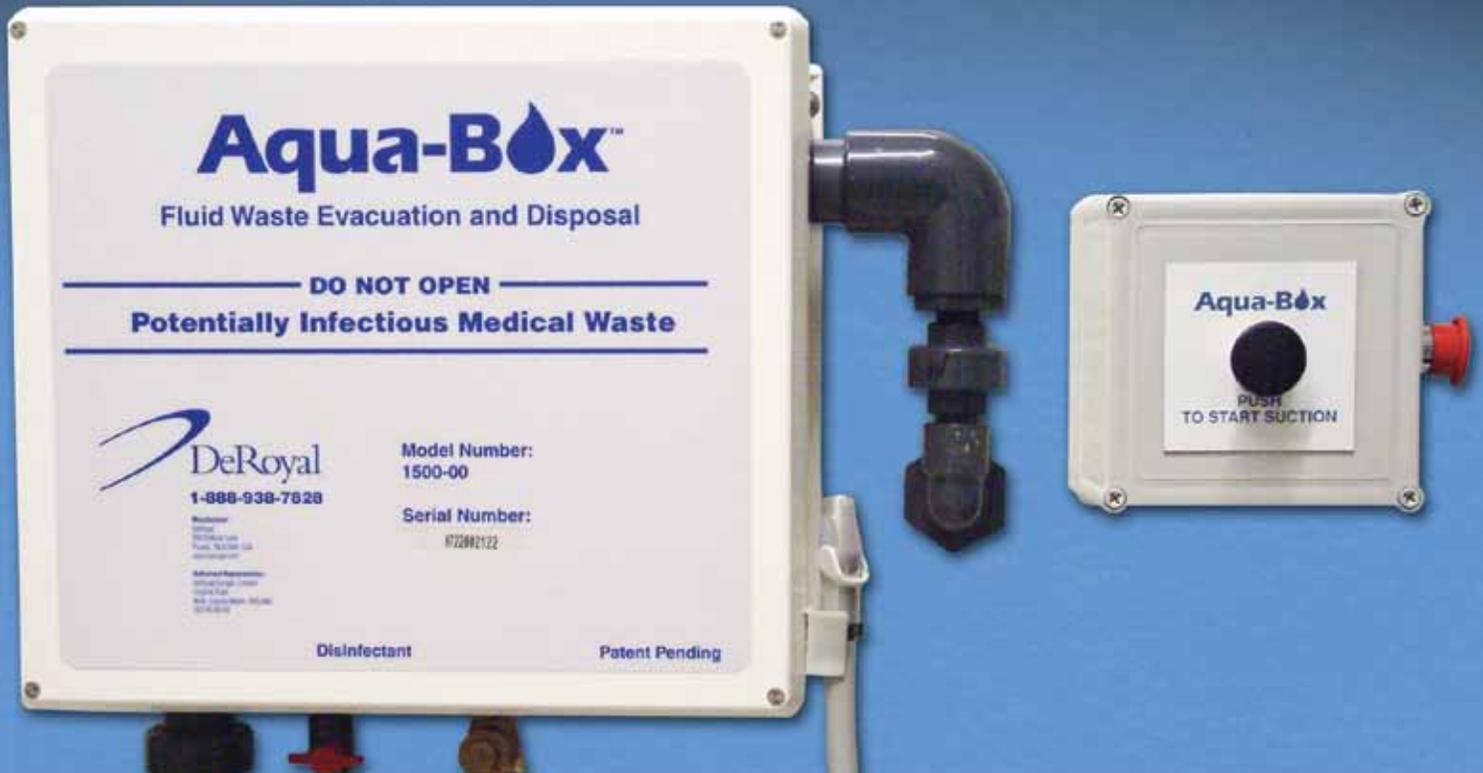


*Fluid Waste Evacuation & Disposal*



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# Aqua-Box® Owner's Manual

*Models: 1100-00, 1200-00, 1300-00, 1500-00 & 1300-R*

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# *Aqua-Box Owner's Manual*

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## GENERAL INFORMATION

### ABOUT THIS MANUAL

This manual is designed to serve as both installation instructions as well as usage instructions. It also includes maintenance and troubleshooting information as well as a parts list for user replaceable components.

This manual covers all the various models of Aqua-Box. If a model number is not specified, then the text refers to all models. If the first part of the model number only is specified, then the text refers to any model with the same prefix. For example, when referencing model number 1300, then the text would be relevant to models 1300-00 and 1300-R.

When referencing “non-rinsing” units, then the text would be relevant to 1500-00, 1300-00, 1200-00, and 1100-00 Models. “Rinsing” unit would refer to the 1300-R Model.

### INTRODUCTION

Medical waste is a 5 billion pound problem for hospitals and surgery centers each year. Medical waste fluid generated during surgery is a costly and growing concern for healthcare personnel across the country. Due to technological advancements and the popularity of endoscopic procedures, such as cystoscopy and arthroscopy, there is a tremendous increase in the amounts of potentially infectious waste fluid. As a result, disposal of the medical waste fluids has become a financial burden for hospital administrations. With increased efforts by the Environmental Protection Agency and the American Hospital Association to reduce waste, and the Occupational Safety and Health Administration’s efforts to enforce Title 29, Part 1910.1030, concerning healthcare personnel safety, DeRoyal realizes

that hospitals and surgery centers are in need of simple, cost-effective and safe solutions for disposal of medical waste fluid.

Specifically designed to comply with OSHA Title 29, Part 1910.1030, concerning blood-borne pathogens, hospitals and surgery centers can now eliminate red bag expenses with the Aqua-Box, a simple but innovative waste fluid elimination and disposal system. The Aqua-Box is a compact, stand-alone, wall-mounted unit that optionally adds a disinfectant before safely discarding the waste fluid down existing facility sewer lines. The Aqua-Box empties and discards fluid from any suction canister, liner, collection bag, kick bucket or any other fluid collection source. The process is quick, efficient and safe. Able to evacuate a standard suction canister in less than 30 seconds, the Aqua-Box has the fastest fluid disposal time in the industry. Research has shown that suction canisters may be changed as many as 40 times in one and a half to two-hour procedure. Because of this high volume handling of waste fluid, the chance of spills and personnel exposure to potentially infectious blood-borne pathogens increases dramatically.

Hospital and surgery center liability can extend for as long as 30 years when personnel contamination occurs. With the Aqua-Box, the risks associated with transportation of the canisters to distant locations for disposal are virtually eliminated. In most cases, the Aqua-Box pays for itself in less than four months by saving hospitals and surgery centers thousands of dollars associated with red bag disposal fees. And because the Aqua-Box offers a safer alternative for handling the potentially infectious fluids, hospitals and surgery centers can expect fewer

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liabilities creating even more bottom line savings. Optionally, a disinfectant can be added to the evacuated waste fluid, making for an even safer disposal process.

The Aqua-Box can be installed in just about any wall-mounted location, thus not consuming any valuable floor space. For location convenience, the Aqua-Box can be placed in areas near the operating room, central processing, labor and delivery and the emergency department.

Due to its simple operation, space saving design, low maintenance requirements and potential cost savings, the Aqua-Box is becoming the standard for waste fluid disposal.

## OSHA & EPA CONSIDERATIONS

OSHA has issued a regulation titled OSHA Regulations (Standards – 29 CFR) Bloodborne Pathogens. – 1910–1030 that spells out the manner in which staff members are to handle medical waste fluid as well as other potentially infectious waste. In November of 1999, a compliance directive titled CPL 2–2.44d was issued that requires employers to “... update their Bloodborne Pathogen Exposure Control Plan to document consideration and implementation of ‘safer medical devices.’ Employers are also required to use engineering and work practice controls that eliminate occupational exposure, or reduce it to the lowest feasible extent, through a comprehensive program including engineering controls (i.e. the use of ‘safer medical devices’) and proper work practices. Employers must provide training to all employees in the use of these safer medical devices.

## SALES & DISTRIBUTION

Aqua-Box and Aqua-Box accessories are sold exclusively direct through DeRoyal.

## WARRANTY POLICY

### *Limited Warranty*

The Aqua-Box (all models) is covered under a three-year parts & labor warranty. For three years from the date of purchase (invoice date) by the original owner, DeRoyal will, at its option, repair or replace any part of the unit, which proves to be defective in material or workmanship under normal use. During this period DeRoyal will provide all parts and labor necessary to correct such defects free of charge, so long as the unit has been installed and operated in accordance with the written instructions in this manual. If there is a unit failure that cannot be resolved by phone, by a visit by a DeRoyal representative, or by a sub-contracted plumber during the warranty period, DeRoyal will ship a replacement unit.

This warranty is in lieu of any other warranties and conditions express or implied, including warranties of merchantability and fitness for any other particular purpose. The obligations under this warranty are exclusive and DeRoyal assumes or authorizes no one to assume for them any other obligations.

This warranty gives the original owner specific legal rights, and you may also have other rights, which vary from state to state.

### *Items Not Covered*

- Incidental or consequential damages.
- Service calls that do not involve defects in material or workmanship such as customer education or improper installation, including low water inlet flow of less than 12 GPM.
- Service calls involving a clogged unit that can be resolved with the backwash procedure or clogged drains past the unit discharge.

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- Standard maintenance and cleaning of the unit.
- Service calls that are related to external problems, such as abuse, misuse, inadequate electrical power, inadequate water flow, accidents, fire, floods, or acts of God.
- Replacement of fuses or resetting circuit breakers.
- Failure of the product if it is used for other than its intended purpose.
- Parts and labor costs for the following will not be considered as warranty items as these are considered “normal wear” items and are user replaceable:
  - o Thumb Valve
  - o Suction Hose
  - o Suction Hose Check Valve
  - o Disinfectant Hose
  - o Disinfectant Ball Valve
  - o Disinfectant Hose Fitting
  - o Suction Hose Hanger
  - o Suction Hose Adapters
  - o Reduced Pressure Zone (RPZ) valve
- This warranty does not apply outside the USA.

**The Aqua-Box must be installed per specifications for the warranty to be valid. The proper amount of water flow (see spec) and the correct electrical supply (see spec) must be provided. For example, if the specification calls for 12 gallons per minute, the Aqua-Box will not work effectively with less flow and may result in clogging of the unit. The electrical will need to be 120 volts, the Aqua-Box will not work properly with 12 volts or 220 volts; connect as per the specifications.**

### *Extended Warranty*

A three-year extension for all Aqua-Box models is available for an additional charge. Contact your DeRoyal Sales Representative for additional information.

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## DEROYAL AQUA-BOX MODEL COMPARISON

Feature	Automatic with Canister Rinsing	Large Automatic	Small Automatic	Small Manual	Small Manual
Model #	1300-R	1500-00	1300-00	1200-00	1100-00
Fluid Evacuation Flow Rate (# seconds/liter)	3.5 seconds	3.5 seconds	3.5 seconds	6 seconds	8 seconds
Adjustable Canister Rinsing Cycle	Yes	No	No	No	No
Automatic Adjustable Electronic On/Off Switch	Yes	Yes	Yes	No	No
Works with Any Brand/Style Canister	Yes	Yes	Yes	Yes	Yes
Disinfectant Solution Additive	Yes	Yes	Yes	Yes	No
Suction Hose	5 Feet	5 Feet	5 Feet	5 Feet	5 Feet
Inlet	3/4" tap water @ 12 GPM	3/4" tap water @ 12 GPM	3/4" tap water @ 12 GPM	3/4" tap water @ 12 GPM	1/2" tap water @ 12 GPM
Outlet	1" drain	1" drain	3/4" drain	3/4" drain	3/4" drain
Installation Instructions & Video	Included	Included	Included	Included	Included
Reduced Pressure Zone (RPZ) Valve	Yes	Yes	Yes	Yes	No
Dimensions (H" x W" x D")	18" x 16" x 10"	14" x 16" x 6"	12" x 14" x 6"	12" x 14" x 6"	8" x 12" x 7"
Unlimited Phone Technical Support (Business Hours)	Yes	Yes	Yes	Yes	Yes
Warranty (Parts & Labor)	3 Years	3 Years	3 Years	3 Years	3 Years
Extended 3-Year Warranty	Available	Available	Available	Available	Available
Patented Technology	Patent # 7,273,585	Patent # 7,273,585	Patent # 7,273,585	Patent # 7,273,585	Patent # 7,273,585

## TECHNICAL INFORMATION

### DIMENSIONS

	<b>1300-R</b>	<b>1500-00</b>	<b>1300-00</b>	<b>1200-00</b>	<b>1100-00</b>	<b>Controller Box (all models)</b>
Width	18 in. (45.7 cm)	16 in. (40.6 cm)	14 in. (35.6 cm)	14 in. (35.6 cm)	12 in. (30.5 cm)	7 in. (17.8 cm)
Height	16 in. (40.6 cm)	14 in. (35.6 cm)	12 in. (30.5 cm)	12 in. (30.5 cm)	8 in. (20.3 cm)	7 in. (17.8 cm)
Depth	10 in. (25.4 cm)	6 in. (15.2 cm)	7 in. (17.8 cm)	7 in. (17.8 cm)	7 in. (17.8 cm)	6 in. (15.2 cm)
Weight	21 lbs (9.5 kg)	17 lbs. (7.7 kg)	10lbs. (4.5 kg)	10 lbs. (4.5 kg)	9 lbs. (4.0 kg)	3 lbs. (1.4 kg)

### VACUUM SOURCE

The Aqua-Box generates its own vacuum by utilizing water flow through the unit.

### UNIT PLACEMENT

The Aqua-Box wall mounts easily near hoppers or sinks in workrooms, dirty utility rooms or on any wall containing water and sewer lines. The unit(s) can be mounted in surgery suites and used for liquid clean up on the floors using the Puddle Guppy™.

### EVACUATION RATE

#### **Model 1500 & 1300**

A 3-liter canister will evacuate directly into sewer lines in approximately 10.5 seconds. A 16-liter Omni-Jug® will evacuate directly into sewer lines in approximately 56 seconds.

#### **Model 1200**

A 3-liter canister will evacuate directly into sewer lines in approximately 13.5 seconds. A 16-liter Omni-Jug® will evacuate directly into sewer lines in approximately 72 seconds.

#### **Model 1100**

A three liter canister will evacuate directly into the sewer lines in approximately 15 seconds. A 16 liter Omni-Jug® will evacuate directly into sewer lines in approximately 80 seconds.

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## **INSTALLATION REQUIREMENTS**

A standard 110/120 AC Volt, 15/60-Hertz cycle, 3 Amp electrical outlet is required for the power switch for the 1500 and 1300 Models; no electricity is required for Model 1200 or 1100. A unit can typically be installed in less than three hours, including plumbing by the in-house biomedical or maintenance department.

For 1500, 1300 & 1200 Models, a 3/4" water line with a minimum flow rate of 12 gallons per minute at 30 PSI is required for optimal performance. For Model 1100, a 1/2" water line with a minimum flow rate of 12 gallons per minute at 30 PSI is required for optimal performance. Smaller pipes or slower flow rates will result in longer evacuation times. Purchaser of the Aqua-Box is responsible for the installation of the included RPZ (reduced pressure zone backflow preventer) valve for the fresh water line. The Model 1100 does not come with a back flow preventer.

## **DISINFECTANT SOLUTION**

This feature has been added mainly to accommodate those facilities that simply prefer to treat their fluid on their own accord. This feature can be easily turned on or off. The ratio of sodium hypochlorite (common household bleach) to waste fluid is pre-set at 1,100 PPM (parts per million). The Model

1100 does not have a disinfectant solution inlet.

## **POWER SWITCH/TIMER**

### **Models 1500-00 & 1300-00**

The Aqua-Box power button is set to stay on for 2 minutes. This pre-set time can be easily changed by the facility as needed. A "kill" switch (the red button on the right side of the electrical box) will turn off the unit prior to the end of the timed cycle if desired.

### **Model 1300-R**

The Aqua-Box power button is set to stay on for 5 minutes. This pre-set time can be easily changed by the facility as needed. A "kill" switch (the red button on the right side of the electrical box) will turn off the unit prior to the end of the timed cycle if desired.

### **Model 1200-00 & 1100-00**

These models do not have a power switch/timer.

## INSTALLATION

The following procedures are important for correct mounting, plumbing and electrical installation of the Aqua-Box. The fluid disposal system is lightweight and can be mounted on almost any wall with approximately drilled holes, anchors and screws. For proper installation of the Aqua-Box, carefully follow the instructions below.

### PACKING LIST

- (1) Aqua-Box Fluid Disposal System – Master Unit
- (1) Automatic Control Box  
(1500-00, 1300-00 & 1300-R Models only)
- (1) 3/4" Electric Solenoid Valve  
(1500-00 and 1300-00 Model only)
- (1) RPZ (Reduced Pressure Zone) Valve  
(except 1100-00 Model)
- (1) 5 Foot Suction Hose with Thumb Valve
- (1) 1/2" Valve and Hose for Disinfectant
- (1) Tube of Thread Sealant
- (1) Set of Screws and Wall Anchors
- (5) Evacuation Tubes

### MOUNTING THE UNIT: NON-RINSING MODELS

1. Models 1500, 1300 & 1200: Mount the Aqua-Box on the wall no more than 5 feet off the floor (top of Aqua-Box) using the #10 stainless steel screws and matching anchors provided or by screwing directly into wall studs.
2. Models 1500 & 1300 only: Remove the cover of the control box by unscrewing the four cover screws. Mount the electrical control box on the wall at a position that is comfortable, convenient and safe for staff with the #8 stainless

steel screws and matching anchors provided. The electrical requirements are 110/120 AC Volts, 50/60-Hertz cycle, 3 Amps. Installation diagram follows. The Aqua-Box ships with a standard heavy-duty 10 foot 110/120 Volt plug which may be plugged directly into an electrical outlet. Optionally, it may be hard wired. Replace the control box cover.

3. Model 1100: Remove the cover. There are four holes that can be accessed through the box. Attach to wall approximately five feet from floor to top of box using the #10 stainless steel screws and matching anchors provided, or by screwing directly into wall studs.

### MOUNTING THE UNIT: RINSING MODELS

1. Mount the Aqua-Box Master Box on the wall such that the top of the unit is 5 feet off the floor using the #10 stainless steel screws and matching anchors provided or by screwing directly into wall studs.
2. Remove the cover of the control box by unscrewing the four cover screws. Mount the electrical control box on the wall at a position that is comfortable, convenient and safe for staff with the #8 stainless steel screws and matching anchors provided. The black seal should give you a good guide for placement. The electrical requirements are 110/120 Volt, 50/60-Hertz cycle, 3 amps. Installation diagram follows. The Aqua-Box ships with a standard heavy-duty 10 foot 110/120 Volt plug which may be plugged directly into an electrical outlet. Optionally, it may be hard wired. Replace the control box cover.

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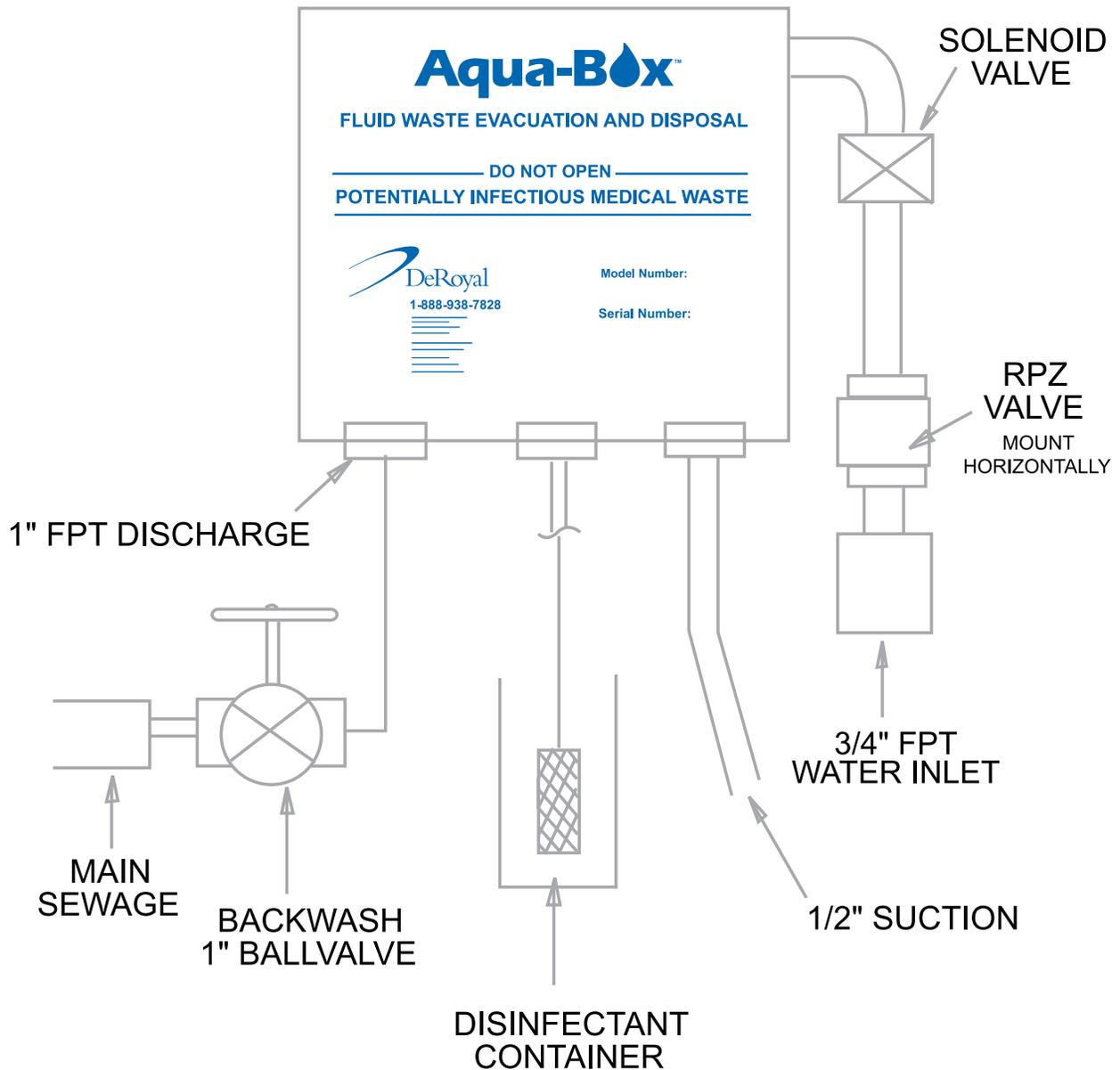
## **PLUMBING CONNECTIONS: ALL UNITS**

1. A 3/4" (1/2" for Model 1100) standard copper water supply line will need to supply a minimum of 12 gallons per minute at 30 psi (minimum). A 1" Reduced Pressure Zone (RPZ) valve is included (except model 1100) and must be installed with the system per local codes. The installation diagram follows. The RPZ valve will need to be tested and certified by a licensed plumber. For all plumbing connections, especially the PVC connections, be sure to connect the fittings securely. **DO NOT OVERTIGHTEN FITTINGS!**
2. Connect the 3/4" (1/2" for Model 1100) copper water supply line to the inlet of the RPZ valve.
3. Connect a section of 3/4" (1/2" for Model 1100) copper pipe to the outlet of the RPZ valve. It is recommended that union fittings be used on either side of the RPZ valve so that it can be easily removed should maintenance be required.
4. For 1500 & 1300 Models: Install the inlet of the electric solenoid valve after the RPZ valve.
5. For 1500 & 1300 Models: Connect the outlet of the electric solenoid valve to the inlet of the Aqua-Box. The electric solenoid valve should now be mounted between the RPZ valve and the Aqua-Box. Ensure the electric solenoid valve flow arrows, markings are pointed towards the Aqua-Box. Refer to Electrical Connections below for connecting the wires of the electric valve.
6. For 1200 & 1100 Models: Connect the outlet of the RPZ valve to the inlet of the Aqua-Box.
7. A 1" gate valve is supplied for backwashing. Union fittings are recommended for ease of installation and removal should maintenance be required. The 1" valve on the discharge side of the unit should be mounted where employees will not be closing it when not needed.
8. To insure maximum staff safety, the fluid discharge line from the Aqua-Box should be plumbed directly to an existing sewer line. Connect the outlet of the Aqua-Box using minimum 2" sewer line with an outside vent, per the Southern Building code. The discharge line can run back up above the Aqua-Box into a sewer line running along the ceiling if necessary (Please contact Aqua-Box Technical Support for this type of installation). In this case, a check valve needs to be added to prevent fluids from running back into the unit after it has been turned off. As the Aqua-Box is sealed, a trap is not necessary, but may be installed without issue.
9. The discharge line must be adequately vented. Failure to do so may result in pressure buildup in discharge line causing fluid waste to flow back into the Aqua-Box. A minimum 2" drain and vent is needed.

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## INSTALLATION DIAGRAM: PLUMBING CONNECTIONS

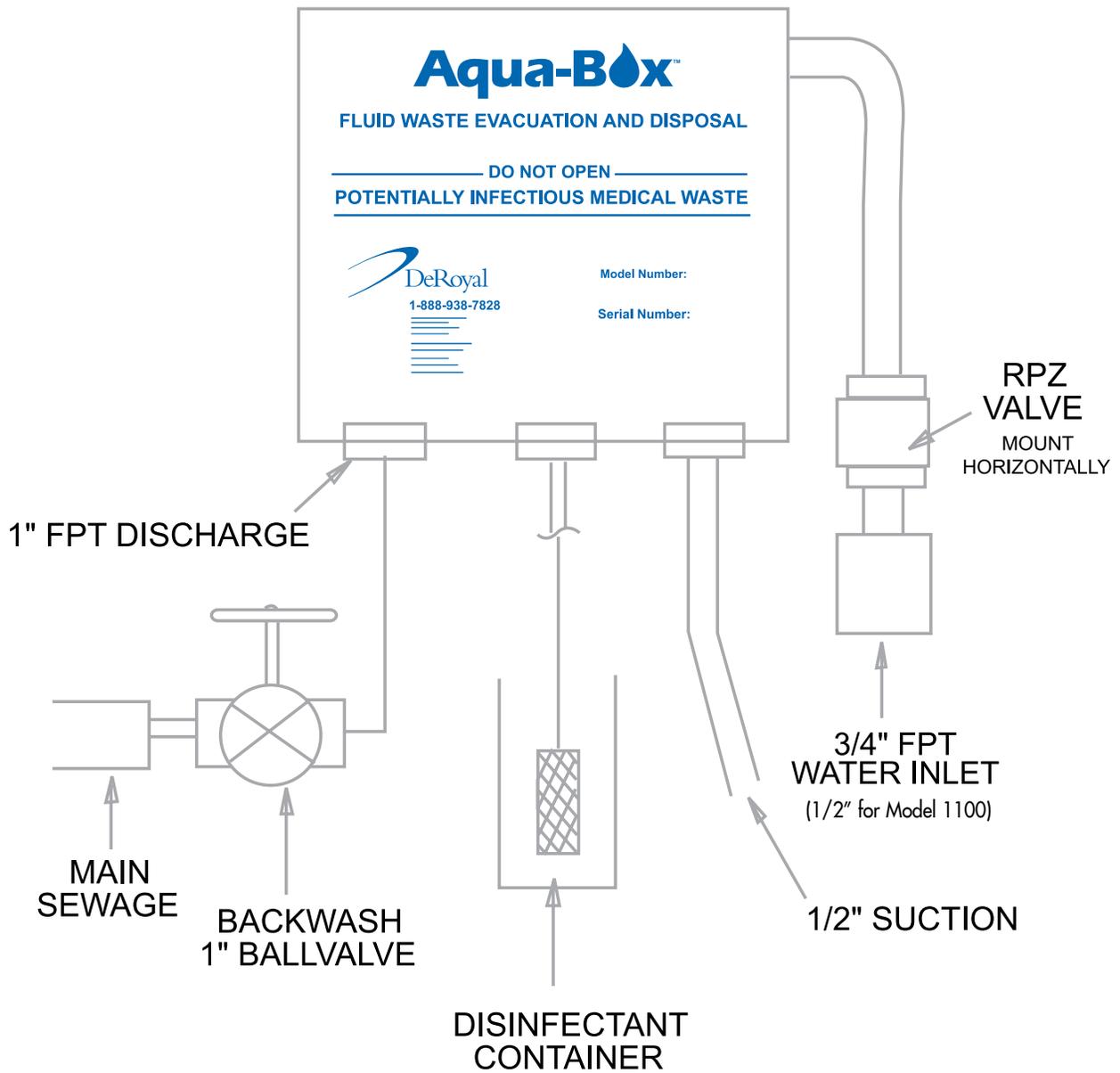
Applies to 1500 & 1300 Models



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## INSTALLATION DIAGRAM: PLUMBING CONNECTIONS

Applies to 1200 & 1100 Models



# Fluid Waste Evacuation & Disposal

## ELECTRICAL CONNECTIONS: NON-RINSING UNITS

For Models 1500-00 and 1300-00 only, the following steps provide the instructions for the electrical connections.

1. Remove the cover from the control box by unscrewing the four plastic cover screws.

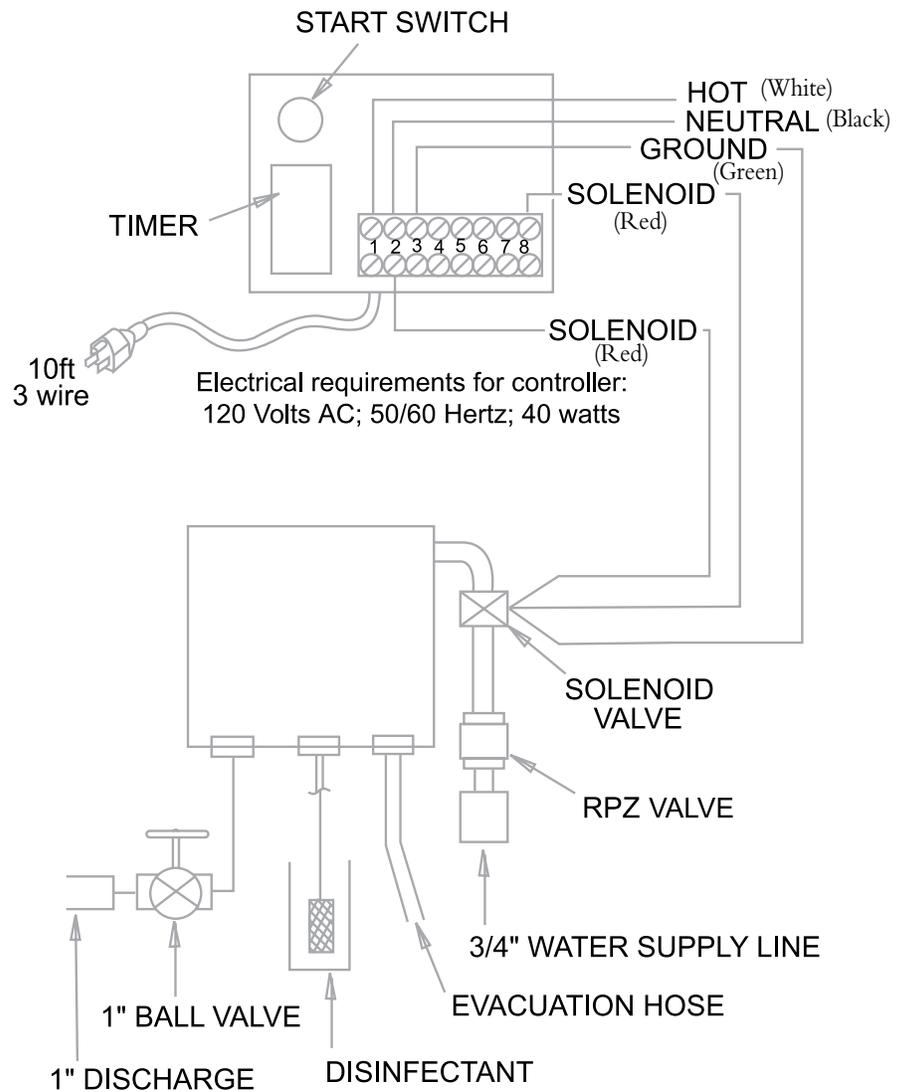
2. Feed the three wires from the electric solenoid valve into the control box. A rigid or flexible conduit is recommended to house the wires from the solenoid valve to the control unit. A flexible conduit is included with the Aqua-Box.

3. The electrical supply wires ship pre-connected. Should they need to be reconnected, the hot (white) wire should be connected to post #1 and the neutral (black) to post #2.

4. Connect one of the red wires from the solenoid valve to post #8 and the other red wire to post #2. The green (ground) wire should be connected to post #3.

5. The control box cover should be replaced by screwing clockwise the four plastic cover screws.

6. Plug the control box into a standard 110/120 Volt electrical outlet. The electrical outlet should be GFCI protected as per local codes. The electrical connection may be hard wired by cutting off the plug, if preferred.

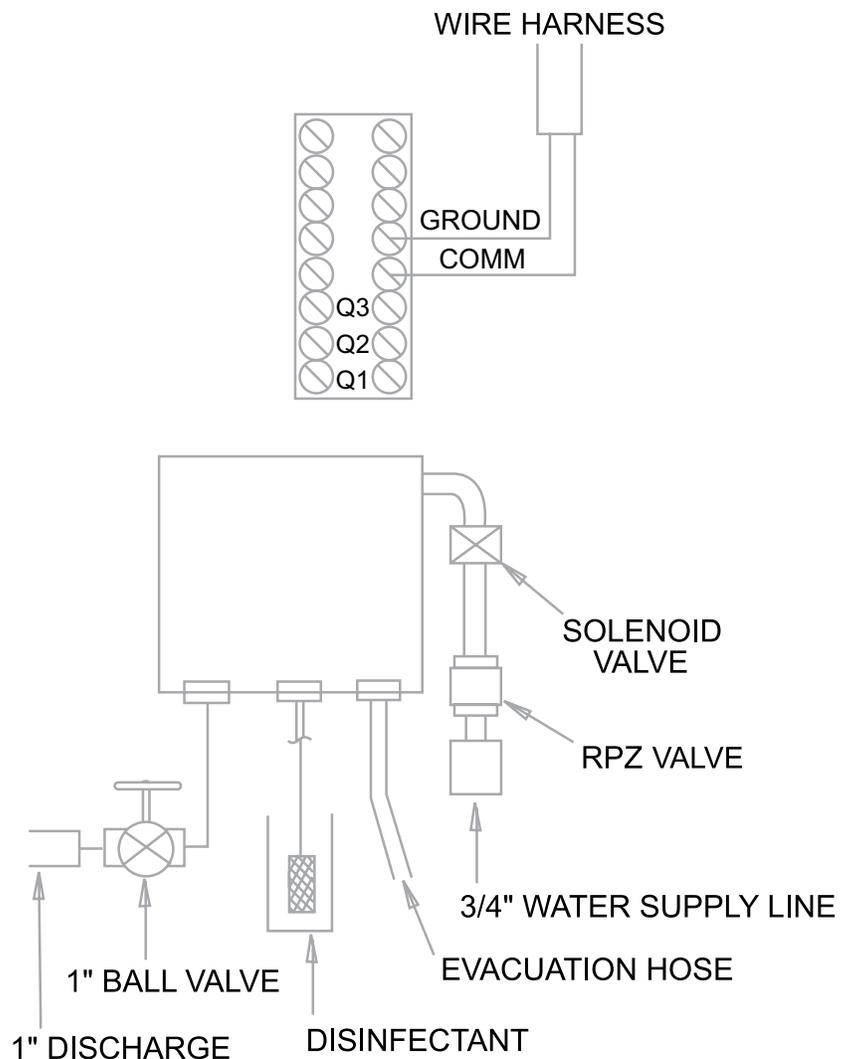


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## ELECTRICAL CONNECTIONS: RINSING UNITS

For Model 1300-R only, the following steps provide the instructions for the electrical connections. The 1300-R ships completely pre-wired. Other than plugging the unit into a standard 110/120 AC Volt outlet, no electrical connections are required for installation. The following instructions are provided should the controller box need to be disconnected for some reason (i.e., replacement).

1. Remove the cover from the control box by unscrewing the four plastic cover screws.
2. Feed the wiring harness into the connection on the large box. Tighten fitting and attach the marked wires to the terminal strip marked the same.
3. Connect the three wires marked Q1, Q2, and Q3 to the terminal. Connect the white common and the green ground to the strip marked the same.
4. Plug the control box into a standard 110/120 Volt electrical outlet. The electrical connection may be hard wired if preferred. The program will start and the time needs to be set. Press ESC, scroll down to the clock, press OK and adjust the clock with the arrow buttons Press OK again when the time is set, close the program out and go to start. Your clock should now be set.
5. The control box cover should be replaced by screwing clockwise the four plastic cover screws.



## *Fluid Waste Evacuation & Disposal*

### **ADJUSTING THE AUTOMATIC TIMER SWITCH (MODELS 1500-00 & 1300-00)**

For Models 1500 and 1300, the Aqua-Box power button is pre-set to stay on for 2 minutes. This pre-set time can be easily changed by the facility as needed. The “kill” switch will turn off the unit prior to the end of the timed cycle if desired. To adjust the automatic timer switch, conduct the following steps.

1. Unscrew the face of the control unit by unscrewing (counter-clockwise) the four plastic cover screws.
2. Adjust the timer according to your specific needs. The timer scale is in seconds.
3. Replace the face of the control unit by screwing in (clockwise) the four plastic cover screws.

### **SETTING & ADJUSTING THE ELECTRONIC CONTROLLER (MODEL 1300-R)**

For Model 1300-R, the Aqua-Box power button is pre-set to stay on for 5 minutes. This pre-set time can be easily changed by the facility as needed. The “kill” switch will turn off the unit prior to the end of the timed cycle if desired. To adjust the automatic timer switch, conduct the following steps.

1. Once the electrical cord has been plugged into the 110 volt outlet, the Program should start. The time will need to be set.
2. Adjust the timer according to your specific needs. The timer scale is in seconds. Press ESC, scroll down to the clock, press OK and adjust the timer with the arrow buttons. Press OK when you have selected the correct times, close the program and go to Start. Your timers should now be set.
3. Replace the face of the control unit by screwing in (clockwise) the four plastic cover screws.

# INSTRUCTIONS FOR USE

## NON-RINSING UNITS



- A - "Start" Switch
- B - "Kill" Switch
- C - Suction Hose (Grey)
- D - Thumb Valve
- E - Treatment Solution Valve
- F - Treatment Solution Tube (Yellow)
- G - Suction Hose Hanger

*Warning: As whenever handling any infectious liquid waste, PPE's should be worn at all times in accordance with facility policies.*

### RIGID CANISTERS

1. Transport full canisters by cart or roll-stand to the Aqua-Box using PPE's in accordance with hospital policy.
2. Ensure that the appropriate Evacuation Tube is attached to the end of the suction hose (C).
3. If fluid treatment option is used, verify that there is sodium hypochlorite (bleach) and that the yellow tube (F) is submerged in the bleach. Check to see if the valve (E) for bleach line is open (vertically oriented).
4. Open pour spout of the suction canister(s).
5. Insert the Evacuation Tube and seal the port with the purple cap.
6. Turn the unit "On".
  - a. For Models 1500 and 1300, press the "Start" button (A). If the Aqua-Box shuts off while evacuating, simply press "Start" button (A) again.
  - b. For Models 1200 and 1100, turn the valve on the right side of the unit to the "On" position.
7. Open Thumb valve (D) to begin evacuation.

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8. When canister is empty, leave thumb valve open for a few seconds, then close thumb valve (D), replace cap on canister, then discard empty canister.
9. If evacuating multiple canisters at one time, leave the thumb valve (D) open and move the evacuation tube to the next canister. Repeat until the last canister has been emptied.
10. When the last canister has been evacuated, and with the Aqua-Box still running, place the Evacuation Tube in either:
  - a. Fresh water for 5 seconds to flush the Aqua-Box.
  - b. Enzymatic solution for 2 seconds to flush, deodorize, and prevent organic and mineral deposits from accumulating within the Aqua-Box.
11. Close the thumb valve (D) on the suction hose.
12. Turn the unit “Off”.
  - a. For Models 1500 and 1300, press the “Kill” switch (B) on the side of the control box.
  - b. For Models 1200 and 1100, turn the valve on the right side of the unit to the “Off” position.
13. Discard the old evacuation tube and replace with a new tube.
14. Hang up suction hose (C) on suction hose hanger (G).

### **LINER SYSTEMS**

When purchasing an Aqua-Box for a facility that utilizes liners without pour spouts, such as those manufactured by Hospira, the Aqua-Box must be ordered with a liner adapter. Because the adapter attaches directly to the liner portal, it eliminates the need for evacuation tubes.

NOTE: A liner adapter can only be used with flexible liners.

1. Remove liner from canister shell and uncap tubing. Use a clamp on the hose.
2. Press fit end of suction hose to any fluid port on liner. (Be careful not to attach suction hose to vacuum port on liner because fluid will be prevented from being evacuated due to shut off valve).
3. Turn the unit “On”.
  - a. For Models 1500 and 1300, press the “Start” button (A). If the Aqua-Box shuts off while evacuating, simply press “Start” button (A) again.
  - b. For Models 1200 and 1000, turn the valve on the right side of the unit to the “On” position.
4. Liner will collapse as fluid is evacuated.
5. Detach the liner from the suction hose and replace tube to suction port and discard.
6. With the Aqua-Box running, aspirate some disinfectant through adapter.
7. Turn the unit “Off”.
  - a. For Models 1500 and 1300, press the “Kill” switch (B) on the side of the control box.
  - b. For Models 1200 and 1100, turn the valve on the right side of the unit to the “Off” position.

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## RINSING UNITS



- A - "Start" Switch
- B - "Kill" Switch
- C - Suction Hose (Grey)
- D - Thumb Valve
- E - Treatment Solution Valve
- F - Treatment Solution Tube (Yellow)
- G - Suction Hose Hanger
- H - "Start" Rinse Switch

## RIGID CANISTERS

1. Transport full canisters by cart or roll-stand to Aqua-Box using PPE's in accordance to hospital policy.
2. Ensure that the appropriate Evacuation Tube is attached to the end of the suction hose (C).
3. If fluid treatment option is used, verify that there is sodium hypochlorite (bleach) and that the yellow tube (F) is submerged in the bleach. Check to see if the valve (E) for bleach line is open (vertically oriented).
4. Open pour spout of the suction canister(s).
5. Insert the Evacuation Tube and seal the port with the purple cap.
6. Turn the unit "On".
  - a. For Models 1500 and 1300, press the "Start" button (A). If the Aqua-Box shuts off while evacuating, simply press "Start" button (A) again.
  - b. For Models 1200 and 1000, turn the valve on the right side of the unit to the "On" position.
7. Open Thumb valve (D) to begin evacuation.
8. When canister is empty, close thumb valve (D), replace cap on canister, then discard empty canister.
9. After the canister is empty, leave the wand in the canister and press the Rinse button. Fresh water will flow back through the wand (about 600ccs). The suction will automatically start to evacuate the remaining fluid. Close the Thumb valve and press the stop button.

## *Fluid Waste Evacuation & Disposal*

10. When the last canister has been evacuated, and with the Aqua-Box still running, place the Evacuation Tube in either:
    - a. Fresh water for 5 seconds to flush the Aqua-Box.
    - b. Enzymatic solution for 2 seconds to flush, deodorize, and prevent organic and mineral deposits from accumulating within the Aqua-Box.
  11. Close the thumb valve (D) on the suction hose.
  12. Turn the unit “Off”.
    - a. For Models 1500 and 1300, press the “Kill” switch (B) on the side of the control box.
    - b. For Models 1200 and 1100, turn the valve on the right side of the unit to the “Off” position.
  13. Discard the old evacuation tube and replace with a new tube.
  14. Hang up suction hose (C) on suction hose hanger (G).
2. Press fit end of suction hose to any fluid port on liner. (Be careful not to attach suction hose to vacuum port on liner because fluid will be prevented from being evacuated due to shut off valve).
  3. Turn the unit “On”.
    - a. For Models 1500 and 1300, press the “Start” button (A). If the Aqua-Box shuts off while evacuating, simply press “Start” button (A) again.
    - b. For Models 1200 and 1000, turn the valve on the right side of the unit to the “On” position.
  4. Liner will collapse as fluid is evacuated.
  5. To Rinse: after Canister is empty, leave the adapter inside the canister and press the rinse button. Fresh water will flow back through the wand (about 600ccs). Suction will automatically initiate to evacuate remaining fluid. Close the thumb valve and press the stop button when finished.
  6. Detach the liner from the suction hose and replace tube to suction port and discard.
  7. With the Aqua-Box running, aspirate some disinfectant through adapter.
  8. Turn the unit “Off”.
    - a. For Models 1500 and 1300, press the “Kill” switch (B) on the side of the control box.
    - b. For Models 1200 and 1100, turn the valve on the right side of the unit to the “Off” position.

### **LINER SYSTEMS**

When purchasing an Aqua-Box for a facility that utilizes liners without pour spouts, such as those manufactured by Hospira, the Aqua-Box must be ordered with a liner adapter. Because the adapter attaches directly to the liner portal, it eliminates the need for evacuation tubes.

NOTE: A liner adapter can only be used with flexible liners.

1. Remove liner from canister shell and uncap tubing. Use a clamp on the hose.

# Aqua-Box Owner's Manual

## EVACUATION TUBES

The Evacuation Tube is the disposable portion of the Aqua-Box's suction line that enters the suction canister. It is to be used as follows:

1. After canister evacuation, keep Evacuation Tube attached to canister.
2. Detach the Evacuation Tube from the Aqua-Box's gray suction hose.
3. Reseal canister and discard tube.
4. Attach a NEW Evacuation Tube to the Aqua-Box hose.
5. Submerge the new evacuation tube in clean water or enzyme solution for 1 second while the Aqua-Box is running. This flushes the gray suction hose and Aqua-Box interior of waste fluid.
6. Hang-up hose and evacuation tube on hanger for next use.

## MAINTENANCE

### Cleaning

Routine maintenance is limited to a periodic enzymatic cleaning to prevent mineral and organic build up allowing the unit to run at peak efficiency. The Aqua-Box must have an enzymatic cleaner flushed through it on a weekly basis to prevent mineral and organic build-up. This will keep the unit running at peak efficiency. One gallon of concentrated cleaner will last well over a year in most facilities. Any enzymatic cleaner already stocked by the facility will work. A recommended weekly enzymatic cleaner is available from:

Enzyme Industries  
Heath, OH  
Phone: 888-236-9963  
Product #4198-1



To clean, mix enzymatic cleaner with water according to manufacture's instructions in a suction canister, or other container. Evacuate the enzymatic solution as you would normally.

### Reduced Pressure Zone (RPZ) Valve

The RPZ valve requires annual certification by a licensed plumber. It may require periodic maintenance in accordance with the manufacture's instructions. Maintenance kits are available at most plumbing supply stores.

# TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The Aqua-Box does not operate.	The electricity is not connected (models 1500 and 1300 only)	<ul style="list-style-type: none"> <li>• Plug in the power switch/timer box.</li> <li>• Check the circuit breaker or fuse to the electrical outlet</li> </ul>
	The RPZ valve is incorrectly installed or not working properly.	<ul style="list-style-type: none"> <li>• Check that the RPZ valve is installed correctly with the water flow in the correct direction (refer to water flow arrow on valve).</li> <li>• Have the RPZ valve inspected by certified plumber or as per local code.</li> </ul>
The Aqua-Box leaks.	A plumbing connection is loose.	<ul style="list-style-type: none"> <li>• Check all connections. Be sure to use the included thread sealant on the PVC connections.</li> <li>• Check any copper pipe connections that the “sweated” joint is complete.</li> </ul>
The RPZ valve drips from the vent.	The RPZ valve is incorrectly installed or not working properly.	<ul style="list-style-type: none"> <li>• Check that the RPZ valve is installed correctly with the water flow in the correct direction (refer to water flow arrow on valve).</li> <li>• Have the RPZ valve inspected by certified plumber or as per local code. Have the RPZ valve rebuilt or replaced as required.</li> <li>• Some degree of dripping from the vent is normal. Install an optional air gap drain.</li> </ul>
The Aqua-Box runs but the suction is weak.	The water flow is too low.	<ul style="list-style-type: none"> <li>• Check the water flow. These need to be a minimum of 12 GPM for all models. If pressure gage is supplied with the Aqua-Box, the minimum pressure after the solenoid valve should not be less than 5 PSI.</li> <li>• Make sure all ball valves are open in the full position.</li> </ul>
	The suction hose thumb valve is closed.	<ul style="list-style-type: none"> <li>• Open the thumb valve on the grey suction hose.</li> </ul>
	The disinfectant is empty.	<ul style="list-style-type: none"> <li>• Check disinfect supply, if empty replenish.</li> <li>• If disinfect is not being used, make sure valve is in the off position</li> </ul>
	The unit is clogged.	<ul style="list-style-type: none"> <li>• Clean the unit with an enzymatic solution (see Maintenance section)</li> <li>• Check the grey suction hose for clogs or debris.</li> <li>• Backwash the AquaBox (see Backwash Procedure section)</li> </ul>

### Backwash Procedure

If unit is running, but suction is weak, something could be caught in the suction line. You will need to backwash the suction line.

1. Remove the brass check valve before the gray suction hose along with the suction hose (non-rinsing units only).
2. Screw the suction line back into the Aqua-Box without the check valve (non-rinsing units only).
3. Open the thumb valve of the suction hose with the tube attached, placing the tube in a canister, sink, or bucket.
4. With the Aqua-Box running, slowly start closing the ball

valve on the discharge side of the Aqua-Box unit (left lower). Only close the valve enough to dislodge stoppage, and then reopen the valve.

5. Remove the gray suction hose and replace the check valve on the suction line.
6. Resume usage of the unit.
7. (For non rinse units only) If the back wash does not clear the suction port, remove the check valve, and insert a stiff wire with a small bend at the end into the suction port as far as it will go. Rotate the wire to catch and solids that are lodged. Remove the solids and back wash again to make sure the port is clear. Replace the check valve and the suction line.

## REPLACEMENT PARTS

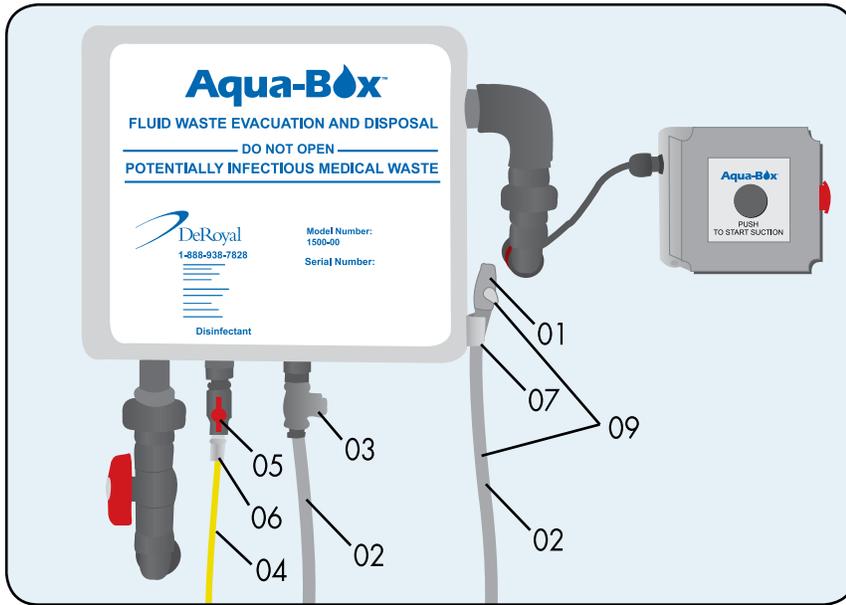


Diagram Location		Part Description	Reorder Number
1		Thumb Control Valve (Aluminum)	1500-00-01
2		Suction Hose, 1/2" (Grey)	1500-00-02
3		Suction Hose Check Valve	1500-00-03

## *Fluid Waste Evacuation & Disposal*

Diagram Location		Part Description	Reorder Number
4		Disinfectant Hose (Yellow)	1500-00-04
5		Disinfectant Ball Valve (PVC)	1500-00-05
6		Disinfectant Hose Fitting	1500-00-06
7		Hose Hanger	1500-00-07
Not Shown		Solenoid Valve	1500-00-08
9	—	Evacuation Hose & Thumb Valve Assembly (#1 + #2 assembled with hose clamps)	1500-00-09
Not Shown	—	Suction Liner Adapter	1500-00-10
Not Shown	—	Cell Saver Bag Adapter	1500-00-11
Not Shown	—	Wall Rack	1500-00-30

# *Aqua-Box Owner's Manual*

*For additional information call:  
888.938.7828*

*For technical support call:  
903.262.9779*

