

WATER VALVE REBUILD

MODELS: 125BL



WARNING

LP & NG ARE EXTREMELY FLAMMABLE SO
TAKE EXTRA PRECAUTIONS WHEN
PERFORMING ANY WORK TO THE HEATER

Introduction

The AquaStar Water Valve Assembly requires periodic maintenance. Some of the components need to be replaced every two (2) to five (5) years. Exactly how often depends on water conditions and use. Failure to maintain this assembly could result in unsafe operation of the gas valve and costly damage to the rest of the heater.

Indications That Your Water Valve Assembly Could Need Service:

- Any signs of a white or greenish powdery substance where the brass Water Valve Assembly joins the aluminum Gas Valve Housing.
- Water weeping from the weep hole located at the same joint. An indication that water may be coming from the weep hole can be seen on the silver tray at the bottom of the heater.
- Any instances of freeze damage.
- If the burners fail to go off immediately when the water is turned off, usually due to mineralization in the water valve on older heaters. To test for this possibility run hot water at a faucet, then shut off the cold inlet supply and observe if the burners go off immediately. If they do not the AquaStar will overheat and shut down on safety depending on the delay.

A complete kit to rebuild the **125BL** Water Valve Assembly (part # VVKIT125BL) consists of the following parts:

- a. Repair kit (pushrod, o-ring, nut) # 8 703 406 214
- b. Slow ignition valve # 8 708 503 060
- c. Heat exchanger washers (2) # 8 710 103 045
- d. Cold & Hot Water Washers (2) # 8 710 103 043

A. Preparation

- Tools Needed:
- Philips head and flat screwdriver
- Medium sized adjustable wrench
- Container to catch water

Shut off gas and water supply to heater and open a faucet to relieve pressure in water line

1. Loosen screw at bottom of front cover, then pull forward and lift up to remove cover.
2. Complete draining of the heater by removing drain plug (1) from water valve, then disconnect the water inlet and outlet fittings (2) from the back of the water valve. Have container ready for remaining water. After draining, replace drain plug.
3. Disconnect water fittings on right and left side of water valve (3).

B. Removing the water valve assembly

1. Two set screws are now holding water valve up against gas valve. Locate set screws (see picture, below). Support water valve with one hand and loosen both set screws
2. Once loose the water valve will drop downward. If set screws do not unscrew easily, **do not force them** as you could damage the gas valve. Try a descaling solution (white vinegar, CLR® or other descaling solution) on screw threads. Let sit for 1 hour, try again to remove set screw(s) without forcing.
- If still unable to remove, Call 800-642-3111 for help.

C. Removing old or worn parts

1. Remove the 4 screws (4) on top of water valve and separate the two halves. Remove the diaphragm (5). Do not lose spring (6).
2. With wrench remove top nut (7) from top of water valve and push stainless steel rod down to remove (8). The rod will be connected to a plastic disk. A small black o-ring (9) will remain and will need to be removed.
3. Remove pressure dampner (10) from front of lower water valve half.
4. With screwdriver, remove slow ignition valve from front of upper water valve half (11).
5. Remove filter screen from cold inlet port, clean filter screen.
6. If needed: Soak the two halves of the water valve housing and pressure dampner (10) in white vinegar or other descaling solution to remove any mineral deposits. Inspect venturi (12) passage for cleanliness when done.

D. Rebuilding water valve

1. Replace diaphragm (5) on bottom half of water valve, don't forget the spring (6). Set diaphragm with flat side up. Note that the outer rim of the rubber diaphragm has a ring, it will need to go around the hollow tube facing up from the bottom water valve half.
2. Lubricate new pushrod (8) and new o-ring (9) with a small amount of silicon, faucet or lithium grease. Slide new pushrod (8) up through the underside of the upper water valve half, once through slide new small black o-ring (9) down it. With wrench, install new top nut. (See diagrams)
3. Place upper water valve half on top of lower half and tighten down the 4 screws evenly (4).
4. Re-install pressure dampner (10) and new slow ignition valve (11) into water valve.

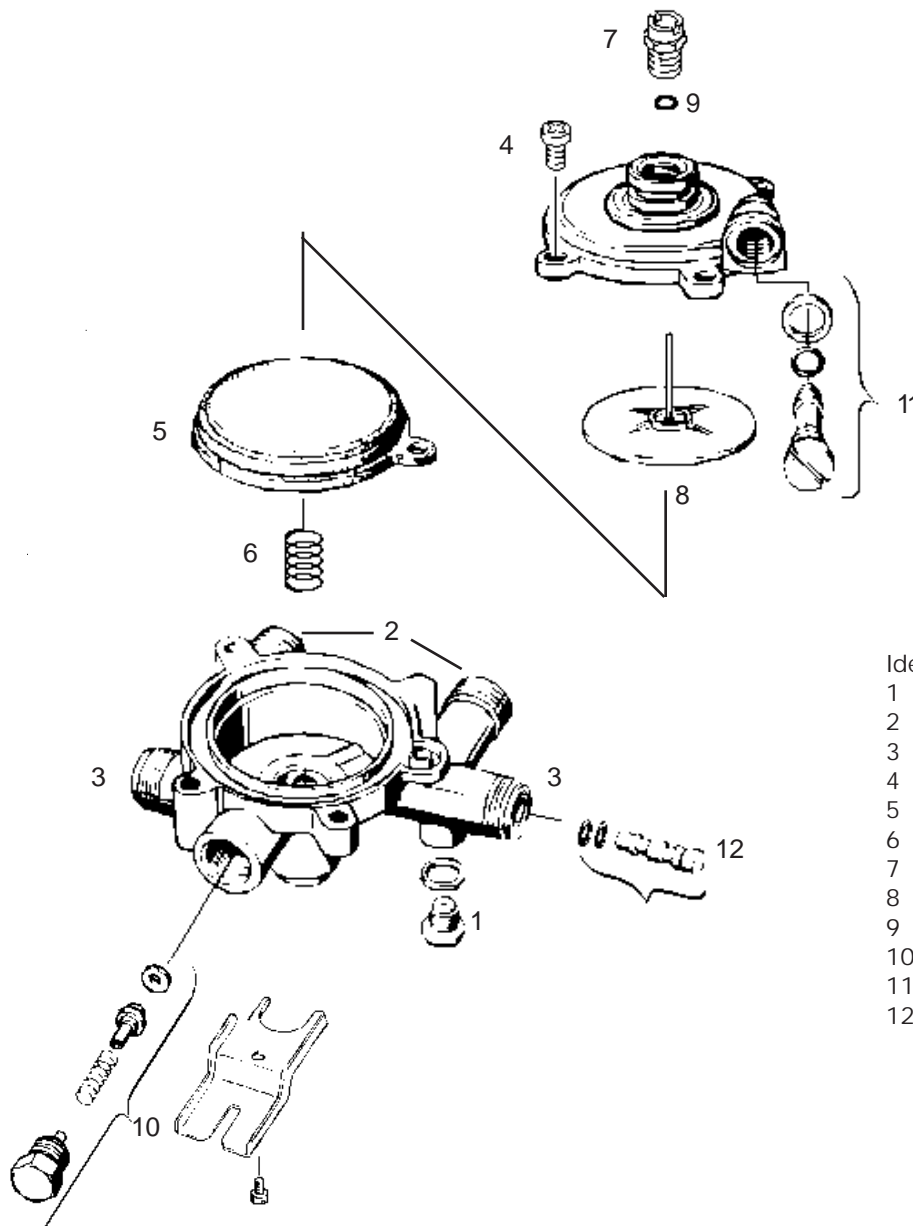
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E. Installing water valve

1. Place the water valve up into the under side of the gas valve, being sure cold inlet port faces the back.
2. Hold flush and tighten both set screws evenly.
3. Connect pipes to water valve side ports. New washers are provided.
4. Insert cleaned inlet filter screen into cold inlet port of water valve.
5. Connect elbows to back of water valve. New washers are provided.

F. Testing operation

1. **Important:** Before firing the unit, run water through heater to test for water leaks and purge all air.
2. Shut water off at inlet supply. Replace front cover and tighten its lower screw.
3. After lighting pilot, depress three flame button on gas valve to put heater in "run" position. Initiate water flow and heater will activate at approximately 1.8 gpm. Verify burners shut off when flow through heater is stopped.



Identification key

- 1 drain plug
- 2 inlet / outlet ports
- 3 water fittings
- 4 screws (4)
- 5 diaphragm
- 6 spring
- 7 nut
- 8 pushrod
- 9 o-ring
- 10 pressure damper
- 11 slow ignition valve
- 12 venturi