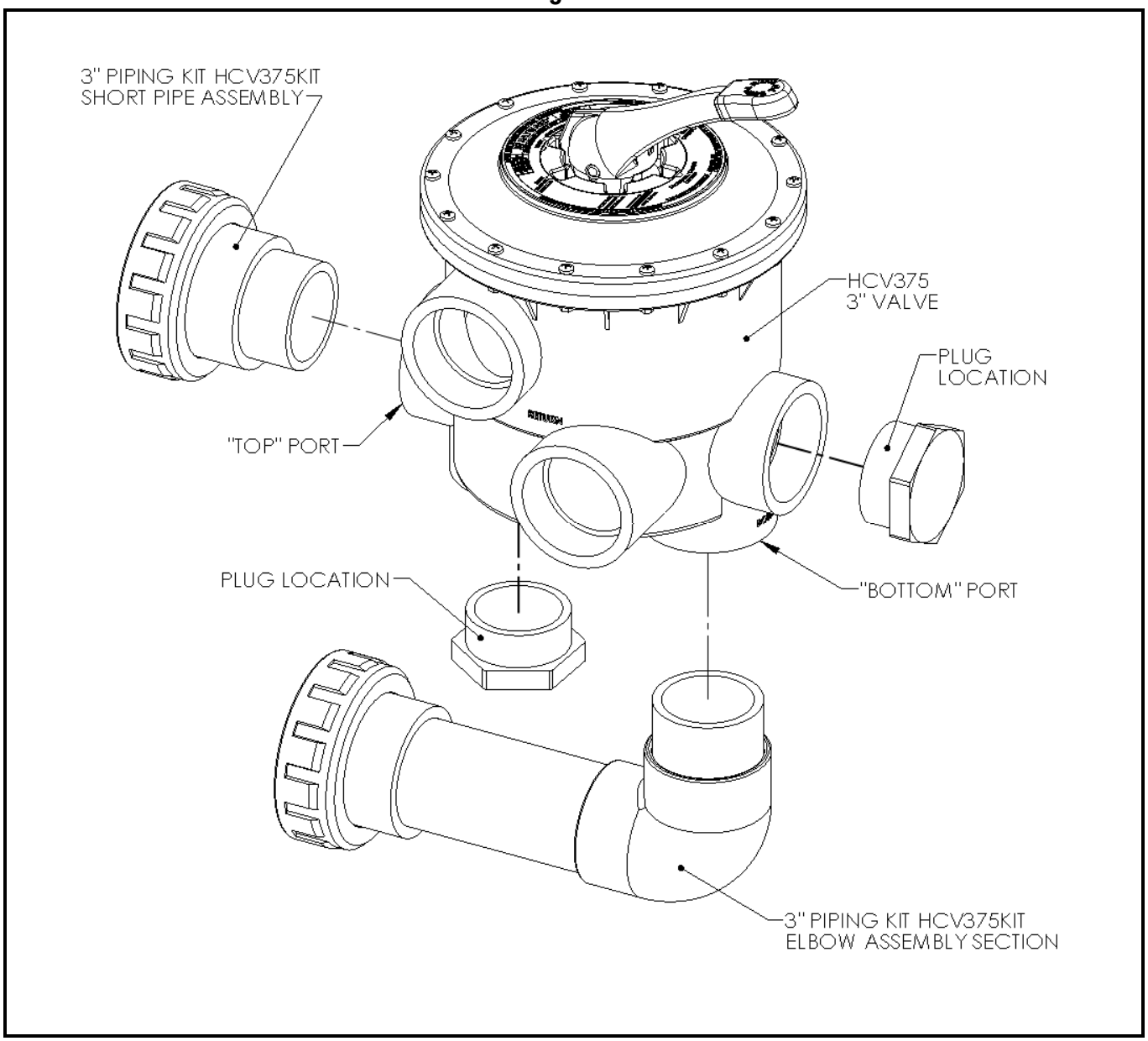
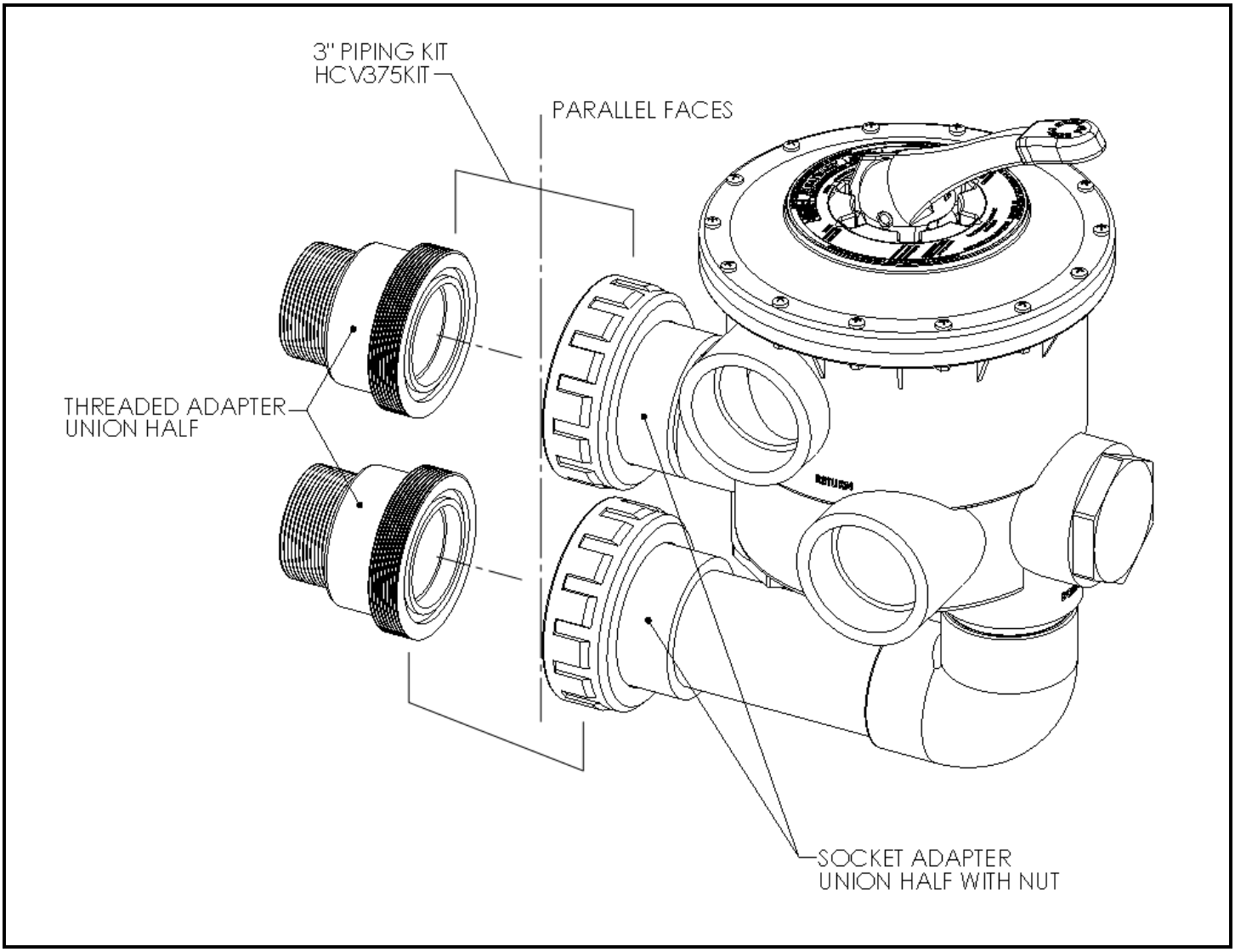


Figure 2-2



(Refer to Figure 2-3 and Figure 2-4)

2.2.4. Assemble the 2 Union Threaded Adapter halves from the 3" Piping Kit HCV375KIT into the filter body bulkhead fitting and **tighten to Section 5 Standard Threaded Connection Practices.**

2.2.5. Test the alignment of the unions by holding the valve assembly union flange faces to the filter tank union flange faces. These 2 union faces should come in contact flat and in-line with each other.

2.2.6. **Be sure that each o-ring is properly seated into the groove of each tank threaded adapter union half.** Assemble the valve assembly to the tank by holding the valve assembly union faces to the filter tank union faces & **tighten the two union nuts.**

2.2.7. Continue other valve plumbing as necessary.

Figure 2-3

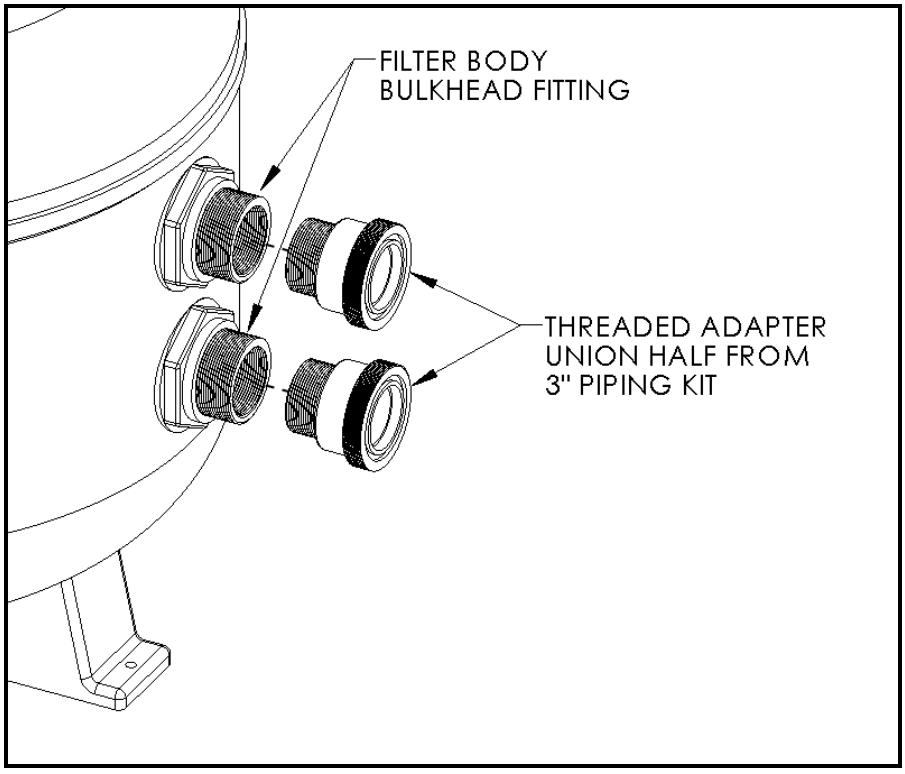
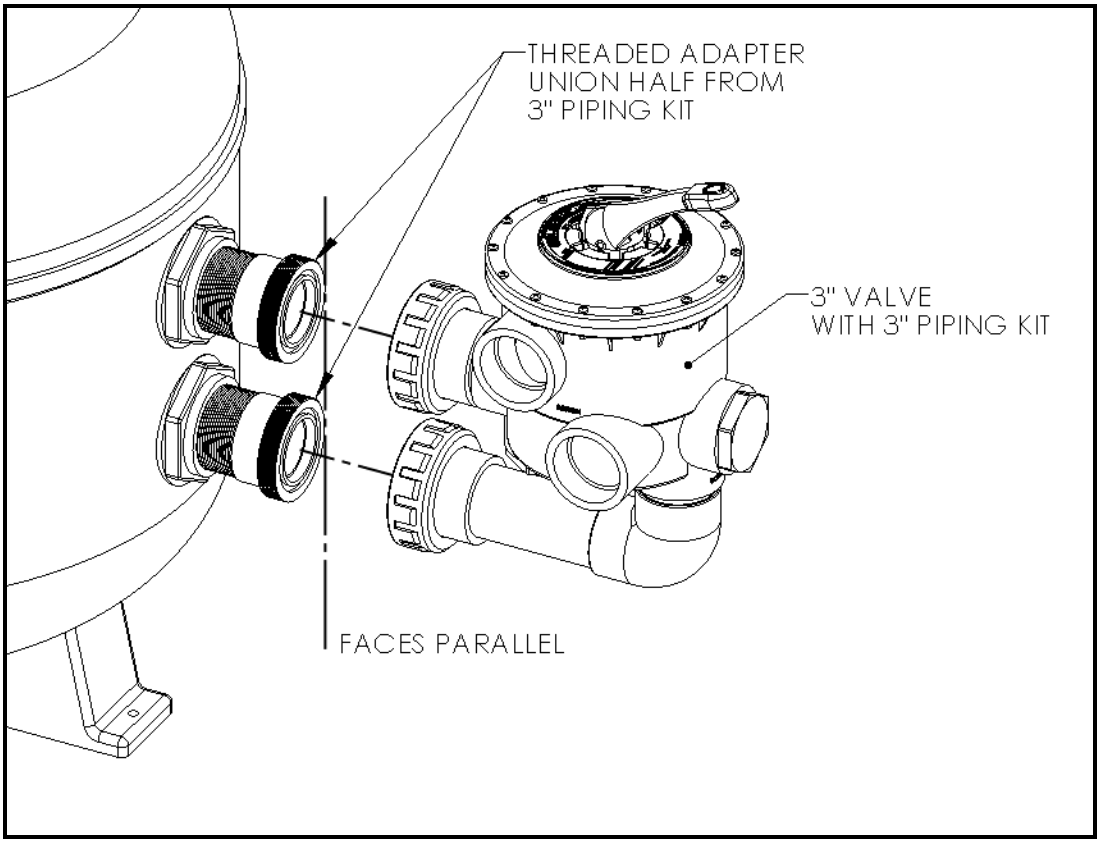


Figure 2-4



3. Valve Operation:

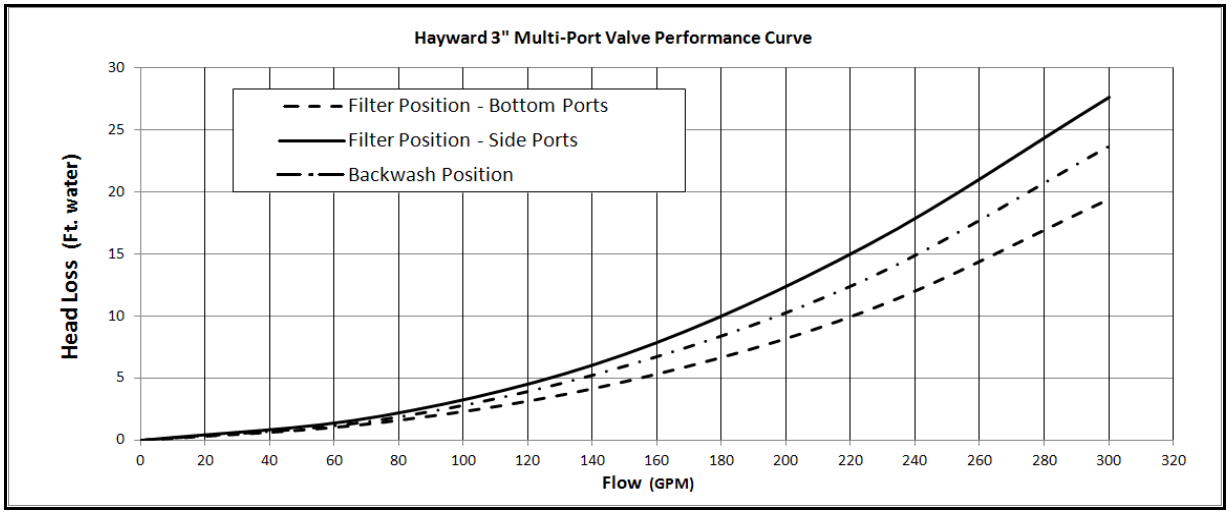
3.1. Functions of Valve Positions

VALVE SETTING	FLOW DIRECTION THROUGH VALVE
FILTER	**PUMP - TOP - THROUGH FILTER - BOTTOM - RETURN** For normal filtration and vacuuming pool through filter.
BACKWASH	**PUMP - BOTTOM - THROUGH FILTER - TOP - WASTE** For reversing flow for cleaning filter.
RINSE	**PUMP - TOP - THROUGH FILTER - BOTTOM - WASTE** For initial start-up cleaning, plus resetting filter bed after backwashing.
WASTE	**PUMP - WASTE** For vacuuming directly to waste, lowering pool level/draining pool.
CLOSED	3.1.1. NO CIRCULATION PAST PUMP PORT For shutting off all flow to filter and pool.
RECIRCULATE	**PUMP – RETURN** For bypassing filter, but circulating pool water. May be plumbed for "off-system" pool water access. Ideal for Jet-Air® fittings

3.2. Important Information:

- To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.
- To prevent unnecessary strain on piping system and valve, **always shut off pump before switching Filter Control Valve positions.**

3.3. Graph of Valve Head Loss



4. Standard PVC Socket Connection Gluing Practices

Solvent cementing of socket end connections to pipe should be performed per ASTM specifications D2855-96.

4.1. Cut the pipe square.

4.2. Chamfer and deburr the pipe.

4.3. Surfaces must be cleaned and free of dirt, moisture, oil and other foreign material.

4.4. Apply primer to the PVC elbow inside socket surface. Never allow the primer or cement to contact the union connector o-ring sealing surfaces, as leaking may result. Use a scrubbing motion. Repeated applications may be necessary to soften the surface of the socket.

4.5. Liberally apply primer to the male end of the pipe to the length of the socket depth.

4.6. Again apply to the socket.

4.7. Without delay, apply cement to the pipe while the surface is still wet with primer.

4.8. Next apply cement lightly, but uniformly to the inside of the socket.

4.9. Apply a second coat of cement to the pipe, and assemble the end connector to the pipe, rotating the connection 1/4 turn in one direction as it is slipped to full depth on to the pipe.

4.10. The connector should be held in position for approx. 30 seconds to allow the connection to "set".

4.11. After assembly, wipe off excess cement.

4.12. Full set time is a minimum of 30 minutes at 60° F to 100° F. Full cure time should be based on the chart below.

JOINT CURE SCHEDULE:

The cure schedules are suggested as guides. They are based on laboratory test data, and should not be taken to be the recommendations of all cement manufacturers. Individual manufacturer's recommendations for their particular cement should be followed.

Temperature Range During Cure Period (B) °F(°C)	Test Pressures for Pipe Sizes 1/2 to 1-1/4 In		Test Pressures for Pipe Sizes 1-1/2 to 3 In		Test Pressures for Pipe Sizes 4 to 5 In		Test Pressures for Pipe Sizes 6 to 8 In	
	Up to 180 PSI (1240 kPa)	Below 370 PSI (2552 kPa)	Up to 180 PSI (1240 kPa)	Below 315 PSI (2170 kPa)	Up to 180 PSI (1240 kPa)	Below 315 PSI (2170 kPa)	Up to 180 PSI (1240 kPa)	Below 315 PSI (2170 kPa)
60 to 100 (15 to 40)	1 h	6 h	2 h	12 h	6 h	18 h	8 h	24 h
40 to 60 (5 to 15)	2 h	12 h	4 h	24 h	12 h	36 h	16 h	48 h
20 to 40 (-7 to 5)	6 h	36 h	12 h	72 h	36 h (A)	4 days (A)	3 days (A)	9 days (A)
10 to 20 (-15 to -7)	8 h	48 h	16 h	96 h	72 h (A)	8 days (A)	4 days (A)	12 days (A)

Extreme care should be exercised on all joints made where pipe, fittings or cement is below 10°F (-15C).

A: It is important to note that at temperatures colder than 20°F on sizes that exceed 3 in., test results indicate that many variables exist in the actual cure rate of the joint. The data expressed in these categories represent only estimated averages. In some cases, cure will be achieved in less time, but isolated test results indicate that even longer periods of cure may be required.

B: These cure schedules are based on laboratory test data obtained on Net Fit Joints (NET FIT=in a dry fit the pipe bottoms snugly in the fitting socket without meeting interference).

5. Standard Threaded Connection Practices

Threaded end connections should be manufactured to ASTM specifications D2464-99. F437-99 and ANSI B2.1.

5.1. Wrap threads of pipe with Teflon tape of 3 to 3-1/2 mil thickness. The tape should be wrapped in a clockwise direction starting at the first or second full thread. Overlap each wrap by, 1/2 the width of the tape. The wrap should be applied with sufficient tension to allow the threads of a single wrapped area to show through without cutting the tape. The wrap should continue for the full effective length of the thread. Pipe sizes 2" and greater will not benefit with more than a second wrap, due to the greater thread depth.

5.2. To provide a leak proof joint, the pipe should be threaded into the end connection "hand tight".

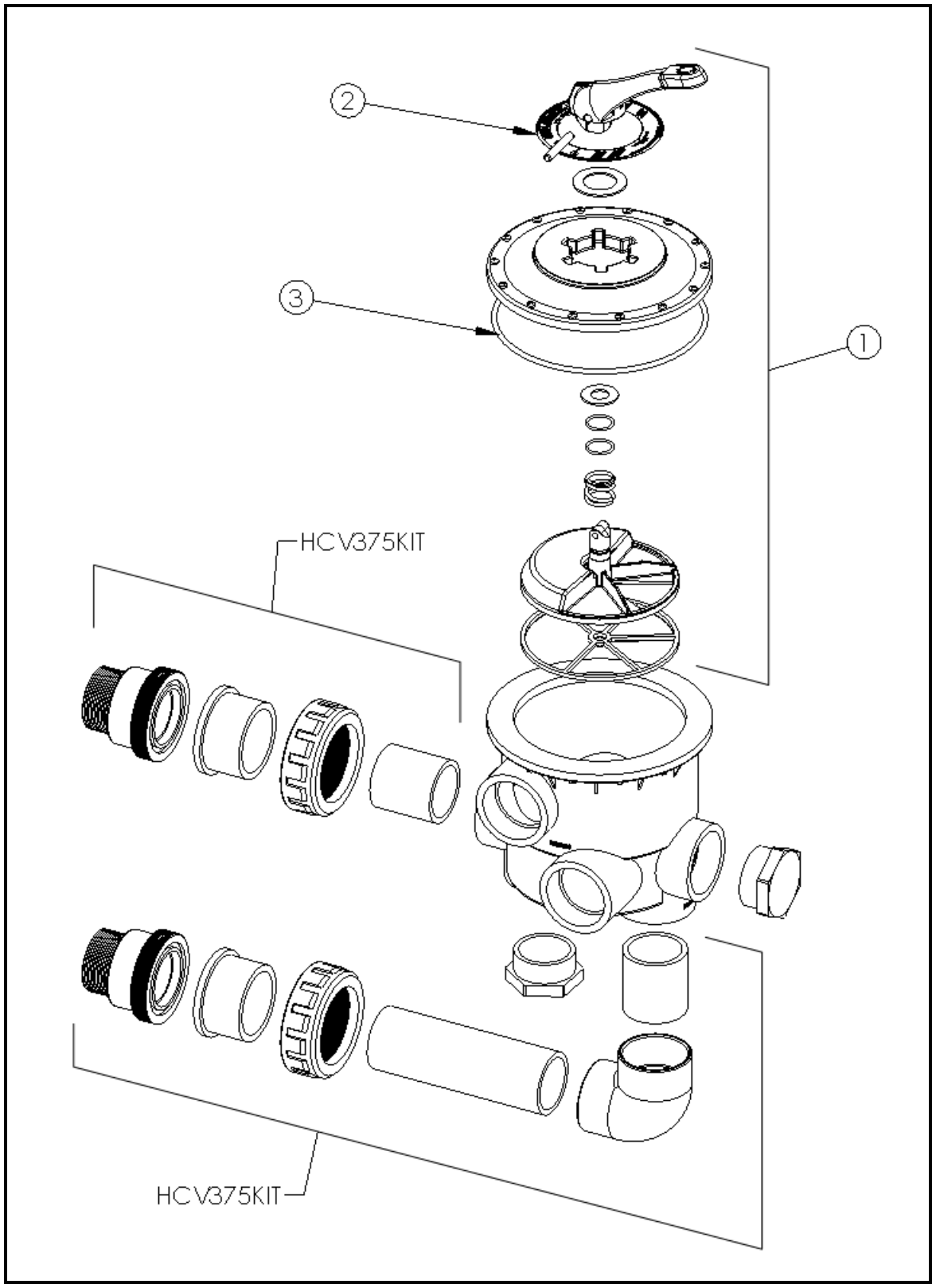
5.3. Using a strap wrench only (never use a stillson type wrench), tighten the joint an additional 1/2 to 1-1/2 turns past hand tight. Tightening beyond this point may induce excessive stress that could cause failure.

6. Spare Parts

6.1. Spare parts available are as follows (refer to Figure 6-1):

Item #	Part #	Description
1	HCXV0375BA	3" VALVE INTERNALS ASSEMBLY, COMPLETE
2	HCXV0375G	OPERATION INSTRUCTION LABEL
3	HCXV0375L	LID O-RING

Figure 6-1



6.2 3” Valve Internals Assembly Kit Replacement Instructions:

1. Turn pump OFF. Close all valves; pump to valve (or pool to pump), filter to pool.
2. Open Air Relief valve, located on top of filter.
3. Turn multi-port valve to “WASTE” position. Allow 3-5 minutes for water to drain from the filter tank.
4. From present (old) multi-port valve assembly, remove all the bolts and nuts on top of the valve.
5. Remove the valve cover and internals assembly by the handle, out of the valve body. Clean any debris left inside the valve flat sealing surfaces.
6. Replace valve cover and internals assembly with new kit. Make sure all the parts are clean.
7. “IMPORTANT”… Make sure that the “FILTER” position of the cover label is toward the filter ports.
8. Replace all the bolts and nuts and tighten in a crisscross pattern.
9. Turn the valve handle to “FILTER” position.
10. Open all valves (from pump to valve and filter to pool)
11. Turn pump “ON”
12. Close Air Relief valve on top of filter, when a steady stream of water is being discharged.

7. Accessories

7.1. Accessory parts available are as follows (refer to Figure 6-1 on previous page):

Part #	Description
HCV375KIT	3” VALVE PIPING KIT

8. Warranty

HAYWARD® LIMITED WARRANTY

To Buyer, as original purchaser of this equipment, Hayward Pool Products, 620 Division Street, Elizabeth, New Jersey, warrants its products free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which fail or become defective during the warranty period, except as a result of freezing, negligence, improper installation, use, or care, shall be repaired or replaced, at our option, without charge, within 90 days of the receipt of defective product, barring unforeseen delays.

To obtain warranty replacements or repair, defective components or parts should be returned, transportation paid, to the place of purchase, or to the nearest authorized Hayward service center. For further Hayward dealer or service center information, contact Hayward customer service department. No returns may be made directly to the factory without the express written authorization of Hayward Pool Products.

To original purchasers of this equipment, Hayward Pool Products warrants its products to be free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Filters which become defective during the warranty period, except as a result of freezing, negligence, improper installation, use or care, shall be repaired or replaced, at our option, without charge.

All other conditions and terms of the standard warranty apply.

Hayward shall not be responsible for cartage, removal and/or reinstallation labor or any other such costs incurred in obtaining warranty replacements.

The Hayward Pool Products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Hayward Pool Products
620 Division Street
Elizabeth, NJ 07207

*** Supersedes all previous publications.**

HAYWARD®

DETACH HERE: Fill out bottom portion completely and mail within 10 days of purchase/installation or register online.

Commercial Filter Valve Model HCV375

Warranty Card Registration

Please Print Clearly:

First Name_____ **Last Name**_____

Street Address_____

City_____ **State**_____ **Zip**_____

Phone Number_____ **Purchase Date**_____

E-Mail Address_____

Serial Number																

(10-17 digit number)

Model Number_____

Pool Capacity_____(U.S. Gallons)

☐Please include me on all e-mail communications regarding Hayward Equipment or promotions.

Mail to: Hayward Pool Products, 620 Division Street, Elizabeth, NJ 07207

Attn: Warranty Dept

Or REGISTER YOUR WARRANTY ON-LINE AT WWW.HAYWARDPOOL.COM

Years Pool has been in service

☐ < 1 year ☐ 1-3 ☐ 4-5 ☐ 6-10 ☐11-15 ☐ >15

Purchased from_____

☐Builder ☐Retailer ☐Pool Service ☐Internet/Catalog

Company Name_____

Address_____

City_____ State_____ Zip_____

Phone_____

Type of Pool:

☐ Concrete/Gunite ☐ Vinyl ☐ Fiberglass

☐ Other_____

☐ New Installation ☐ Replacement

Installation for:

☐ In Ground ☐ Spa

USE ONLY HAYWARD® GENUINE REPLACEMENT PARTS