



Installation Instructions for Outdoor Water Solutions Maintenance Kits

Installation Instructions For Replacing Diaphragm, Check Valves and Washers:

First, for safety purposes, make sure that the windmill has been laid down on the ground. You can put the windmill dome on an old tire, blanket or soft grass so as not to dent the front. It is not recommended that you lay the dome front down on a hard surface.

Once the windmill has been safely lowered, you can install the maintenance kit.

- 1) Disconnect the air line from the brass barbed elbow.
- 2) Remove the white plastic bushing located in the top plate collar.
- 3) Remove the red fiber washer
- 4) Remove the insert disk check valve (which looks like a hockey puck with holes). See Figure 1.
- 5) Remove the "O" ring.
- 6) Remove the 16 top plate bolts
- 7) Remove 6 bolts from top of diaphragm disk
- 8) Remove diaphragm
- 9) Replace the **bottom** umbrella valve which is located on top of the large aluminum disc located on top of the piston head. Start by taking a pair of needle nose pliers and pulling the old check valve up and out of the aluminum disc. Reinsert a new check valve thru the hole and grab the tail by reaching up underneath and pulling the tail thru, setting the valve. See Figure 2.
- 10) Replace diaphragm on piston head and line up the holes. Rotate until holes line up.
- 11) Reinstall 6 bolts on top of diaphragm disk. Important: Tighten securely.
- 12) Place top plate into position and install the 16 bolts. Tighten securely so air doesn't leak, but do not overtighten.
- 13) Reinstall the "O" ring
- 14) Replace the **top** umbrella valve in the insert disk check valve by lightly lubricating stem with a general purpose lubricant and pulling it through the disk. Clip the tail below the "nub" with a sharp knife being careful not to damage the umbrella stem. See Fig. 3.
- 15) Reinstall the insert disk check valve
- 16) Reinstall the red fiber washer. Lubricate top of the red fiber washer by spraying a general purpose lubricant or silicone based lubricant on a small cloth or Q Tip and applying it to the top of the washer. Do not spray lubricant into the check valve assembly.
- 17) Reinstall white plastic bushing using Teflon tape to prevent air leaks.
- 18) Reconnect poly air line to the brass barbed elbow
- 19) Erect the windmill and secure.

Kit Contents:

- ^ 1 replacement diaphragm
- ^ 2 replacement umbrella flapper valves
- ^ 1 replacement “O” ring
- ^ 1 replacement fiber washer

Tools Needed:

- Pipe wrench or pair of channel lock pliers
- 3/8” wrench or rachet
- 5/32” Alan wrench
- General purpose lubricant (WD 40, Rem Oil)
- Small flat headed screwdriver (for removing washer and “O” ring)
- Small cloth or Q Tip
- Teflon tape

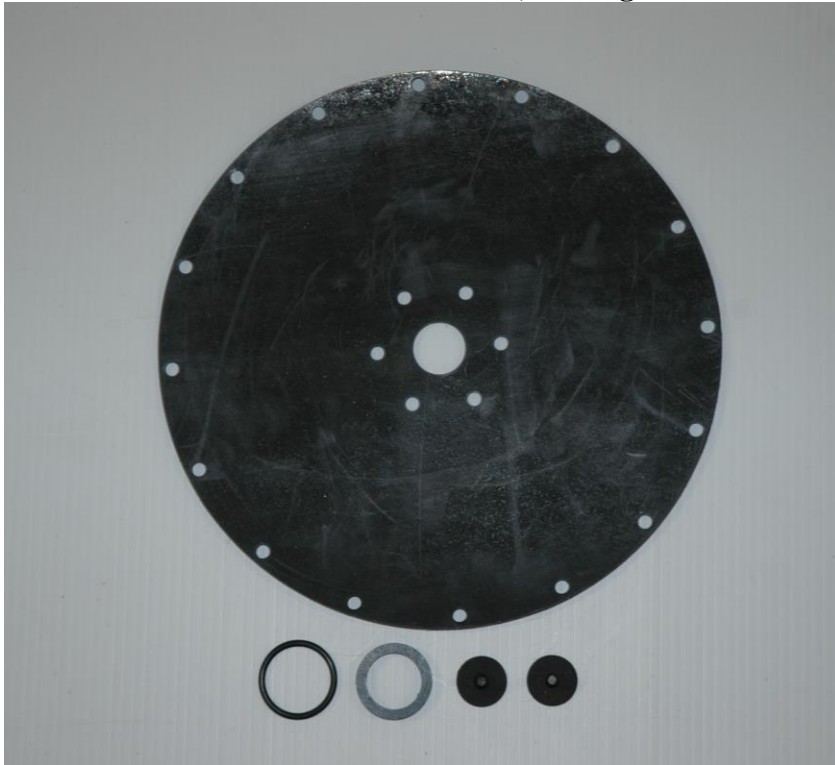
Maintenance Kit with 2 Check Valves, O Ring and Thick Washer

Figure 1



Top Check Valve

There will be a thick washer above this valve and below the white plastic fitting

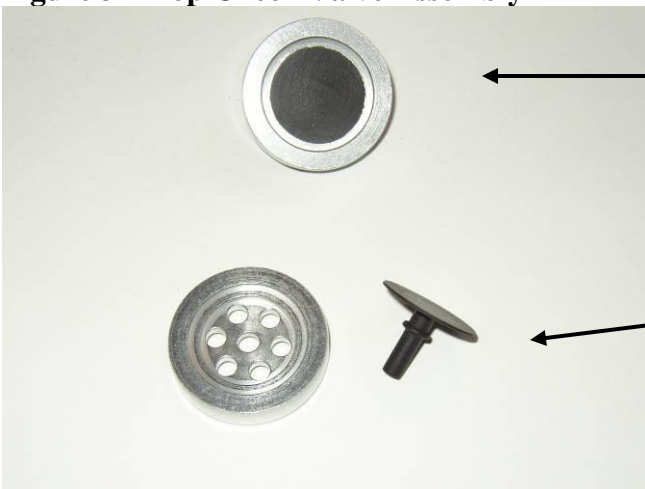
Figure 2



Bottom Check valve

Located on the aluminum disc which then sits on top of the diaphragm and piston head.

Figure 3 – Top Check Valve Assembly



Assembled Top Check Valve

Unassembled Top Check Valve.

Note the **top** of the check valve assembly has an inner lip. Pull valve thru and snip off the tail below the nub