FullFlow™ Valve Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

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⚠WARNING

Before installing this product, read and follow all warning notices and instructions accompanying this valve. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

Important Notice

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.

SECTION I. HOW YOUR VALVE WORKS

A. This 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. This valve introduces virtually no pressure drop in your filtration system resulting a faster turnover, lower electrical bill and less stress on your pump. It reverses the flow from filter to backwash position when turned 90 degrees.

B. This valve is available in four models:

Part No.	Type	Port center to center dim.
26-3010	Sand	7.5 in.
26-3011	D.E.	7.5 in.
26-3012	Sand	8 in.
26-3013	D.E.	8 in.

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98303924.9 & 9809206.7

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Pentair Pool Products®
Because reliability matters most

⚠ WARNING

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

⚠ CAUTION

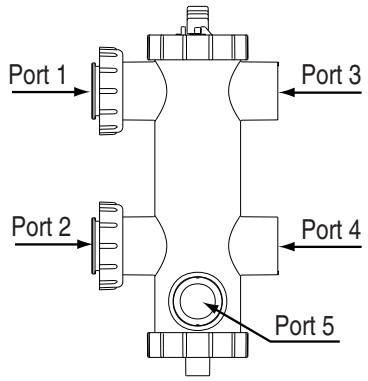
If the valve is hard to rotate, shut the pump off before rotating between positions. Do not use excessive force. If shutting off the pump did not ease the rotation, service the valve as described in this manual. There may be foreign objects obstructing one of the internal components.

⚠ CAUTION

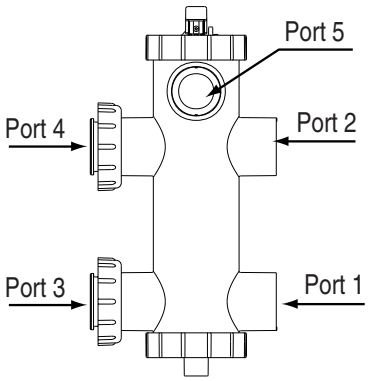
It is recommended that the pump be shut off before cycling the valve. If your system has a valve on the waste line make sure it's open. Sudden shifts in water flow can damage system components.

⚠ CAUTION

This valve is available in two models for use with sand type or diatomaceous earth type pool filters. Be certain that you have the correct model for your filter. Installation the incorrect model may cause your pump to dead head, or drain the pool when in backwash position.



DE VALVE
Figure 1.



SAND VALVE
Figure 2.

SECTION II. INSTALLATION

⚠ WARNING

The filtration system may drain to the pool when the top of the filter is higher than 7 ft. from the pool water level. This may require your system to prime after long periods of inoperation. Install a check valve on the waste port, if the top of the filter is higher than 7 ft. from the pool water level.

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

B. Hand-tighten the CAP-NUTS as they may have become loose in shipment.

C. Port Connections.

1. For D.E. models, the pump discharge line is connected to port 4 and the pool return line to port 3; see Figure 1.
2. For Sand models, the pump discharge line is connected to port 2 and the pool return line to port 1; see Figure 2.

D. Align the valve with the filter tank so that the handle is toward the top of the tank, push the valve into the ports, and turn the bulkhead nuts snugly on tank fittings; see Figure 3.

⚠ CAUTION

Tighten the nuts by hand only – no additional tightness is required.

1. Plumbing connections to this valve should be made using only cements and primers formulated for PVC connections. Follow all instructions on the cement and primer container.

E. See Figure 4 for dimensional criteria.

⚠ CAUTION

Be careful not to allow any glue to get into the central bore of the valve body, as this can damage the internal components. Do not use excess amounts of glue. Position the handle half way between the backwash and filter.

1. Support piping in such a way that strain is not placed on the valve or filter.
2. The maximum operating pressure of this valve is 50 psi. The filter unit also has a maximum operating pressure listed on the filter nameplate.

⚠ WARNING

DO NOT OPERATE THIS UNIT ABOVE THE MAXIMUM OPERATING PRESSURE OF THE VALVE OR THE FILTER. OPERATING YOUR SYSTEM ABOVE MAXIMUM RECOMMENDED PRESSURES MAY CAUSE YOUR FILTER OR VALVE TO BLOW OFF AND RESULT IN SEVERE BODILY INJURY, DEATH, AND PROPERTY DAMAGE. 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.

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

⚠ WARNING

Chemical fumes and/or spills can severely attack the structural components of the filter or valve. Structurally weakened components can cause the valve or the filter lid to blow off and result in severe bodily injury, death, and property damage.

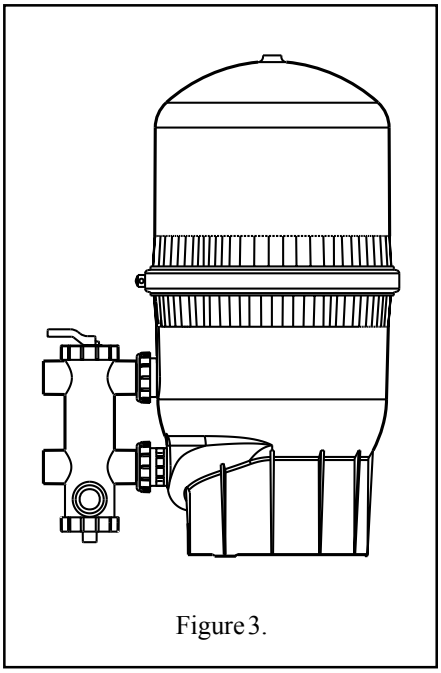


Figure 3.

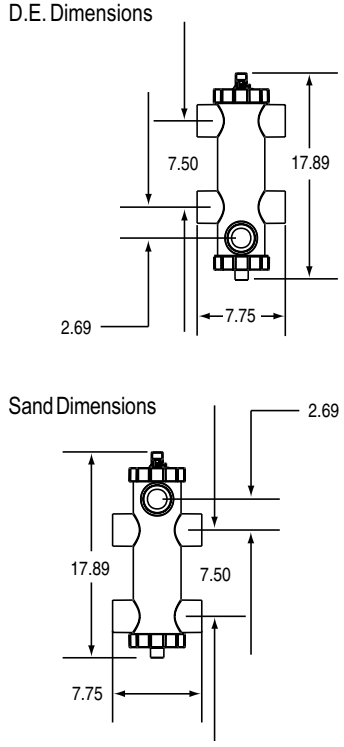


Figure 4. Bulkheads not shown.

SECTION III. SERVICE

A. Removal of rotary assembly for inspection or service.

1. Rotary Assembly consists of the following components:

SEAL, WASTE	PORT, BLOCK
STEM	STEM, WASTE SEAL
SHAFT	PORT, DIVERTER
HANDLE	O-RING #2-237
O-RING #2-154	SCREW
SPRING, .42 o.d.	O-RING # 2-116 BUNAN 70
SPRING, .24 o.d.	

2. Shut off the pump and open the High Flow manual relief valve on the filter to relieve all internal pressure.
3. If the filter is below the pool water level, close the suction and the return line valves to isolate the filtration equipment.
4. Drain the filter by moving the valve handle to the backwash position and removing the filter drain plug.

5. Remove the handle by removing the screw. Note: if not replacing the STEM O-ring, you may leave the HANDLE attached to the STEM.
6. Unscrew either the top or bottom CAP-NUT. Remove the CAP-INSERT. Slowly pull the Rotary Assembly.

B. Cleaning and/or replacement of WASTE SEAL.

⚠ CAUTION

ONLY USE SILICONE BASE LUBRICANTS ON THE VALVE, OTHER TYPES OF LUBRICANT MAY ATTACK AND DAMAGE THE PLASTIC OR RUBBER COMPONENTS.

1. Pentair Pool Products recommends the use of DOW CORNING® 111 LUBRICANT. This lubricant is formulated to cling tenaciously to seal surfaces and extends the lubrication period. Many other lubricants are broken down quickly by pool water and have a short lubricating life.
2. Examine the waste seal for nicks and cuts and the spring for corrosion. Replace if damaged.
3. Inspect the bore of the valve especially around the waste port. Deep scratches and cuts in this area may cause leaks from the waste port. Replace valve body if damaged.
4. Using a clean cloth thoroughly clean the WASTE SEAL and the bore of the valve.
5. Apply liberal amounts of DOW CORNING® 111 LUBRICANT to the surface of WASTE SEAL. Assemble the spring and the WASTE SEAL as shown on the assembly diagram.

C. Cleaning and/or replacement of O-RINGS.

1. Without over-stretching, remove and clean O-rings with a clean cloth.
2. Clean the O-ring grooves with a clean cloth.
3. Apply liberal amounts of DOW CORNING® 111 LUBRICANT to the O-rings.
4. Replace the O-rings in their grooves.

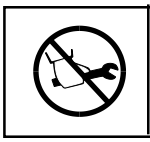
D. Replacing the ROTARY ASSEMBLY.

1. Make sure the Rotary Assembly is assembled exactly as show on Figure 5 for D.E. or Figure 6 for sand type valve; see Section V, Replacement Parts.

⚠ WARNING

INCORRECT ASSEMBLY OF THE ROTARY ASSEMBLY MAY CAUSE YOUR FILTER TO DEAD HEAD AND COULD CAUSE SEVERE BODILY AND AND/OR PROPERTY DAMAGE. MAKE SURE THE ROTARY ASSEMBLY IS ASSEMBLED AS SHOWN IN FIGURE 5 FOR D.E. AND FIGURE 6 FOR SAND MODELS, IN SECTION V, REPLACEMENT PARTS.

2. Insert the Rotary assembly into the valve body. The WASTE SEAL is spring loaded. You must depress the WASTE SEAL while inserting the Rotary assembly.
3. Remove the CAP INSERT-BOTTOM.
4. Insert the STEM into the CAP INSERT-BOTTOM.
5. Align the keys and inset and tighten the NUT. Ensure that the O-ring is properly seated in the groove.
6. Align keys and insert the CAP INSERT-TOP. Ensure that the O-ring is properly seated in the groove.
7. Hand tighten the CAP-NUTS.



⚠ CAUTION

Tighten the nuts by hand only – no additional tightness is required.

8. Replace the screw for the handle.

SECTION IV. MAINTENANCE

A. 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 to the pool. The service life of this valve is determined by the following factors. Follow the suggestions described in this section to maximize the life of this product.

⚠ CAUTION

To extend valve life, periodically inspect shaft seals and valve bore for dirt and clean as described under section III of this manual.

1. DIRT – Unfiltered pool water passes through a portion of this valve during normal filter operation and exceptionally dirty water passes through during the backwash function. Some dirt particles may accumulate on the Waste Seal and can scratch the valve body during actuation. These scratches can accumulate on the bore until the Waste Seal can no longer seal the waste port. The bore cannot be repaired. Therefore, the valve must be replaced once excessive wear has occurred.

⚠ CAUTION

To extend seal life, remove piston assembly and lubricate periodically.

2. LUBRICATION – Valve seals are lubricated with a thick silicone grease at the factory to ensure the O-rings glide easily over stationary plastic surfaces. This lubricant also ensures that handle actuation is easy and that Waste Seals are not damaged when passing over internal passageways in the valve bore.

NOTE

Frequency of required lubrication depends on many factors including frequency of actuation, water chemistry, water quality, and water temperature. Pentair Pool Products recommends inspection of the Waste Seal and the small shaft seal after three months to ensure that they are still well lubricated. The valve may be reassembled and checked again in three more months. O-rings that have been cut, nibbled out, or twisted may be signs of inadequate lubrication. Damaged O-rings must be replaced.

⚠ CAUTION

If the valve handle becomes hard to twist during operation, it is an indication the seals no longer have adequate lubrication and should be re-lubricated. Continuing to actuate a valve without proper lubrication will damage the O-ring seals and cause the valve to leak.

3. CHEMICAL ATTACK – This valve is made from materials that resist corrosion and should provide many years of service if these guidelines are followed:

   a. **Maintain pool water chemistry properly**. Pool chemistry is a specialized area and you should consult your pool service specialist for specific details.

   b. Always **introduce chemicals into the pool after water flow passes through the pool filtration equipment**.

c. Use only **silicone base lubricants**. Other lubricants may attack valve components.

d. Always **install a check valve between in-line chlorinators and pool equipment** to prevent chlorine gas backup into the pool equipment.

4. HEAT – This valve is made from materials that are not adversely affected by temperatures found in correctly plumbed pool and spa installations. Heat damage can be caused by the following situations:

   a. Improper heater installation or operation. **Heaters should be located after the pool filtration equipment and must have a check valve** or similar device that ensures super heated water cannot backup into the valve when the pump is switched off.

   b. Circulation pump operating with no flow. Pumps transfer heat into the water. If there is no water flow due to a closed valve or loss of prime, water in the pump will become very hot and can damage any pool equipment in-line and close to the pump. **Always ensure that system valves are open so that water is free to flow through the pool equipment.**

5. WEATHER EXPOSURE – All materials are affected to some degree by weather exposure. Materials used in this valve are suitable for outdoor use. However, to extend valve life, protect from weathering, especially direct sunlight. Many years of outdoor exposure can cause materials to become structurally weakened. Always replace valve components that show signs of deterioration, such as cracked surfaces and/or significant discoloration.

⚠ WARNING

CONTINUING TO OPERATE A VALVE WITH DAMAGED COMPONENTS COULD RESULT IN SUDDEN FAILURE OF VALVE STRUCTURAL COMPONENTS, WHICH COULD POSSIBLY CAUSE FLOODING OR SERIOUS PERSONAL INJURY DUE TO A SUDDEN RELEASE OF FILTER SYSTEM PRESSURE. INSPECT AND SERVICE YOUR VALVE REGULARLY AS OUTLINED IN SECTION III.

B. Winterizing.

1. Consult the filter operation manual for winterizing instructions.

2. If possible, remove, clean and lubricate the O-rings and Waste Seal as described in Section III. **Store the parts in an airtight container or sealed plastic bag that protects the seals from light and air. Store away from heat.**

NOTE

If the Rotary Assembly will be left in the valve body during the winter, lubricate the valve first to ensure that the piston assembly will actuate easily after several months without movement.

SECTION V. TROUBLESHOOTING GUIDE.

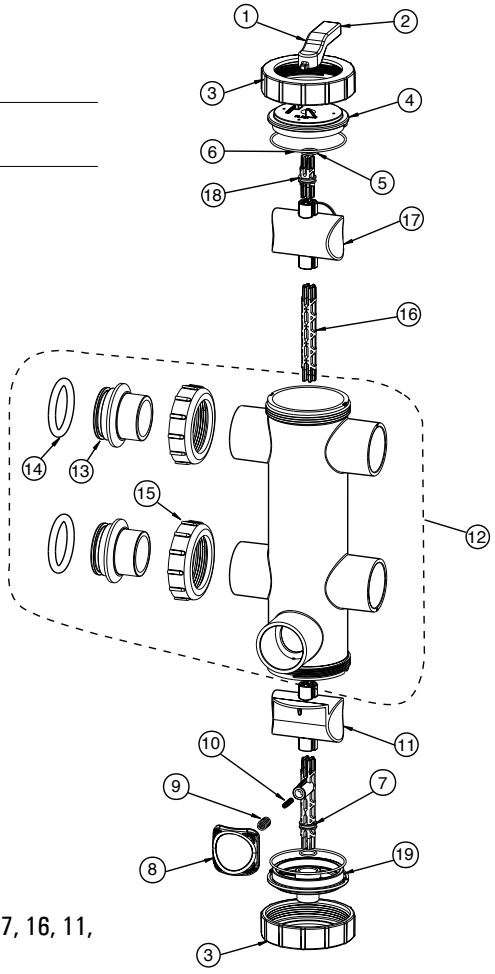
PROBLEM		CAUSE	REMEDY
Leak to waste	1)	Dirt on waste seal, damaged waste seal, or improper replacement of waste seal spring.	Service rotary assemlby as described under Section D.1.
	2)	Damaged spring.	Replace spring.
	3)	Scratched valve bore.	Replace valve.
	4)	Heat damage to valve bore (oversized or out of round).	Replace valve.
Leak around shaft exiting from cap	1)	Dirt on small shaft O-rings or damaged seal.	Service rotary assembly as described under Section D.
	2)	Damaged cap or shaft.	Replace cap or shaft.
Leak between cap-inserts and valve body	1)	Dirt or damage to large cap O-ring.	Service rotary assembly as described under Section D.
	2)	Sealing surface on the body damaged.	Replace valve.
	3)	Cap-insert O-ring groove damaged.	Replace cap-insert.
Handle is hard to actuate	1)	Waste seals and/or small shaft seals need lubrication or are damaged or improer replacement of rotary assembly.	Service rotary assembly as required under Section D.
	2)	Valve bore is badly scratched.	Lubricate seals frequently. If still hard to actuate, replace valve.
	3)	Valve body damaged by heat.	Replace valve.
	4)	Foreign objects stuck between the waste seal/ ports and the body.	Service rotary assembly as required in Section D.

SAVE THESE INSTRUCTIONS.

SECTION VI. REPLACEMENT PARTS

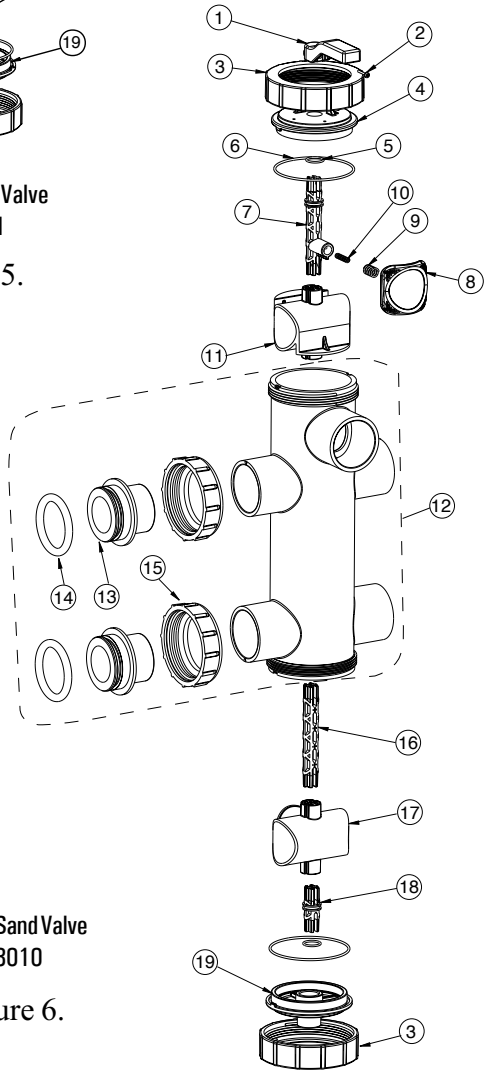
Item No.	Part No.	Description
1	27-8006	Handle
2	07-2536	Screw, thread cutting
3	27-8020	Cap, nut, 2 req.
4	27-8021	Cap insert - top
5	19-2039	O-ring #2-116 Bunan, 2 req.
6	27-5300	O-ring #2-154 Bunan 70, 2 req.
7	27-8004	Stem, waste seal ❶
8	27-8019	Seal, waste
9	27-1065	Spring, .42 o.d.
10	27-0006	Spring, .24 o.d.
11	27-8002	Port, diverter ❶
12	27-8000	Body, 7.5 in. ❶
12	27-0007	Body assy., 7.5 in. Sand
12	27-0008	Body assy., 7.5 in. D.E.
12	27-0009	Body assy., 8 in. Sand
12	27-0010	Body assy., 8 in. D.E.
13	27-4430	Adapter, bulkhead, 2 req. ❶
14	27-4494	O-ring, adapter, 2 req.
15	27-4440	Nut, adapter, 2 req. ❶
16	27-8003	Shaft, 7.5 in. ❶
17	27-8018	Port, block ❶
18	27-8007	Stem ❶
19	27-8022	Cap insert, bottom
20	27-0011	Shaft assy., consists of items; 18, 17, 16, 11, 10, 9, and two of #5.

❶ Items may not be purchased separately.



FullFlow D.E. Valve
26-3011

Figure 5.



FullFlow Sand Valve
26-3010

Figure 6.