

WATER VALVE REBUILD

MODELS: 125FX, 125X (BRASS)



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 **125X & 125FX** Water Valve Assembly consists of these parts (Refer to installation manual for proper part numbers):

- a) Repair kit (pushrod, o ring, nut)
- b) Slow ignition valve
- c) Heat Exchanger Washers
- d) Cold & Hot Water Washers
- e) Lubricant pack #DOWLUBE

A. Preparation

Tools Needed:

- Philips head and flat screwdriver
- Medium sized adjustable wrench
- Needle nosed pliers
- Container to catch water

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

1. Pull off flow knob and unscrew collar, then lift up and pull cover off.
2. Complete draining of the heater by removing drain screw (14), then disconnect the water fittings at the back of water valve. Have container ready for remaining water. After draining, replace drain screw.
3. Disconnect water fittings on right and left side of water valve, the black microswitch assembly (16) can be pushed backward to access the left side water fitting.

B. Removing the water valve assembly

1. The black microswitch assembly (16) will have to be removed first. Loosen the 3 philips head screws facing forward from the assembly. Once screws are loosened the assembly will slightly separate to allow for it to be pulled downward. While loosening the 3 screws, cup your hand underneath the small circular cap that is directly below the water valve, since the cap will fall once assembly starts to separate.
2. Two set screws are now holding water valve up against gas valve. Located above brass water valve, one set screw is on right and other on left (both on an angle). Support water valve with one hand and loosen both set screws, once loose the water valve will drop downward.
 - If set screws do not unscrew easily **do not force them** you could damage the gas valve.
 - Call 800-642-3111 for help

C. Removing old or worn parts

1. Remove the 3 screws on top of water valve and separate the two halves. Pull off the diaphragm (6)
2. With wrench remove top nut (3) from top of upper water valve cover and push out stainless steel rod (3). A small black o-ring (4) should come with it. If not, it will need to be picked out.
3. With wrench remove volumetric flow governor (11) from under side of lower water valve half.
4. With screwdriver remove slow ignition valve (5) from front of upper water valve half.
5. Remove / clean filter screen (15)
6. Soak the two halves of the water valve housing and volumetric flow governor (11) in white vinegar or other descaling solution to remove any mineral deposits. Inspect venturi (13) passage when done.

D. Rebuilding water valve

1. Place diaphragm (6) on bottom half of water valve 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. Liberally apply supplied lubricant on all of the following parts. Slide new pushrod (3) up through the underside of the upper water valve half, once through slide small black o ring (4) down it. With wrench replace top nut. (See diagram)
3. Place upper water valve half (2) on top of lower half and tighten down the three screws.
4. Liberally apply supplied lubricant to and install volumetric flow governor (11) underneath water valve. Install slow ignition valve (5) into front of the water valve's upper half.

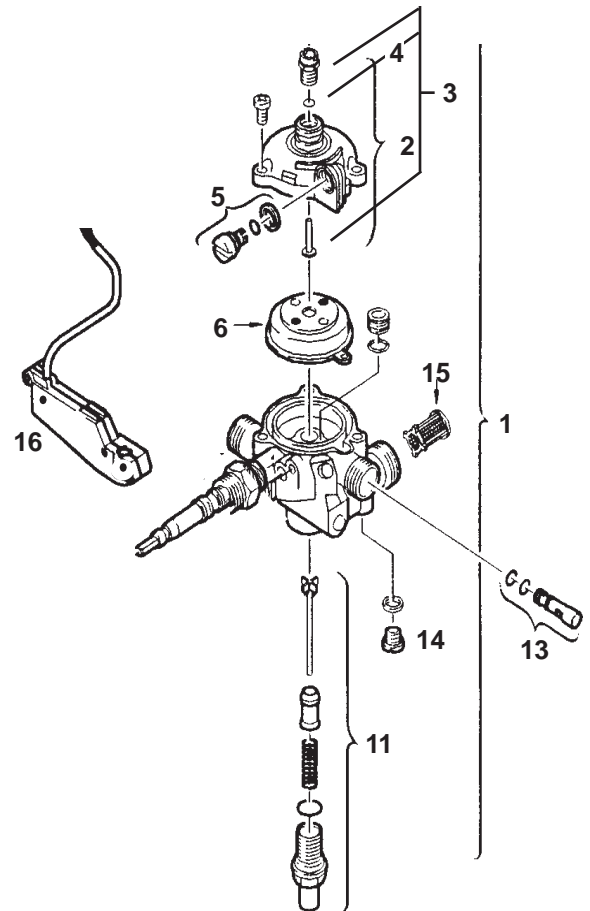
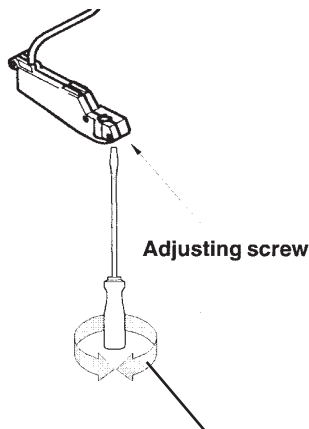
WATER VALVE REBUILD

E. Installing water valve

1. Place the water valve up into the under side of the gas valve, being sure cold in and hot out ports face the back.
2. Hold flush and tighten both set screws. We suggest the use of an anti sieze compound on screw threads
3. Connect right and left side pipes to water valve using new washers provided.
4. Re-attach black microswitch assembly to underside of water valve. Hold up and tighten the screws so the assembly holds tightly, then replace its circular cap.
5. Connect elbows to back of water valve with new washers provided.

F. Testing operation

1. **Important:** Before firing the unit, run water through heater to test for water leaks and purge all air. Position the on/off switch on front panel to position (O) when purging air.
2. Shut water off at inlet supply. Replace front cover and flow control collar and knob.
3. Position the on/off switch on front panel to position (I) and set flow dial all the way clockwise. Now slowly open inlet water supply until burners ignite. Stop there. Measure flow at open outlet to verify proper activation of a 1/2 gallon per minute flow rate (1/2 gpm = a quart in 30 seconds or a gallon in 120 seconds or less).
4. Shut water off and verify burners deactivate when water flow stops.
5. If sparking mechanism doesnot spark with a sufficient flow rate then the microswitch needs to be adjusted.
 - a. Close water tap
 - b. Remove screw cap and unscrew adjusting screw till sparking starts
 - c. Screw in adjusting screw one and half turns



- 1 water valve
- 2 upper water valve half
- 3 repair kit (pushrod/o ring/nut)
- 4 o ring
- 5 slow ignition valve
- 6 diaphragm
- 11 volumetric flow governor
- 12 washer
- 13 venturi
- 14 drain screw
- 15 filter screen
- 16 microswitch assembly