User Manual

MANUFACTURED BY

Inflotrolix

Copyright © 2011 Inflotrolix, Inc.
This document may not be copied in whole or in part or otherwise reproduced without prior written consent from Inflotrolix, Inc., except where specifically permitted under Canadian, US and international copyright law.

Disclaimer The information in this document is subject to change without notice. Inflotrolix, Inc. ("Inflotrolix") assumes no responsibility for inaccuracies or omissions and specifically disclaims any liabilities, losses, or risks, personal or otherwise, incurred as a consequence, directly or indirectly, of the use or application of any of the contents of this document. For the latest documentation, contact your local supplier or visit us online at www.aqua-protec.com. This publication may contain examples of screen captures and reports used in daily operations.

Trademarks and patents Aqua-Protec is a registered trademark (®) and is patent pending in Canada and the United States.

Intended use Use this product only for the purpose it was designed for; refer to the data sheet and user documentation for details. For the latest product information, contact your local supplier or visit us online at www.aqua-protec.com.

Contact info For contact information, see our Web site: www.aqua-protec.com/en.

Table of Contents

User Manual 1
1. Introduction to Aqua-Protec 4
2. Intent of use 4
3. How it works 4
4. Powering 4
5. Battery replacement 5
6. Balloon replacement 5
7. How to navigate your Aqua-Protec 5
7.1. How to change language 5
7.2. Software release 6
7.3. Aqua-Protec history 6
7.4. Technician menu 6
8. Operation modes 6
8.1. STANDBY mode 7
8.2. ALERT mode 7
8.3. Weekly self-testing mode 8
9. Maintenance 8
10. Precaution for your Aqua-Protec 8
11. Work to be done in your sewer? 9
11.1. Balloon removal instruction 9
11.2. Insert the balloon in the cleanout 10
12. Information displayed 11
13. Contact 11
14. Certificates and Patent 11

1. Introduction to Aqua-Protec

Aqua-Protec is design to protect you, your family and all your possessions stored in the basement.

Aqua-Protec is an automatic electro-pneumatic device to protect you against back water situation. Unlike conventional mechanical valves, the Aqua-Protec system is completely automated, and reliable. It is composed of a control panel, a 17' umbilical cord and a Retractable Pneumatic Sealing Module (RPSM – or the balloon). The RPSM is equipped with sensors which, in case of municipal sewer backups, are triggered, sending a signal to the onboard compressor to deploy the RPSM by filling it with 11.5 PSI of air pressure, causing the RPSM to expand firmly into the 4" sewage drain pipe.

This manual gives directions on how to use your Aqua-Protec.

2. Intent of use

Aqua-Protec is a device used to minimize the risk of sewer backup in a single family residence. It is fully automatic, so it requires very little intervention on your part. It will protect your home at all times, even in the most severe situations.

3. How it works

In case of sewer backup, sensors will detect the high level of water in just few seconds and communicate to the control panel. Air will be compressed into the balloon which will seal the sewer pipe and protect your residence. It will remain inflated until the retraction of water from the sewer pipe. When Aqua-Protec no longer detects water, it will deflate and automatically return to standby mode until the next event.

4. Powering

During installation, your certified plumber connected the control panel of the Aqua Protec system to a 120V outlet. During installation, the emergency battery is also connected. Solid green light (figure1) indicates that the Aqua Protec is properly powered (primary and emergency). When the green light flashes (figure2), it indicates a power failure and the compressor will be running on backup power battery and will continue to do so until the power is restored.

Figure 1

Figure 2

Despite the power outage, the device remains fully operational for a period of one week.

5. Battery replacement

The emergency battery has an expected life of 3-4 years. It can keep the system fully functional for more than a week in the event of a power outage. Aqua-Protec notifies you in advance when the battery no longer keeps its charge and a replacement is necessary. The message «REPLACEMENT REQUIRED» appears on the display screen on the control panel.

6. Balloon replacement

Aqua-Protec is a fully-automated system and requires little human intervention. It should protect your home at all times, even in the most extreme situations. In order to ensure its proper operation, the RPSM has a limited recommended lifespan and must be replaced at the earliest of the following:

- **After being deployed for a duration of more than 24 consecutive hours, or**
- **After 10 deployments of duration of more than 1 hour, or**
- **After 5 years of service.**

The control panel will inform you when the balloon requires to be replaced.

7. How to navigate your Aqua-Protec

Your certified plumber configured your Aqua-Protec. You can access to the menu by pressing the CHECK (✓) button. The display will list followed options:

1) LANGAUGE
1) VERSION
2) HISTORY
3) TECHNICIAN

7.1. How to change language

You can modify the displayed language
To select a new language:

1) Press the CHECK (✓) button;
2) With up and down arrows (↑↓) navigate until you reach LANGUAGE line;
3) Use RIGHT arrow (→) to select LANGUAGE menu;
4) Different LANGUAGE are listed. Use up and down arrows (↑↓) to navigate;
5) Use RIGHT arrow (→) to confirm the desired LANGUAGE;
6) Use LEFT arrow (←) to return to previous menu.

7.2. Software release

You can validate on which release your Aqua-Protec operates

1) Press the CHECK (✓) button;
2) With up and down arrows (↑↓) navigate until you reach VERSION line;
3) Use RIGHT arrow (→) to see software information;
4) You should see release V2.0_C11 or higher;
5) Use LEFT arrow (←) to return to previous menu.

7.3. Aqua-Protec history

Aqua-Protec will protect your property from all sewer backup situations and list and record any incidents when the system is deployed in this menu. It will indicate the date, hour and how long the event occurred. You will have the information on how many times Aqua-Protec protected your home.
If nothing is listed, it's means that no sewer backup occurred.

2) Press the CHECK (✓) button;
3) With up and down arrows (↑↓) navigate until you reach HISTORY line;
4) Use RIGHT arrow (→) to see history information;
5) Use LEFT arrow (←) to return to previous menu.

7.4. Technician menu

This menu is intended to be used only by the certified plumber for periodic maintenance or inspection of Aqua-Protec. It requires a password.

8. Operation modes

Once your Aqua-Protec is fully installed and configured, it can be in 3 different status modes:

- "STANDBY" mode;
- "ALERT" mode;
- "WEEKLY SELF-TESTING" mode.

8.1. STANDBY mode

Under normal conditions, the display is showing "STANDBY" and solid green light is on (figure3). The Aqua-Protec is working properly and ready to react to protect your home from a sewer backup situation.

Figure 3

8.2. ALERT mode

During a sewer backup situation, Aqua-Protec is in ALERT mode. An audible alarm will be heard, "ALERT" mode is displayed, green light is "OFF", solid yellow light is "ON" (water detection-figure4) and solid red light is "ON" (sewer sealed-figure5).
Aqua-Protec will display "WATER DETECTED" and "SEWER SEALED".

After a detection of 5 consecutive seconds, system will switch to Alert Mode and will seal the drain.

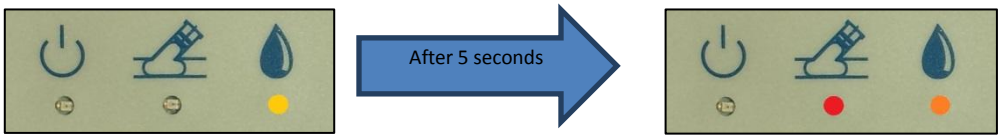

Figure 4 Figure 5

Press the « X » button to mute the alarm sound.

CAUTION: During sewer backup situation, Aqua-Protec seals the sewer pipe. Used water can NOT be evacuated. To avoid flooding, do NOT use water in the house. Do NOT flush ANY toilets, stop using the shower. Stop in-progress water-using appliances such as dishwashers and washing machines.

Note: Aqua-Protec can be connected to Nowa, which is an automatic water shutoff valve to prevent water usage. Visit www.nowasystems.com for more information.

Aqua-Protec can also be linked to your home alarm monitoring system.

To be sure that the sewer backup situation is over and the water level is back to a safe level, Aqua-Protec will remain in ALERT mode for 30 minutes. It is normal to see the solid red light ON and yellow light OFF (figure6). Time left to free the sewer is displayed on the control panel. Audible alarm will inform you when the sewer will be free. Sound will last for 10 consecutive minutes and then 10 seconds per minutes until you press the "X" button. Aqua-Protec wants to make sure you are aware of the event. Even if no one is home during the event, you will be informed upon your return.

Figure 6

Press the « X » button to mute the alarm sound.

8.3. Weekly self-testing mode

The reliability of Aqua-Protec is assured by its weekly auto-testing. Once a week, Aqua-Protec is self-checking the system. The control panel partially inflates the RPSM and maintains the pressure during 15 minutes. Aqua-Protec will detect compressor failure, slow leak, and low battery.
This test is run without any human needs and it does NOT affect used water evacuation. You can use water without any issue.

When test is preceded, all light are turned OFF.

Figure 7

If Aqua-Protec detects any abnormal situation, it will inform you with an audible alarm sound. It will display a message or an error code on the control panel screen.

Press the « X » button to mute the alarm sound.

Contact Aqua-Protec technical support 1-877-287-7777, and we will assist you.

9. Maintenance

Aqua-Protec is the most reliable device on the market because it is the only one that complies with IGC 283-2011 (IAPMO Standard) and auto-test itself weekly, but due to its operating environment, we recommend an annual inspection by certified plumber especially if many events of sewer backup occurred.

It is a quick inspection that assures optimal performance of the product.

Contact us is you think your system need some attention.

10. Precaution for your Aqua-Protec

To ensure optimum performance of Aqua-Protec, cable between control panel and the clean out must remain free at any time. Do not stack any object on it. Air used to inflate the balloon is circulating in the cable. If the cable is pinched, system may not operate properly. Weekly auto-test will detect and inform you if cable is pinched.

11. Work to be done in your sewer?

Over time, your sewer may require to be inspected, unclog, repaired or clean. The clean out will be used to execute the work by your licensed plumber. Aqua-Protec can easily be removed to do the work.

In this situation, you need to inform the plumber that an Aqua-Protec is installed in the clean out. If the plumber in not familiar with Aqua-Protec, he can refer to "Balloon removal instruction" in the user manual.

11.1. Balloon removal instructions

Attention: Before beginning balloon removal, make sure the system in not running its weekly auto-test.

1. Turn off the power :
   1.1. Unplug the power supply from the walled outlet
   1.2. Disconnect one terminal of the battery.
2. Loosen the cable gland of the cleanout cap.
3. Loosen and remove cleanout cap from the cleanout
4. Keeping the anchor ring attached, carefully pull on the installation rod and the steel extraction cables until the balloon is retracted out of the clean-out. Lubricate with water and soap as required.
5. Place the balloon on a clean surface. During installation, the balloon was covered with a silicone lubricant to ensure easy positioning and sealing. Accumulated residue on the balloon may affect the ease to reposition of the balloon into the cleanout.

Once the work is completed, Aqua-Protec can be reinserted in the cleanout. Repositioned correctly, it will once more protect your basement from sewage backups. See insert procedures in this manual.

11.2. Balloon insertion instructions

1. Insert the balloon into the cleanout, taking care to direct probe sensors in same direction as the flow in the sewer.
2. Using positioning rod, slide the balloon until the anchor ring sit at the bottom of cleanout cap threads.

   Note: To ease the way down back into the cleanout, silicon lubricant can be used on the balloon. Do not use any other grease type. Probe sensors must remain clean.
3. Make sure steel wires are going thru the anchor ring.
4. Tighten cleanout cap in place. Hand tightening is enough to seal the cap.
5. Tighten cable gland to insure water tightness. Hand tightening is enough to seal the cable gland.
6. Repowering the system

   6.1. Connect the battery terminal

   6.2. Plug the power supply into the walled outlet.

We recommend running a full test to confirm that the system is functional. If the test is not performed at this time, the system will run the test during the weekly self-check.

Figure 8

12. Information displayed

Here is a list of messages you can see on the control panel screen of Aqua-Protec:

Messages	Description
STANDBY	Aqua-Protec is armed
WATER DETECTED	Aqua-Protec detects water. If detection last more than 5 consecutive seconds, Aqua-Protec will switch in "ALERT mode"
ALERT mode	Sewer backup situation is occurring
INFLATION	Aqua-Protec inflates the RPSM
KEEP	RPSM is sealing the sewer. Do NOT use water services.
DEFLATION	Aqua-Protec deflates the RPSM
SEWER FREE	RPSM is retracted and sewer is free
SEWER SEALED	SEWER is sealed. DO NOT used any water services : toilet, dishwasher, washing machine, shower, etc.
MANUAL CONTROL	Aqua-Protec is in manual mode and will NOT detect water. Technician forgot to return to automatic mode. Call back the installer or technical support: 1-877-287-7777.
OUT OF ORDER	Aqua-Protec faced an abnormal situation and need assistance from a certified technician. Call your local supplier or our technical support: 1-877-287-7777

13. Contact

Aqua-Protec is made in Canada by Inflotrolix Inc.
You can contact our customer service at 1-877-287-7777
You can visit us thru our web site: www.aqua-protec.com

14. Certificates and Patent

247603

IGC 283-2011

Patent Pending
US2011005615A1