

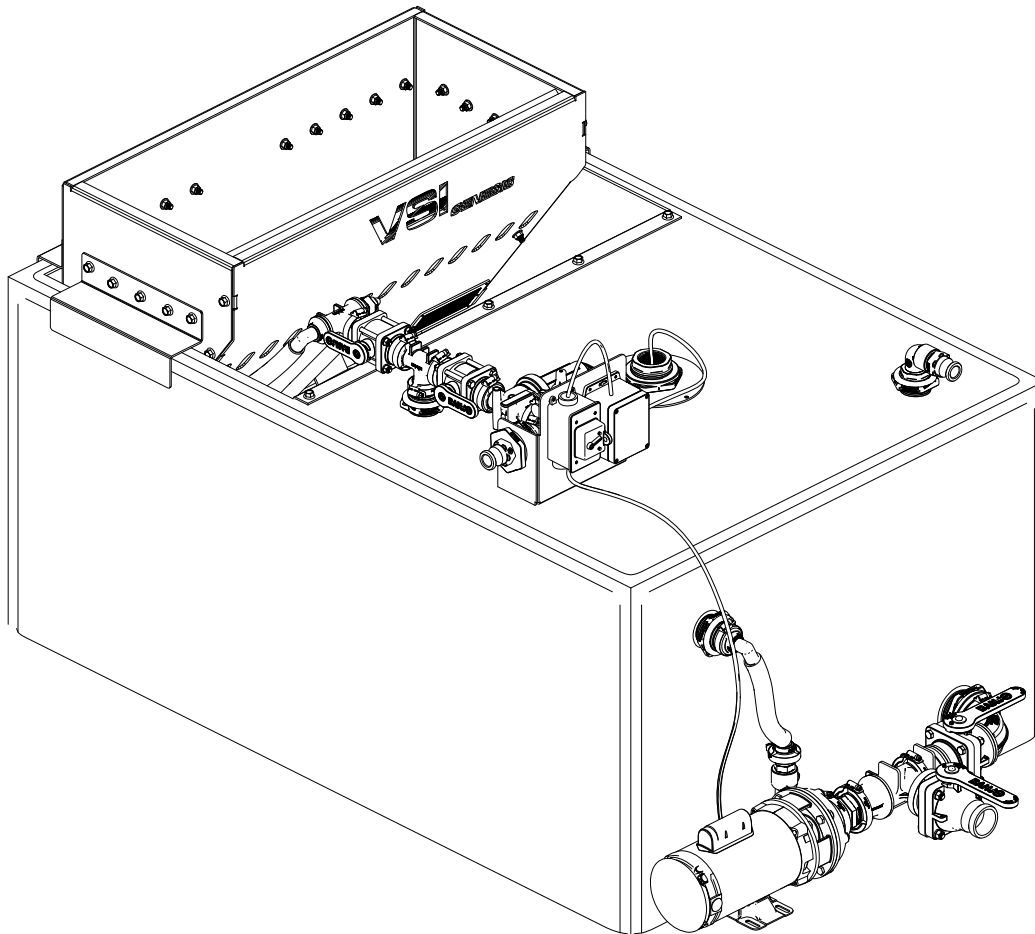


2010 The BOSS Way  
Iron Mountain, MI 49801  
United States

# Owner's Manual

## Genesis Series Brine Buddy

Part No. LIQ28847—Serial No. 40000000 and Up



(Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



g000502

**Figure 2**

Safety-alert symbol

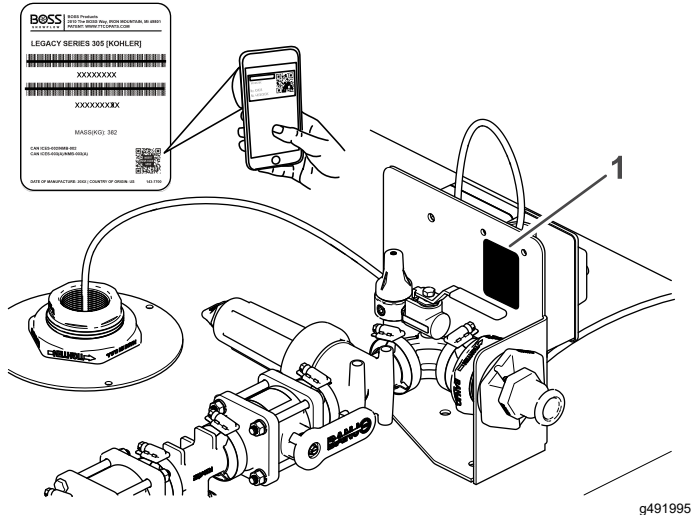
# Introduction

This machine is an ice-control solution creation system and is intended to be used by professional, hired operators. It is designed primarily for creating ice-control solution used on residential or commercial properties. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit [www.bossplov.com](http://www.bossplov.com) for more information, including safety tips, training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine BOSS parts, or additional information, contact an Authorized BOSS Dealer or BOSS Technical Service (1-800-286-4155) and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.



**Figure 1**

1. Model and serial number location

<p><b>Model No.</b> _____</p> <p><b>Serial No.</b> _____</p>
--

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol

This manual uses two words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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# Safety

## General Safety

Always follow all safety instructions to avoid serious personal injury.

- Read the *Owner's Manual* before operating or servicing the equipment.
- Keep your hands, feet, and clothing away from moving parts.
- Do not operate the equipment without all guards and other safety protective devices in place and functioning properly on the equipment.
- Keep bystanders, especially children, and pets out of the operating area.

- Do not allow children to operate the equipment. Allow only people who are responsible, trained, familiar with the instructions, and physically capable to operate the equipment.
- Always shut off the equipment, wait for all moving parts to stop, and allow the equipment to cool before adjusting, servicing, cleaning, or storing it.

Improperly using or maintaining this machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol **▲**, which means Caution, Warning, or Danger—personal safety instruction. Failure to comply with these instructions may result in personal injury or death.

## Safety and Instructional Decals

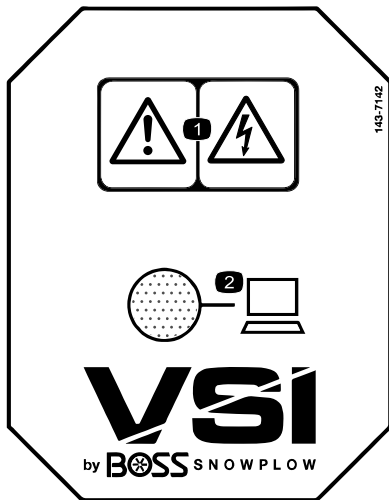


Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.

**▲ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.**  
For more information, please visit [www.tlcoCAProp65.com](http://www.tlcoCAProp65.com)

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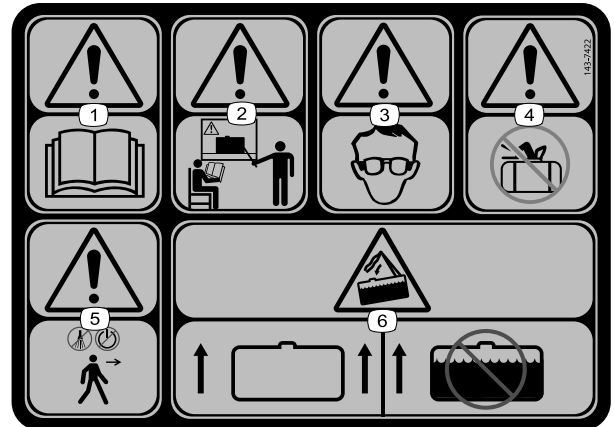
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143-7142

decal143-7142

1. Warning—electrical shock    2. Computer status hazard



143-7422

decal143-7422

1. Warning—read the *Owner's Manual*.
2. Warning—all operators should be trained before operating the machine.
3. Warning—wear eye protection.
4. Warning—do not climb into the tank.
5. Warning—shut off the machine before walking away.
6. Tipping hazard—lift only an empty tank; do not lift the tank when full.

# Setup

**Note:** Determine the left and right sides of the machine from the normal operating position.

## Requirements for Machine Operation

Ensure you have a 20 amp ground-fault circuit interrupter (GFCI) electrical outlet for running the pump on this machine.

Ensure you position the machine to allow for space and clearance to load the machine with salt.

## Setting Up the Mobile App

1. Download the VSI Spray Control app from the iOS or Android app stores.

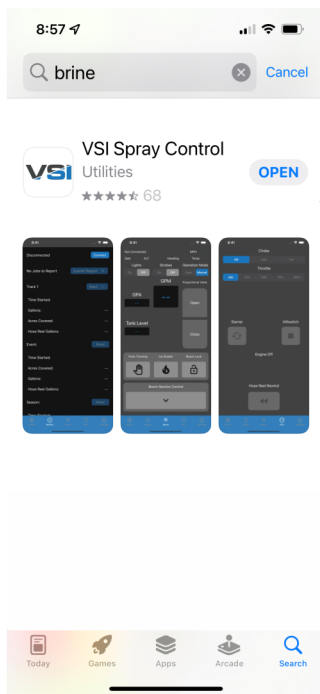


Figure 3

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1. VSI app on App Store

2. Open the app, select the DETAILS tab at the bottom, select BrineMixer, and connect your electronic device through Bluetooth® to the Brine Buddy machine.

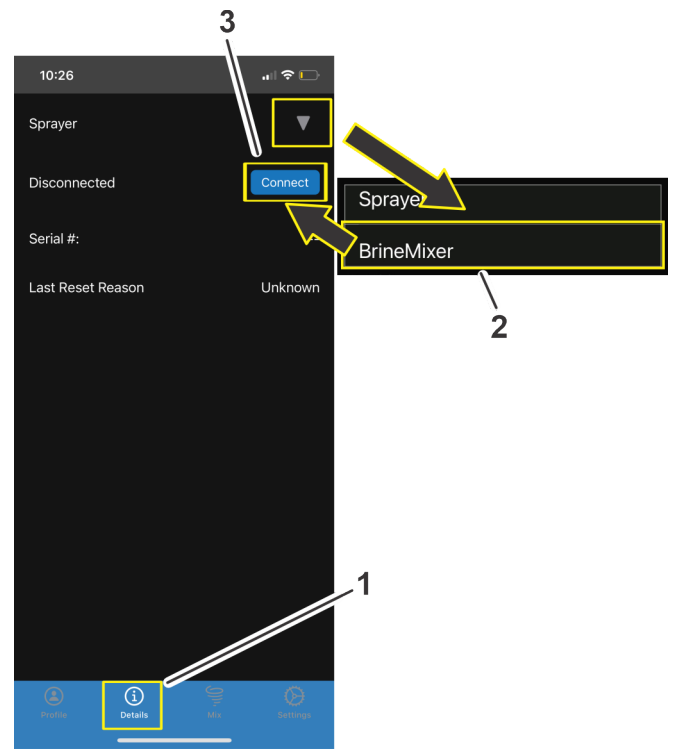


Figure 4

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1. Select the DETAILS tab.
  2. Select BrineMixer in the drop down menu.
  3. Select the connect button.
- 
3. Select the PROFILE tab at the bottom to display the version and product information. Select the SCAN FOR WIFI NETWORKS button to connect the controller board.



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**Figure 5**

1. Select the PROFILE tab.
  2. Select the SCAN FOR WIFI NETWORKS button.
-

# Product Overview

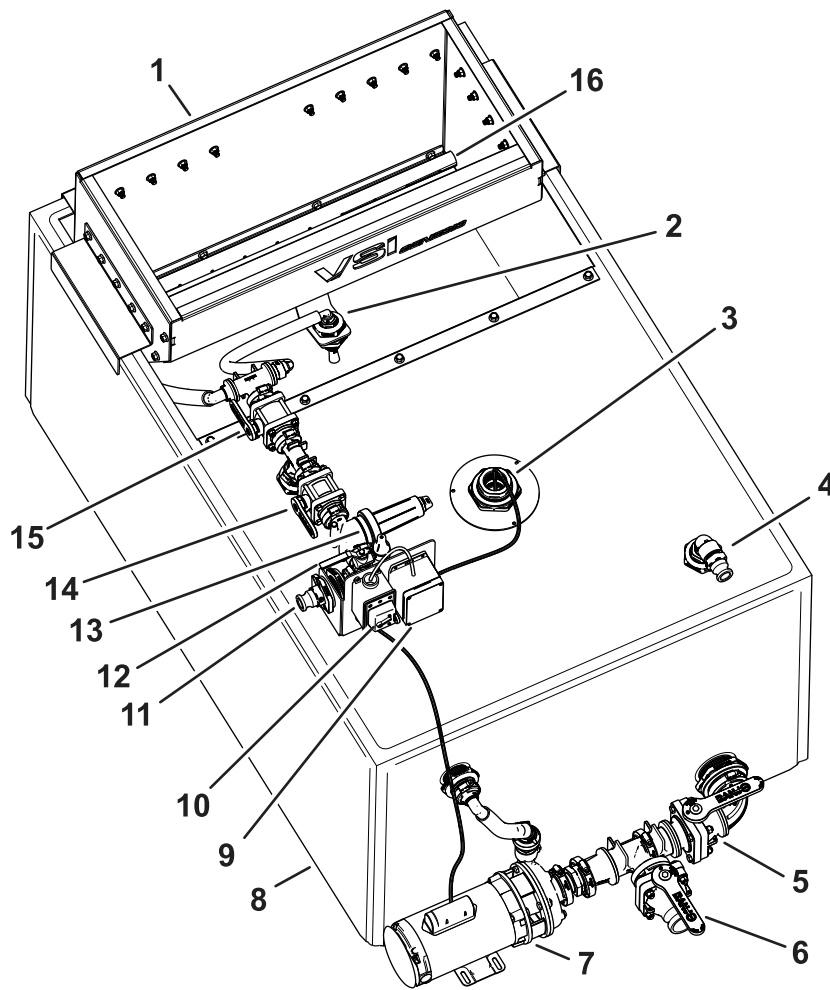


Figure 6

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- |                    |                    |                      |                     |
|--------------------|--------------------|----------------------|---------------------|
| 1. Salt hopper     | 5. Tank valve      | 9. Sensor controller | 13. Filter          |
| 2. Eductor nozzle  | 6. Auxiliary valve | 10. Pump switch      | 14. Pump-out valve  |
| 3. Sensor          | 7. Pump            | 11. Pump-out port    | 15. Agitation valve |
| 4. Water-fill port | 8. Brine tank      | 12. Air-purge valve  | 16. Agitation bar   |

# Controls

Become familiar with all the controls before operating the machine.

## Hopper

The is used for loading salt to create the brine.

## Eductor Nozzle

This nozzle helps to circulate the brine mixture.

## Sensor

The sensor reads the salinity of the brine. Use this with the app to verify the correct salinity.

## Water-Fill Port

This is used for with a garden hose to fill the brine tank with water. The port has an auto-shut off valve and closes when the tank is full of water.

## Auxiliary Valve

This valve is used to drain the tank during cleaning.

## Pump

The pump moves the water and brine for agitation and for pumping the brine.

## Pump Switch

The pump switch turns the pump on or off.

## Auxiliary Valve

The auxiliary valve is used to induct additives into a brine solution or for connection to a bulk water storage tank for faster filling of the brine tank.

## Pump-Out Port

This is used to pump out the brine to your vehicle. Use the provided 25.4 mm (1 inch) hose and 50.8 (2 inch) camlock adapter.

## Air-Purge Valve

This valve is used with an air compressor to prevent spilling brine when you remove the hose after pumping brine to your vehicle.

## Filter

This cleans the brine of foreign matter.

## Pump-Out Valve

Use this valve to pump the brine out of the tank and into the vehicle or a storage tank.

## Agitation Bar

This bar has holes for water to dissolve the salt and create the brine.

## App Display

The app display shows the concentration of salt in the water (Figure 7).



Figure 7

1. Mix tab
2. Salinity value

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# Specifications

**Note:** Specifications and design are subject to change without notice.

Length	117 cm (46 inches)
Width	183 cm (72 inches)
Height	91.4 cm (36 inches)
Tank capacity	1136 L (300 US gallons)
Weight empty	136 kg (300 lb)
Weight full	1542.2 kg (3400 lb)

## Attachments/Accessories

A selection of BOSS approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or authorized BOSS distributor or go to [www.bossploow.com](http://www.bossploow.com) for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety of the machine, use only genuine BOSS replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

# Operation

## *Before Operation*

### Before Operation Safety

#### General Safety

- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Ensure that safety switches and guards are attached and functioning properly. Do not operate the equipment unless they are functioning properly.
- Ensure that all fluid line connectors are tight and that all hoses are in good condition before operating the equipment.

## *During Operation*

### During Operation Safety

#### General Safety

- Wear appropriate clothing including eye protection, long pants, and substantial slip-resistant footwear. Tie back long hair and do not wear loose clothing or loose jewelry.
- Use your full attention while operating the equipment. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Do not operate the equipment while ill, tired, or under the influence of alcohol or drugs.



# Creating the Brine

**Note:** Use only sodium chloride (salt) to create the brine.

**Note:** The correct salinity is 23.3%.

Brine Mixture—Water to Salt Ratio	
Water	Salt
1.6 L (55 ounces or .43 US gallons)	.45 kg (1 lb)
1136 L (300 US gallons)	317.5 kg (700 lb)

1. Load the hopper by hand with salt.

**Note:** The hopper does not hold 317.5 kg (700 lb) of salt. For mixing a full brine tank (1136 L or 300 US gallons), you will fill the hopper multiple times.

2. Fill the brine tank with water; refer to [Filling the Brine Tank \(page 10\)](#).
3. Plug the pump into a 20 A GFCI electrical outlet.
4. Rotate the valve handles into the positions shown in [Figure 8](#).

5. Turn the pump switch on ([Figure 4](#)).
6. Add salt until the correct salinity is created.

**Note:** The correct salinity is 23.3%.

**Note:** Use the cell phone app to show the salinity value ([Figure 7](#)). When needed, verify the salinity with a manual hydrometer.

7. Turn the pump switch off.

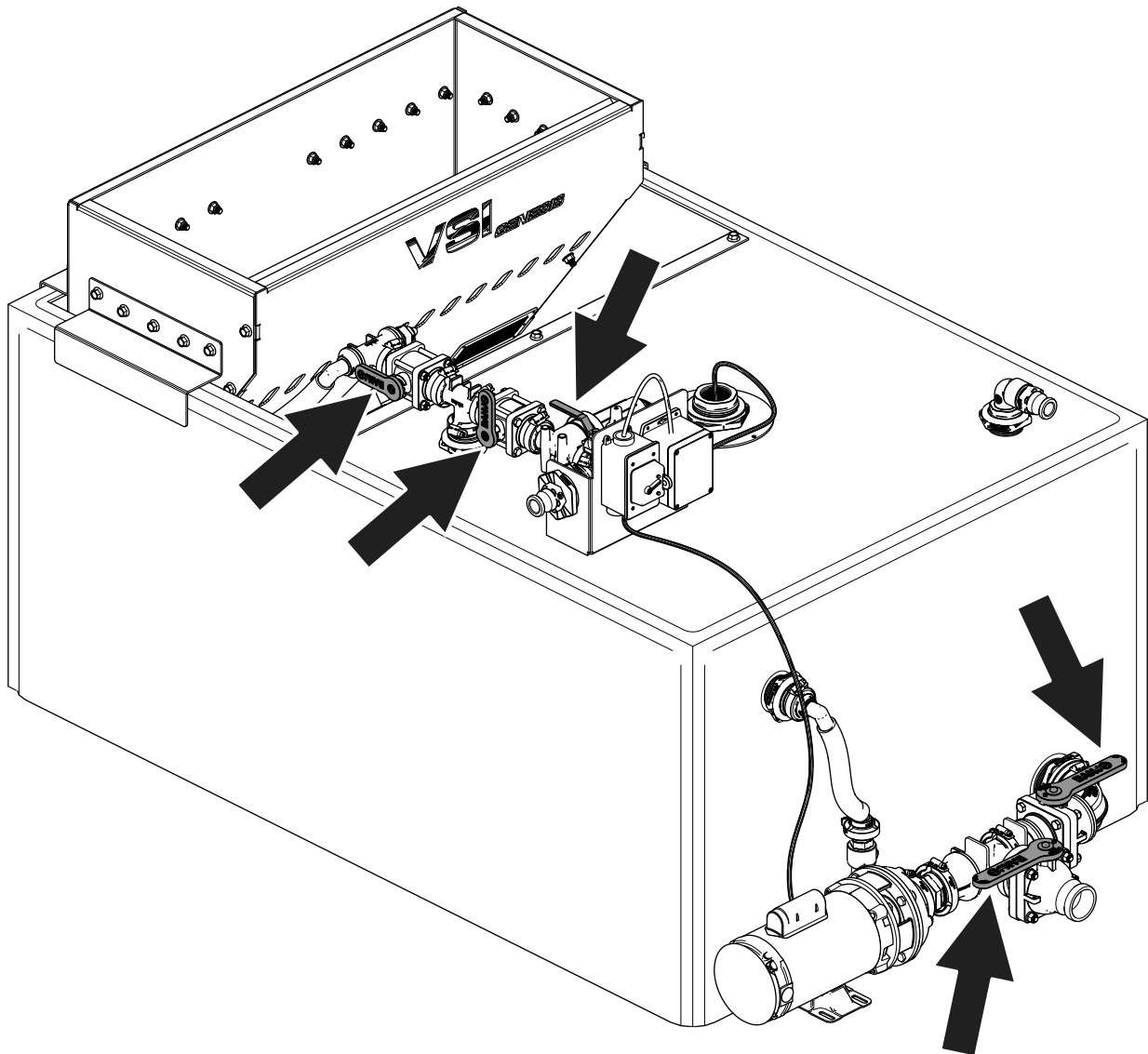


Figure 8

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# Filling the Brine Tank

**Capacity:** 1136 L (300 US gallons)

1. Connect a garden hose and allow the tank to fill.

**Important:** The water-fill port has an automatic shut-off valve and activates when the brine tank is full.

2. Turn off the water and wipe any spills.

# Pumping the Brine Out of the Tank

Use the air-lock valve with an air compressor to prevent spilling brine from the hoses and valves after each brine operation.

1. Connect the supplied hose (25.4 mm or 1 inch) to the pump out port on your vehicle, sprayer, or storage tank.

2. Connect an air compressor to the air-purge valve.

**Note:** A minimum of (20 psi) and a maximum of (120 psi) is needed for pressure to clear out the brine.

3. Ensure the air-purge valve is closed.
4. Move the valve handles to the locations shown in [Figure 9](#).
5. Switch the pump on and fill your vehicle, sprayer, or storage tank.
6. Leave all valves and pump out valves open on the brine buddy and the vehicle, sprayer, or storage tank being filled.
7. Open the air-purge valve until air is purged out and heard going into the vehicle, sprayer, or storage tank.
8. Close the air-purge valve, pump out valves, and the vehicle, sprayer, or storage tank fill valve.
9. Slowly remove cam-lock connection on the vehicle, sprayer, or storage tank..

## **⚠ WARNING**

**Never disconnect the hose fittings under pressure.**

**If pressure is suspected to be present, open the sprayer or the brine maker valve to relieve the pressure before disconnecting the hose.**

10. Disconnect your air-compressor hose.

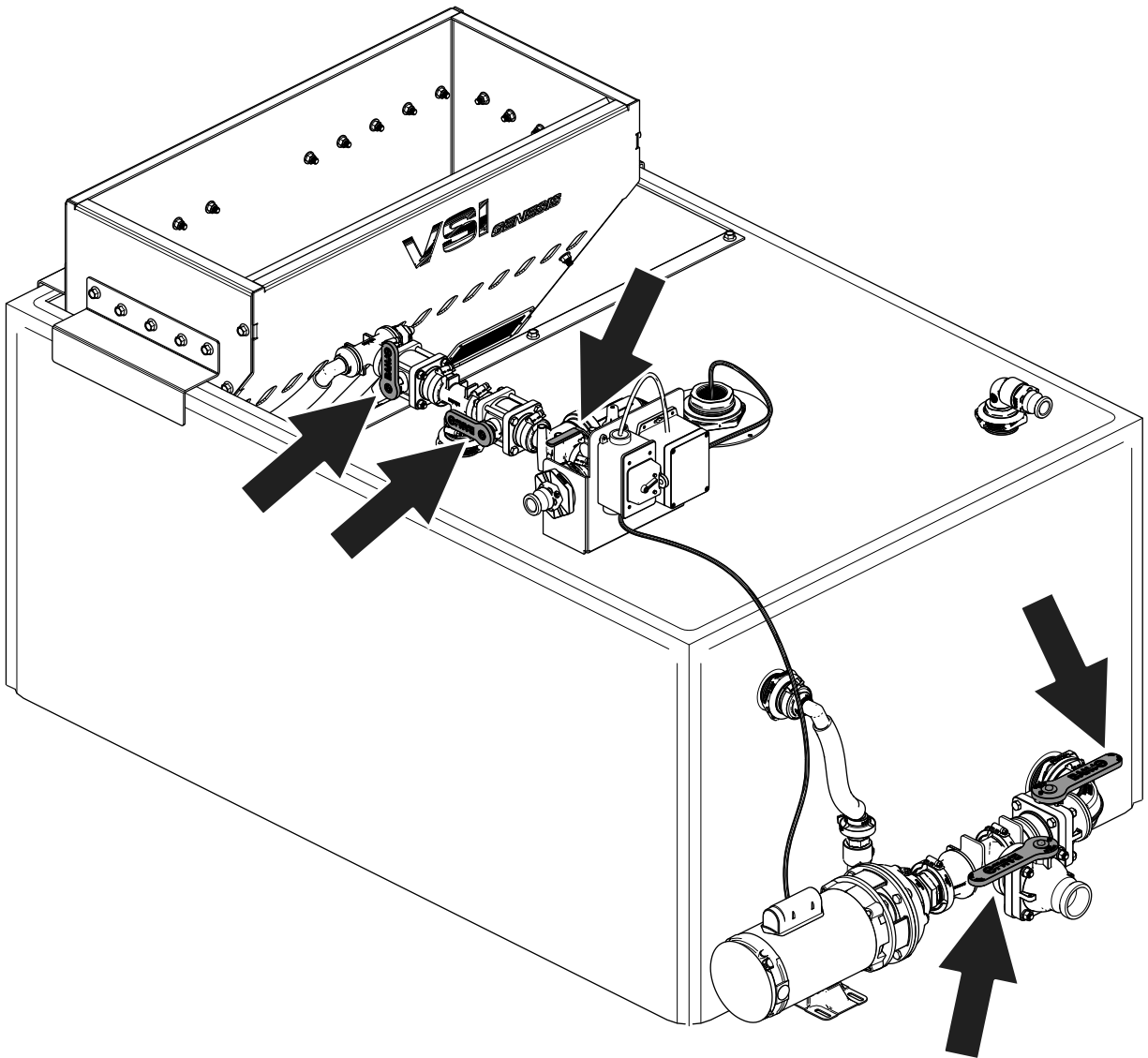


Figure 9

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# Using the App Information Display

1. Open the VSI app.
2. Select the Brine Buddy in the PROFILE tab.
3. Select the MIX tab to display the brine salinity.

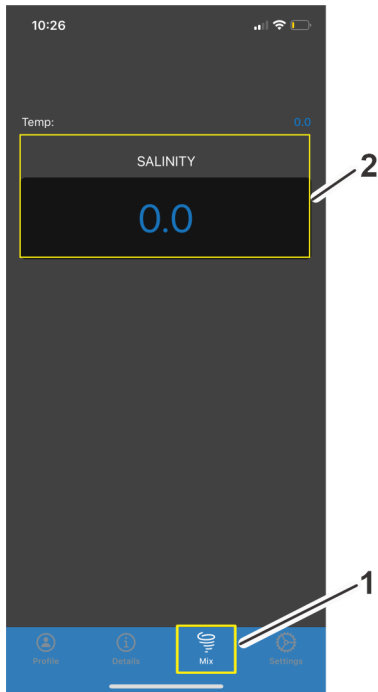


Figure 10

1. Mix tab
2. Brine salinity

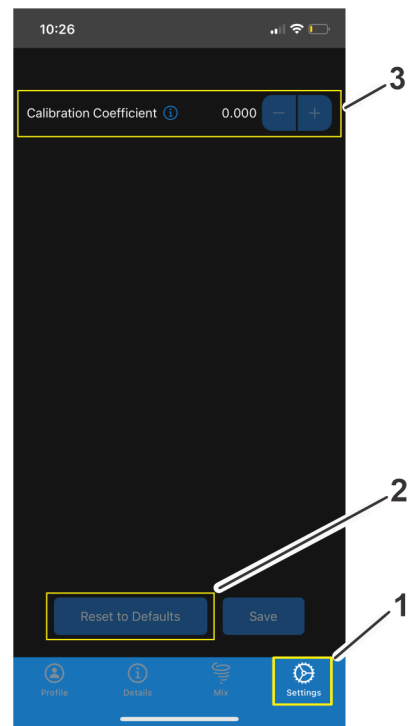


Figure 11

1. SETTINGS tab
2. RESET TO DEFAULTS button
3. Calibration coefficient

4. Use the SETTINGS tab to adjust the sensor readings.

**Note:** Unless specified, do not adjust the sensor calibration. Use the RESET TO DEFAULTS button to restore the factory set calibration coefficient.

## After Operation

### After Operation Safety

#### General Safety

Always shut off the equipment, wait for all moving parts to stop, and allow the equipment to cool before adjusting, servicing, cleaning, or storing it.

#### Washing the Salt Hopper

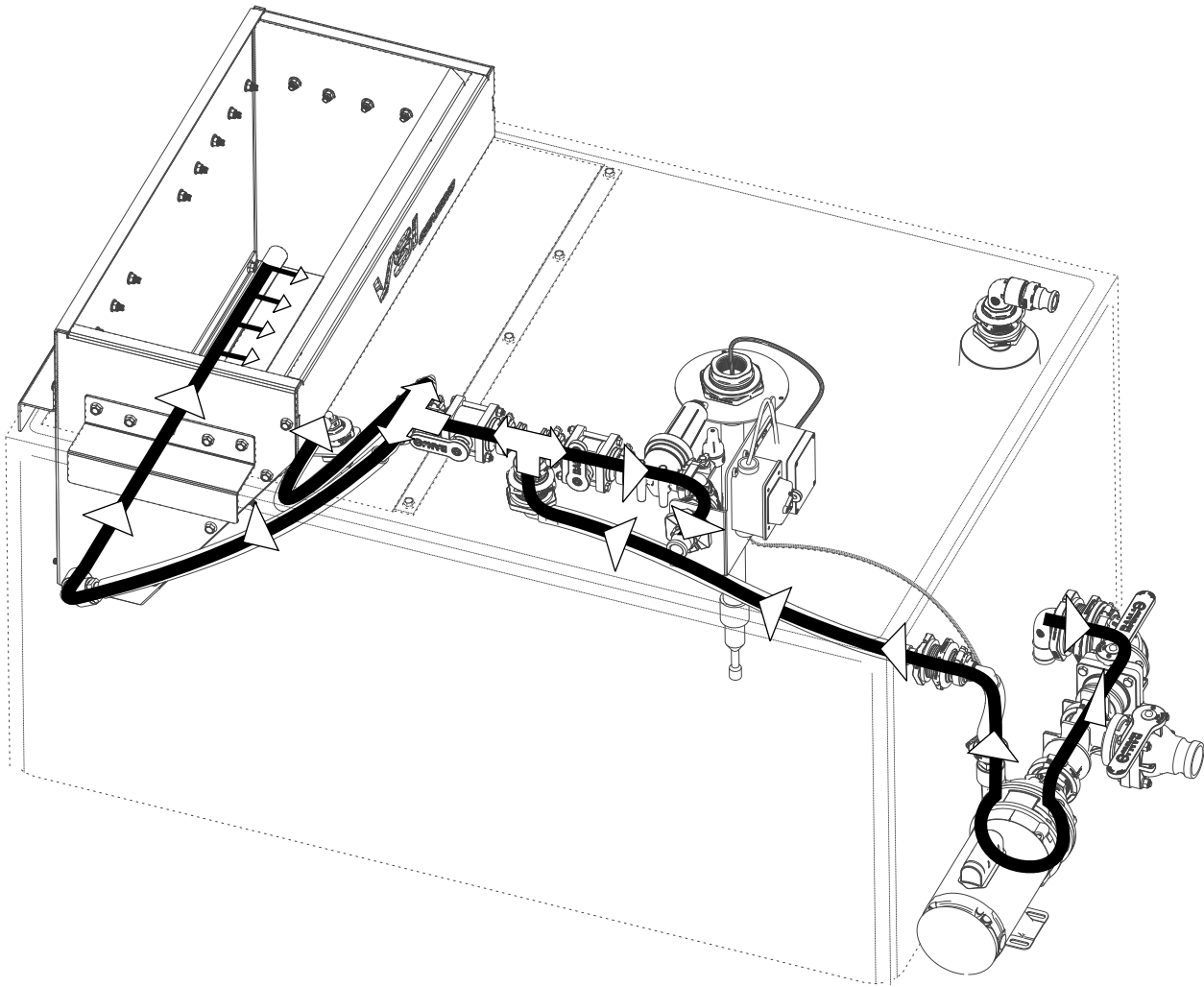
Wash the inside of the salt hopper with clean water.

**Important:** Use only clean water when cleaning the system.

# Maintenance

**Note:** Determine the left and right sides of the machine from the normal operating position.

Use the following graphic to understand the flow of brine through the system. This graphic helps with maintenance and trouble shooting.



**Figure 12**  
Brine flow

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## **⚠ WARNING**

Failing to properly maintain the machine could result in premature failure of machine systems, causing possible harm to you or bystanders.

Keep the machine well maintained and in good working order as indicated in these instructions.

## Maintenance Safety

- Always shut off the equipment, wait for all moving parts to stop, and allow the equipment to cool before adjusting, servicing, cleaning, or storing it.
- If you must run the equipment to perform a maintenance adjustment, keep your hands, feet, clothing, and any parts of your body away any moving parts.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep all parts in good working condition. Replace all worn, damaged, or missing parts and decals.

Keep all fasteners tight to ensure that the equipment is in safe working condition.

- Carefully release pressure from components with stored energy.
- Carefully read and follow the chemical warning labels and safety data sheets (SDSs) for all chemicals used, and protect yourself according to the chemical manufacturer's recommendations.

- If the machine requires a major repair or you need technical help, contact an authorized BOSS distributor.
- To ensure optimum performance and continued safety of the equipment, use only genuine BOSS replacement parts. Replacement parts made by other manufacturers could be dangerous, and such use could void the product warranty.

## Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Every 50 hours	<ul style="list-style-type: none"> <li>• Service the in-line filter screen.</li> <li>• Clean the salt hopper.</li> </ul>
Before storage	<ul style="list-style-type: none"> <li>• Flush the spray system after each spraying season or at times of prolong storage.</li> <li>• Condition the spray system after each spraying season.</li> <li>• Check and tighten all fasteners.</li> <li>• Clean the tank.</li> <li>• Clean the salt hopper.</li> <li>• Condition the system.</li> </ul>
Monthly	<ul style="list-style-type: none"> <li>• Clean the tank.</li> </ul>

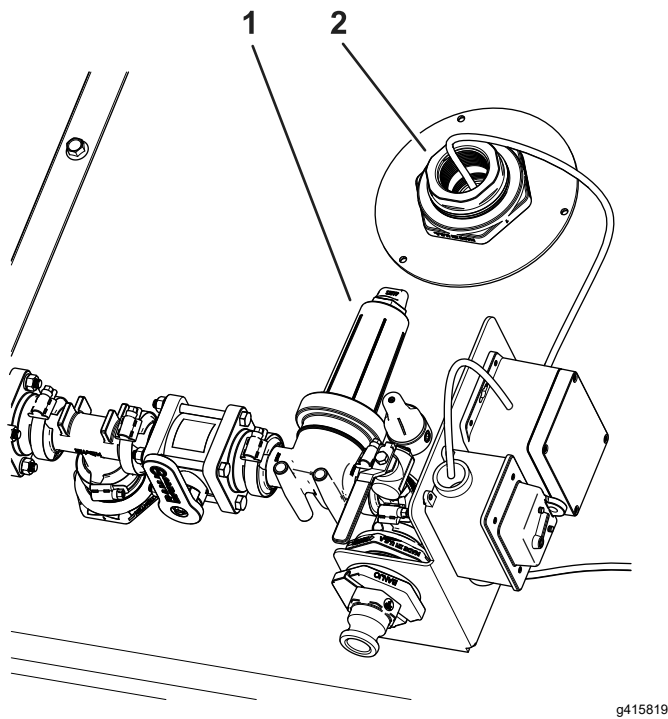
## *Electrical System Maintenance*

## *Brine Machine Maintenance*

### Servicing the In-Line Filter Screen

**Service Interval:** Every 50 hours

1. Clean the area around the in-line filter cap (Figure 13).



**Figure 13**

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1. Filter and cap
2. Sensor

2. Remove the in-line filter cap and check the screen for clogging.
3. If the screen is clogged, clean the screen.
4. Inspect the gasket. Replace it if it is worn or has cracks.
5. Install the in-line filter cap.

## Cleaning

### Cleaning the Salt Hopper

**Service Interval:** Every 50 hours

1. Unplug the pump motor from the electrical outlet.
2. Clean the area inside the salt hopper of any debris or rocks ([Figure 4](#)).

### Cleaning the Tank

**Service Interval:** Monthly—Clean the tank.

1. Unplug the pump motor from the electrical outlet.
2. Clean the salt hopper; refer to [Cleaning the Salt Hopper \(page 15\)](#).
3. Remove the salt hopper to gain access to the tank.
4. Clean the inside the tank and remove any debris or rocks
5. Install the salt hopper.

### Flushing the System

**Service Interval:** Before storage

**Important:** Use only clean water when cleaning the system.

**Important:** You must always drain and flush out the system after each use. Failure to flush and clean the system may allow the chemicals to dry and obstruct in the lines, filter, valves, pump, and other components.

Clean the system after each brine making session. To properly clean the system, perform the following:

1. Remove any salt from the salt hopper.
2. Fill the tank with clean water.
 

**Note:** Use only clean, clear water.
3. Fill the tank with 568 L (150 gallons) of water.
4. Position the valves like when you are making brine ([Figure 8](#)).
5. Check the agitation bar to ensure that all holes are spraying correctly.
6. Allow all water to circulate.
7. Pump the water out.
8. Dispose of the water according to local regulations.

### Conditioning the System

**Service Interval:** Before storage

## Conditioner Specification

**Conditioner specification:** propylene glycol "non-toxic RV antifreeze" with corrosion inhibitor

**Important:** Use only propylene glycol with corrosion inhibitor.

**Do not use recycled propylene glycol. Do not use ethylene glycol base antifreeze.**

**Do not use propylene glycol with soluble alcohols (methanol, ethanol, or isopropanol) or brines added.**

1. Unplug the pump from the electrical outlet.
2. Remove any salt from the salt hopper.
3. Flush the system; refer to [Flushing the System \(page 15\)](#).
4. Open all the valves
5. Remove the hose at the top of the pump and add non-toxic RV antifreeze to the pump.  
**Note:** Most propylene glycol RV antifreeze is colored pink. Use a catch container to sample the sprayer discharge at several of the nozzles.
6. Install the hose on the top of the pump.
7. Remove the filter housing to drain the water out.
8. Install the filter housing.

## Storage

### Storing the Machine

1. Remove salt, sand, and grime from the external parts of the entire machine.

**Important:** You can wash the machine with a mild detergent and water. Do not pressure-wash the machine. Avoid excessive use of water, especially near the drive system. Pressure-washing can force dirt and water into critical parts.

2. Condition the brine system; refer to [Conditioning the System \(page 15\)](#).
3. Clean the salt hopper; refer to [Cleaning the Salt Hopper \(page 15\)](#).
4. Clean the tank; refer to [Cleaning the Tank \(page 15\)](#).
5. Dispose of sediment or debris; recycle it according to local regulations.
6. Check and tighten all fasteners. Repair or replace any part that is damaged or missing.

### Removing the Machine from Storage

1. Check all fasteners; tighten as necessary.
2. Check that the hoses are installed.
3. Fill the brine tank with 25 gallons of water.
4. Plug the pump into the electrical outlet.
5. Turn the pump switch on.
6. Check the hoses and valves for cracks or leaks.
7. Check the app is operating on your phone.



# Troubleshooting

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
The pump does not prime.	<ol style="list-style-type: none"><li>1. The brine-tank bottom valve is closed.</li><li>2. A hose is cracked or leaks.</li><li>3. The filter is clogged.</li><li>4. The filter O-ring is damaged or missing.</li></ol>	<ol style="list-style-type: none"><li>1. Open the bottom valve.</li><li>2. Repair or replace any part that is damaged or missing.</li><li>3. Clean the filter.</li><li>4. Replace the O-ring.</li></ol>
The salinity reader stalls or does not show a value.	<ol style="list-style-type: none"><li>1. The eductor nozzle is clogged.</li><li>2. The sensor has debris on it.</li></ol>	<ol style="list-style-type: none"><li>1. Clean the eductor nozzle.</li><li>2. Remove and clean the sensor.</li></ol>
The salinity reader stalls or does not show a value.	<ol style="list-style-type: none"><li>1. The eductor nozzle is clogged.</li><li>2. The sensor has debris on it.</li></ol>	<ol style="list-style-type: none"><li>1. Clean the eductor nozzle.</li><li>2. Remove and clean the sensor.</li></ol>

**Notes:**

**Notes:**

# California Proposition 65 Warning Information

## What is this warning?

You may see a product for sale that has a warning label like the following:



**WARNING: Cancer and Reproductive Harm—[www.p65Warnings.ca.gov](http://www.p65Warnings.ca.gov).**

## What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to <https://oag.ca.gov/prop65/faqs-view-all>.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

## Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

## How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

## Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

## Why do we include this warning?

Our company has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. We provide warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from our products may be negligible or well within the "no significant risk" range, out of an abundance of caution, we have elected to provide the Prop 65 warnings. Moreover, if we do not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.