Floë 868 Induratec Integrated 115V AC Water Drainage System

Installation and Owner's Manual

(For Aftermarket Applications)

Floë Water Drain Kit	
Part #	**Description**
809128	Model 868 115V AC water drainage system

Table of Contents

Introduction

Floë is a water drainage device that will remove residual water trapped in water supply systems in RVs and homes. This will prevent the pipes from freezing in the winter and also flush out stale water in the summer. Additionally, it will remove dirt and lime scale from water heaters.

Additional information about this product can be obtained from lci1.com/support or by using the LippertNOW app. Replacement kits can be ordered from https://store.lci1.com/ or by using the LippertNOW app.

The LippertNOW app is available for free on Apple App Store® for iPhone® and iPad® and also on Google Play™ for Android™ users.

App Store® and iPad® are registered trademarks of Apple Inc.

Google Play™ and Android™ are trademarks of Google Inc.

Floë 838 Integrated Water Drainage System

Installation and Owner's Manual

(For Aftermarket Applications)

Safety

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions.

This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the LCI limited warranty.

⚠ WARNING

THE "WARNING" SYMBOL ABOVE IS A SIGN AN INSTALLATION PROCEDURE HAS A SAFETY RISK AND MAY CAUSE DEATH, SERIOUS PERSONAL INJURY OR SEVERE PRODUCT AND/OR PROPERTY DAMAGE IF NOT PERFORMED SAFELY WITHIN THE PARAMETERS SET FORTH IN THIS MANUAL.

⚠ CAUTION

THE "CAUTION" SYMBOL ABOVE IS A SIGN THAT A PROCEDURE HAS A RISK INVOLVED THAT MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE IF NOT PERFORMED SAFELY AND WITHIN THE PARAMETERS SET FORTH WITHIN THIS MANUAL.

Resources Required

- Phillips head screwdriver
- Pipe cutter, garden shears or craft scissors
- Snips or hacksaw blade
- Awl or punch to mark holes for screws
- Drill and ½" drill bit (Optional)

NOTE: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

Parts Lists

Model 868	
Description	**Qty**
Floë Induratec 868	1
Air line, 13'	1
CTS one-way single valve tee, 1/2"	1
CTS one-way double valve tee, 1/2" (Optional)	1
CTS barbed connectors, 1/2"	2
Hose clamps	2
Anti-splash cloth	1
Shutoff fitting, 3/8"	1
Right angle fitting, 3/8"	1
Barbed connector, 3/8"	1
Anti-vibration washers	4
Pan head screws	4
White retainer washers	4
Black screw caps	4
Cable tie	1

Installation of Model 868

Preparation

NOTE: When cutting the main water line and air lines, use thumb and forefinger to round the ends. Wet ends with damp cloth before inserting air line into connector. This ensures they are smoothly fitted and do not drag on any internal "O" rings inside connectors.

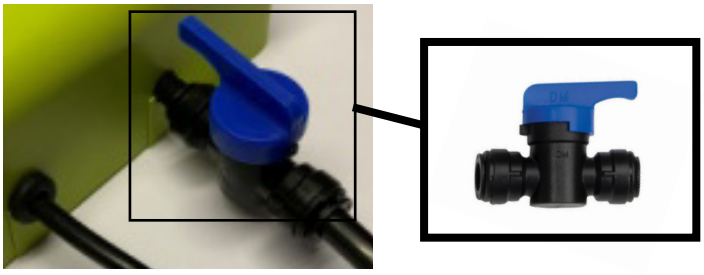

Fig.1

1. Insert end of the shutoff valve onto air line stump, with the tail of the shutoff valve pointed toward Floë **(Fig.1)**.

2. The shutoff valve is a second safety valve and should be used as a backup to the first one-way safety valve built into the tee.

3. If the air line needs to be installed horizontally to avoid kinking, fit the elbow joint **(Fig.2)** onto the air line stump on the Floë box.

Fig.2

4. Then cut 2" off the air line to fit onto the end of the elbow and then onto one end of the shutoff valve. **(Fig.3)**.

Fig.3

NOTE: The longer air line will be connected to the shutoff valve after the box is installed on the wall.

Attach Box to Wall

1. Locate a secure surface for installing the Floë box near an AC outlet and also with access to the water main's shutoff valve, either beside or near the unit.

NOTE: The On/Off button on top must be accessible.

NOTE: Toggle bolts or, if necessary, dry wall rawl plugs can be used if installing the Floë box on drywall.

NOTE: It is not recommended to install the Floë unit on an outside wall since it could create bumps on the outside finish of RVs.

NOTE: Floë should be installed upright, not flat. Try to use a corner, door jamb or cupboard to keep Floë straight and level.

2. Use an awl or punch to make indentations to start the screws, beginning with the screws on the bottom of the box.

3. Install white retainer washers on the screws and insert screws through holes in the box tabs **(Fig.4)**.

4. Then place anti-vibration washers on screws **(Fig.4)** and fasten the box to the wall. Leave box loose to allow for vertical adjustment.

5. Insert the top screws and washers into the tabs on the Floë box and, after making final adjustments, attach box to the wall.

6. Tighten screws until the white retainer washers can no longer move. Do not overtighten since that could crack the green box tab.

7. Snap on black caps over the retainers on the screws.

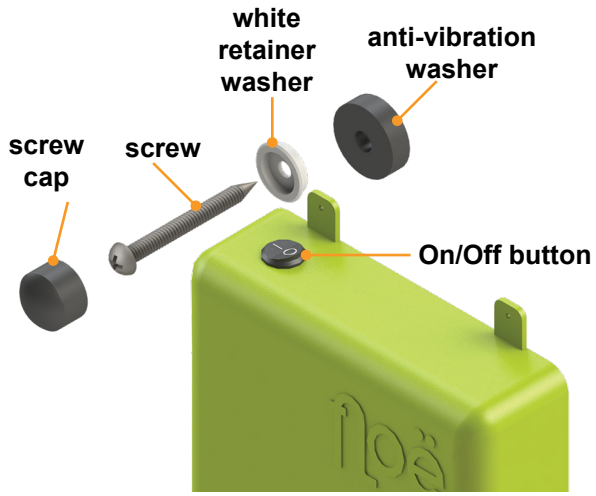

Fig.4

Connect Tee Fitting, Hoses

NOTE: Floë 115V AC Model 868 is normally used for static-built properties. However, it can also be used on moving vehicles and boats which, when stationary, are connected to an AC supply The application will dictate which tee to use, either Fig.5 or Fig.6. If using Floë 868 on moving vehicles, consult the fitting instructions for Floë 636 which is normally used with 12V DC vehicles and boats.

(Fig.5) The CTS ½" one-way single valve tee with equal length ends is for use with homes, model homes and any other property with a main water supply. It is to be fit as close to the main's water top valve to aid draining the entire system. See Operation section.

(Fig.6) The CTS ½" one-way double valve tee with one short and one long end is for use with RVs and boats where an onboard fresh water storage tank and an electric pump is used. Fit tee with long end point toward the water tank and the short end toward the filter and pump. See fitting instructions for Floë Model 636.

Fig.5

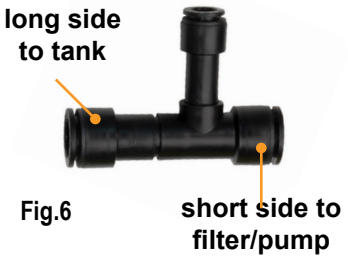

Fig.6

1. Locate water line entering the home.

NOTE: If the main's water line is under the floor, either drill a hole in the floor directly under Floë using a ½" drill bit or locate a vent through which an air line can be fed. Use snips or a hacksaw blade to cut an access hole in a vent.

2. Turn off the water pump, if installed, and water supply shutoff valve.

3. Using pipe cutters or shears, cut through water line near the water shutoff valve.

NOTE: Use a cloth to mop up excess water from the cut water line.

NOTE: Make sure the ends of pipe are perfectly rounded. If adjustment is needed, cover the ends with a cloth and use pliers to round the ends.

4. Slide both ends of the pipe firmly into the ½" tee, utilizing the tee's push-fit connections **(Fig.5)**.

NOTE: If larger or smaller pipes are used, adapters can be purchased from hardware stores.

NOTE: If flexible hose is used for the main's water, utilize the ½" CTS barbed connectors and hose clamps to create connections for the tee. See Figures 10 and 11.

5. Measure the distance to connect the air line shutoff valve on the Floë unit to the tee installed on the water line.

6. Cut air line to length, leaving at least an extra half inch to an inch of air line to slide into the connectors.

7. Connect air line to both the shutoff valve and to the top of the tee fitting **(Fig.5)**.

Connect to Power Supply

1. Plug in Floë to an outlet.

2. Use cable tie to hold together excess cord.

NOTE: If the cord does not reach an outlet, an extension cord may be used.

Test For Air Leaks

At this point Floë has been dry fit. It is worth testing that all joints leading up to the main water line are fitted correctly without air leaks. Locate the main water line tee and remove the barbed connector from the short end of the tee leading to the faucets, NOT the water tank long end. The barbed connector is removed by pulling back on the collar of the tee that holds the barbs in place.

Place a finger into the tee to seal this end and switch on Floë. Floë should be tricked into stopping at 15 psi. If Floë stops, then the joints leading to the water system are fine. If Floë doesn't stop, then remove, wet and reseat the air line into the connectors leading back to Floë. It is essential there is a good seal on the open end of the tee to allow this test to work.

Operation

⚠ CAUTION

MODEL 868: DO NOT CARRY OUT A DRAINDOWN WITHOUT TURNING OFF THE WATER MAIN'S SHUTOFF VALVE.

⚠ CAUTION

DO NOT CARRY OUT MORE THAN ONE COMPLETE DRAINDOWN WITHOUT LETTING THE FLOË SYSTEM REST FOR 30 MINUTES.

⚠ CAUTION

DO NOT PRESSURIZE THE SYSTEM FOR MORE THAN ONE MINUTE WITHOUT RELEASING WATER OR AIR.

⚠ CAUTION

DO NOT SWITCH OFF FLOË WITHOUT ALSO TURNING OFF THE BLUE SHUTOFF VALVE AFTERWARD.

⚠ CAUTION

DO NOT DISCONNECT THE SYSTEM WITHOUT INSTRUCTION FROM THE MANUFACTURER AND DO NOT USE THE SYSTEM FOR ANYTHING OTHER THAN THE INTENDED USE.

Two complete draindowns are recommended initially to identify any individual outlets that may require draining a second time. Different homes and vehicles have different layouts, so a second draindown will determine which outlets to return to, if any.

A complete draindown is removal of water in all outlets. For instance, if there are 10 water outlets, draining all 10 would be considered a complete draindown.

Draining one or two additional outlets a second time is acceptable during the first draindown. However, do not complete a second complete draindown without first switching off the Floë unit and letting it cool down for 30 minutes.

General Guidelines for Model 868

It is advisable to drain vacation property after most trips in order to maintain a clean fresh water system while also offering frost protection in the winter.

Draining once a year (when convenient) and then immediately reintroducing water will flush the sediment out of the water heater, cleansing it and extending the life of the heat exchanger.

Floë works on a sealed system to build up the air pressure to 15 psi. Should there be air leaks, Floë will not be able to build up pressure and it will prevent a draindown.

A typical draindown occurs when:

- Floë is properly connected;
- the blue shutoff valve is in the open position;
- the water is turned off at the main;
- water heaters have been manually drained and closed again;
- all faucets and outlets are closed;
- the toilets have not been flushed;
- and the garden irrigation faucet, bib or manifold is closed, if present.

When Floë is switched on, the motor should only run for two to three seconds before reaching 15 psi and shutting off. This is because the system is full of water and there is little space in which to push air. If a water heater is connected, the time will be increased by about 60 seconds.

This time will increase after draining the first faucet, since the water has been drained through the network of pipes and out the first faucet. Floë will then take an additional 30 to 45 seconds to build up pressure for each faucet or outlet as the system empties. Floë will slow down when the pressure is being met.

Model 868 operation

1. Turn off water supply shutoff valve and make sure all taps and water outlets are closed and the water heater has been manually drained and closed again. Do not yet flush toilets.

NOTE: The full toilets are important to sealing the system. Until familiarized with Floë, it is advisable to isolate the toilets by switching off the valve leading to the toilets. Then it can be drained by following the instructions below.

2. Open the blue shutoff valve under Floë and switch on the Floë unit to push compressed air into the system. Once 15 psi is reached, the motor will stop. This takes one to two seconds. If a water heater is present, the time will be increased to about 60 seconds since it will also be filled with compressed air.

NOTE: If it takes longer than two to three minutes for the motor to stop, switch off Floë and consult the Troubleshooting section.

3. Go to any faucet and open it. The compressed air will push out the water until only air remains. Floë will automatically restart to help push out any remaining water.

4. Once drained and only spray remains, close the faucet.

5. When 15 psi of pressure has been reached again, Floë's motor will stop. This will take about 30 seconds for every outlet.

6. Repeat steps 3 and 4 for all remaining hot and cold faucets inside and outside, showers, toilets, washing machines and dishwashers.

A. To drain the water in the pipe leading to the toilet while Floë is operational, turn on the isolation valve, lift off the toilet tank lid and push the float down to release the water.

NOTE: The float is more difficult to locate on modern toilets, so, before carrying out a draindown and while the water is still turned on, lift the tank lid and flush the toilets. Then look for the float dropping when the water is being flushed.

B. To drain a washing machine while Floë is operational, wait until the pressure has built up, close the machine door and turn the washing machine to a wash cycle. Then press start. Normally the solenoid valve will be heard opening inside along with water gushing into the machine to fill it. The same will happen here, but as the water is turned off at the main stop valve (or pump switched off in the case of an RV), the water to the machine will be limited. As other items have been draining, the only water will probably be in the pipe leading to and including the hose to the machine. The gush of water will occur but only for a second or two, and then the air following behind it will be heard. This means that the pipe, hose and, most importantly, the solenoid valve will have been cleared of water. Once this happens, switch off the machine, wait for a minute until the door unlocks and then open it to allow fresh air to circulate. Remember, don't wait for the machine to finish its full cycle. Keep washer on until air is heard coming through, then switch it off. On stopping the machine and killing the power to it, the solenoid valve should return to its natural state of closed, which will seal the system again to allow Floë to build up in pressure for more outlets.

NOTE: To see a washing machine drained, go to this link and click on the washing machines tab to view a video: https://keepfloeing.com/product/static-lodge/floe-automated-induratec-868-240v-drainage-system/

C. The dishwasher acts in the same way as the washing machine only there is usually only one setting for wash. Close the door, set it to wash and then press start. The same will happen. After draining and air flow is heard, switch off immediately and then leave door open.

D. Refrigerators that have ice makers usually have cold water outlets. In this instance, water is generally drained from the pipe leading up to the unit and the mechanism inside the unit. Once the water outlet is drained by drawing a glass of water, the water leading up the fridge is drained. As for the ice maker, it can be left to make more ice. But it will run out of water eventually as the water has been cleared from the entire system and it would only have enough water left to make one more ice cube. Leave this unit until the end of the draindown, as the water valve coming out to make ice may not have an auto shutoff valve. This can be confirmed if draining the fridge with Floë and Floë does not stop.

E. Once all outlets have been drained, switch off Floë and close the blue shutoff valve.

NOTE: It is recommended that when winterizing a unit, put a cup of antifreeze into the toilet tank after flushing. Also, add antifreeze to all sink/shower drains. Wipe off excess to avoid staining the chrome.

Drain Irrigation Systems

Draining an irrigation system is similar to draining an outside faucet and can be completed without draining the entire house.

The example depicts a multi-zone system, typical for larger gardens **(Fig.14)**. A four-port manifold for four zones is shown. However, some gardens may have just one outlet or a simple split, and water would flow from one sprinkler head connected to the single feed.

1. Turn off all faucets, water outlets and irrigation systems to seal the entire system. Do NOT flush the toilets.

2. Turn off the main water supply shutoff valve.

3. Switch on Floë. The compressor starts to build pressure to 15 psi and stops.

4. Open the water bib at the irrigation system junction.

A. If it is a single outlet irrigation system, open the switch, the water is pushed out the sprinkler and the job is complete.

B. For a manifold system, water is pressurized to the beginning of the zones.

5. Open zone 1 switch **(Fig.14)** on the manifold.

6. Water is pushed out at the sprinkler head of zone 1 **(Fig.14)**.

7. Turn off zone 1 **(Fig.14)**.

8. Repeat steps 5 to 7 for the rest of the zones until the entire system is drained.

9. Switch off Floë.

Home/Model Home Water System Diagram

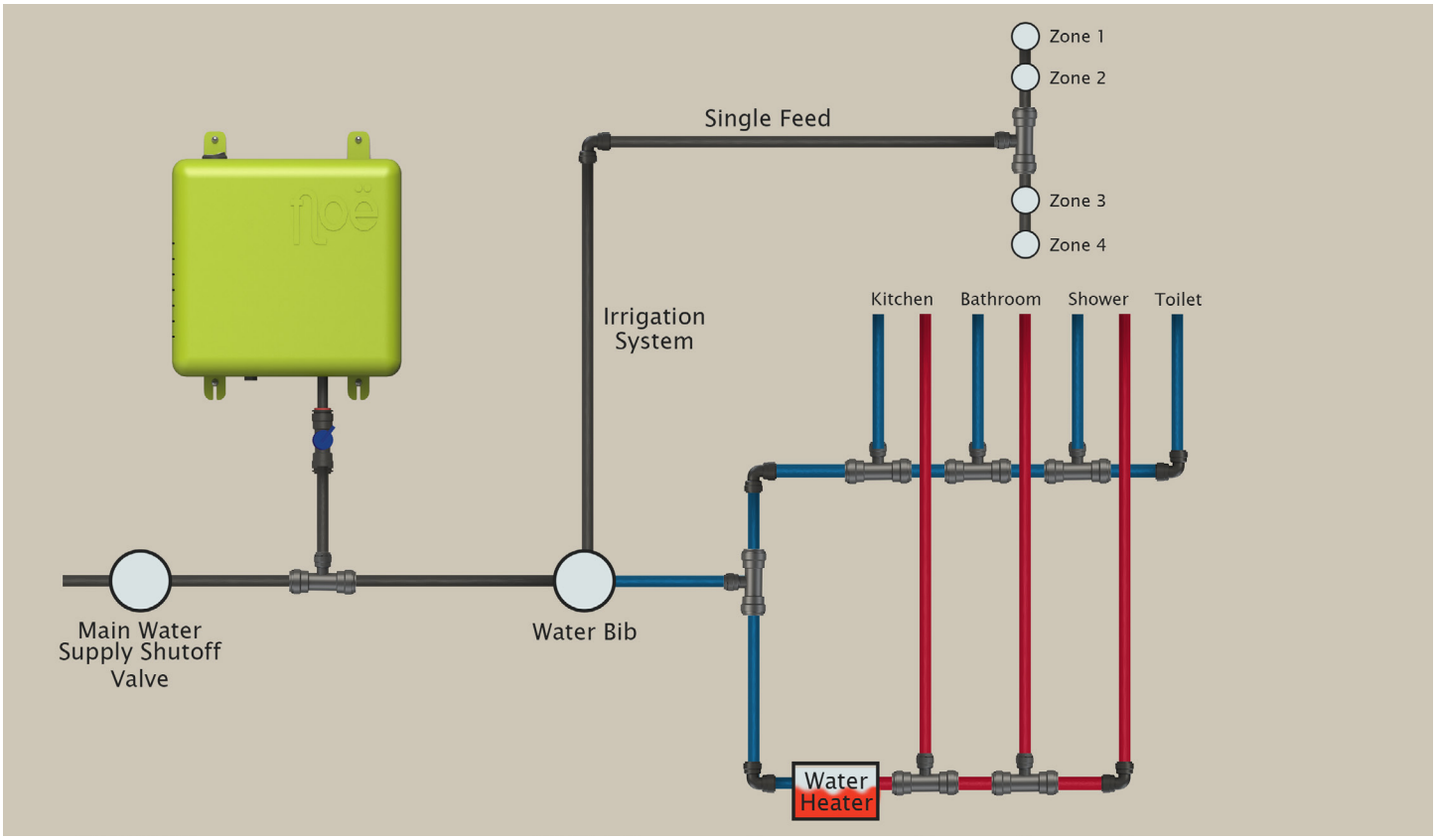

Fig.7

Troubleshooting

Model 868		
What is happening?	**Why?**	**What should be done?**
Floë runs beyond two to three minutes.	Air leak from toilet.	Switch off Floë, make sure faucets and outlets closed, make sure toilets have not been flushed. Listen to toilet tank for escaping air. Turn water supply valve by toilet tank to horizontal position to turn off water. Switch on Floë and, if motor stops, the system is pressurized.
Floë does not stop or starts and stops continually.	Malfunction or air leaking from one of the connections.	Remove the push-fit connection directly under Floë. Switch on Floë and hold thumb on stump of air line pipe extending out the bottom. If Floë doesn't stop when thumb is over pipe, there may be a malfunction. Contact customer service.
		If Floë starts and stops normally with a thumb held on and then removed from the air line, the system is OK. Rejoin the connector. Work farther downstream to determine the leak, including disconnecting the blue shutoff valve and holding a thumb over the end of the air line. Remove the black air line from the tee fitting and check for leaks using a thumb over the air line to ensure connections are sealed.
		If the barbed connectors are used with hose water lines, make sure they are seated correctly and check to make sure the hose clamps are tight. Also, remove water line from tee fitting and check that the ends of the pipes are round and not oval shaped.
		Leaks can also be determined by applying soapy water to the joints and watching for bubbles.

Manual information may be distributed as a complete document only, unless Lippert provides explicit consent to distribute individual parts.

All manual information is subject to change without notice. Revised editions will be available for free download at lippert.com. Manual information is considered factual until made obsolete by a revised version.

Please recycle all obsolete materials and contact Lippert with concerns or questions.

This manual is provided courtesy of

RV Tech Cheat Sheet

Professional resources for the whole RV industry — free.

We put manuals, wiring diagrams and hard-won tech knowledge in every technician's hands, so repairs get done right the first time, techs work faster, and RV owners everywhere get better service.

rvtechcheatsheet.com/manuals

Find thousands more RV manuals, wiring diagrams and parts lists

RV techs: share fixes, ask questions and learn from each other.

Join our free Facebook group →

Follow proper safety practices. If in doubt, consult a professional RV technician.