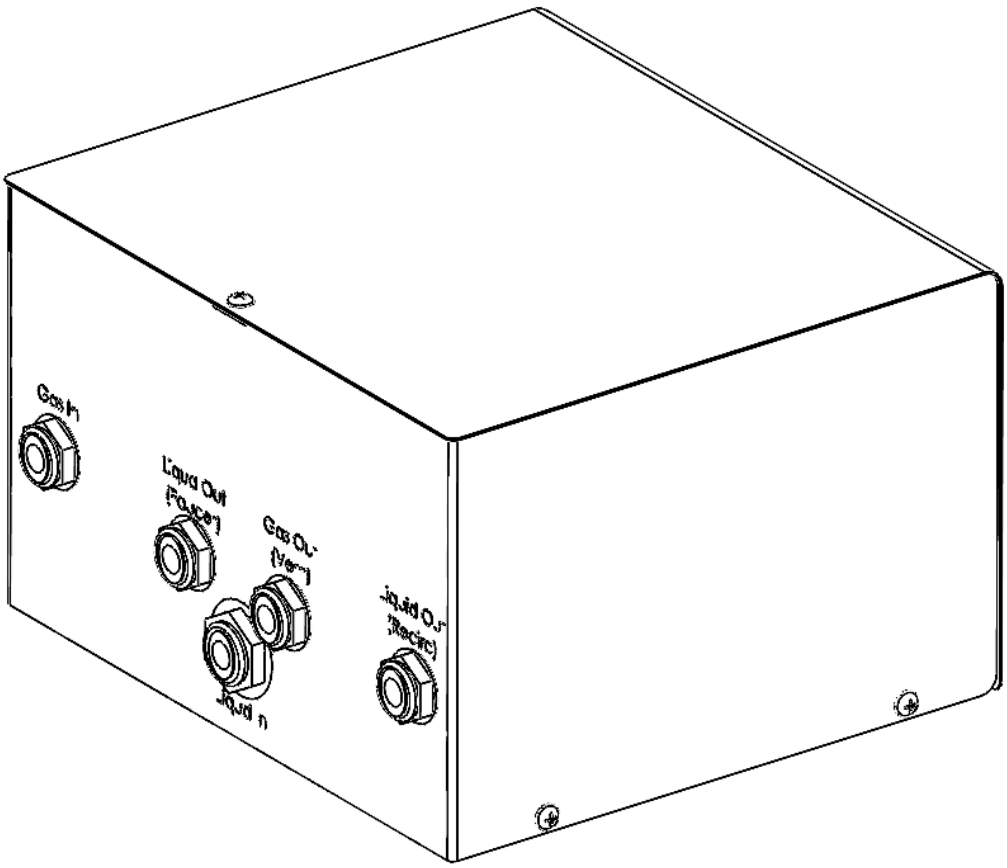
AC Beverage Recirculation Kit (RK-1)

Installation & Operation Manual



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Safety & Procedural Notices

Correct use of the Recirculation Kit is important for your personal safety and for trouble-free use. Incorrect use can cause damage to the Recirculation Kit and shorten the lifespan of the components, or in rare cases, cause personal injury or asphyxiation/death.

All personnel involved with installation, operations, and maintenance of the Recirculation Kit models must follow safe working practices, OSHA, and local health/safety code regulations during the installation, operation, and maintenance of the unit.

This manual must be read in its entirety prior to installing and operating the Recirculation Kit to prevent damage to the equipment or personal injury. Contact your service technician or supplier if you detect a problem that you cannot solve with this manual. Only use the Recirculation Kit in accordance with its designed purpose. Only service technicians that are qualified to work on beverage, electric and pneumatic equipment are permitted to perform the installation, maintenance, and repairs. Do not tamper or experiment with the equipment or exceed the technical specifications.

Receiving & Inspecting

Upon receipt of your Recirculation Kit, check the package(s) and unit(s) for any damage that may have occurred during transportation. Visually inspect the exterior of the package(s). If damaged, open and inspect the contents and report with the carrier and shipper/supplier. Any damage should be noted and reported on the delivering carrier's receipt.

If the packaging is not damaged, yet upon opening, there is concealed damage to the equipment, take pictures and notify the carrier and the shipper/supplier immediately. Notification should be made verbally as well as in written form. Request an inspection by the shipping company of the damaged equipment. Retain all packaging material until inspection has been made.

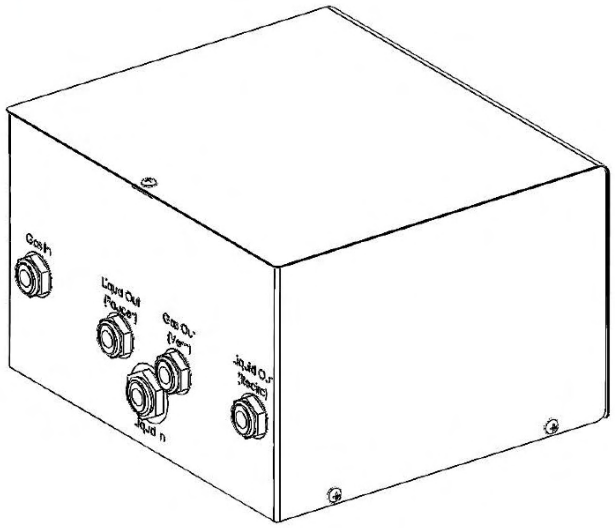
What's Included?

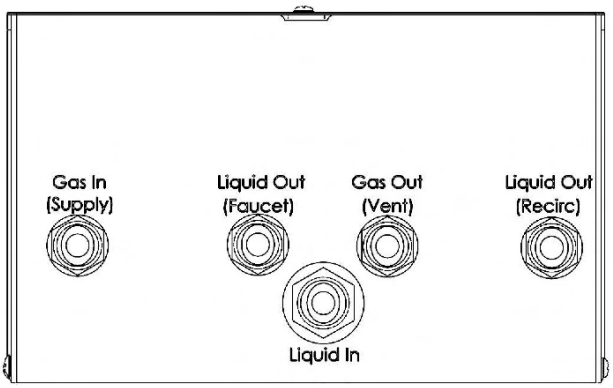
- (1) AC Beverage Recirculation Kit
- (1) French Cleat Mounting Bracket w/ Hardware
- (1) 1/2" stem x 1/2" barb adapter (for liquid inlet connection)
- (1) 1/2" stem x 3/8" barb adapter (alternative liquid inlet connection)
- (4) 3/8" stem x 3/8" barb adapter (for liquid outlet &/or gas inlet connections)
- (4) 3/8" stem x 1/4" barb adapter (for liquid outlet &/or gas inlet connections)

Specifications

AC RECIRCULATION KIT

DATA SHEET





Electrical	(2) AA Batteries (1.5 volts) - No Outlet Required
Dimensions	9.09" L x 9.7" W x 6.04" D
Weight	10 lbs
Gas Inlet Pressure Range	20 psi - 90 psi (N2, CO2 or Compressed Dry Filtered Air)
Liquid Inlet Pressure Range	0 psi - 30 psi
Temperature Range	33F - 120F
Inlet Connections	1/2" Female Push-Connect (Liquid) & 3/8" Female Push-Connect (Gas)
Outlet Connections	(3) 3/8" OD Female Push-Connect
Flow Rate	6.0 oz/sec - Open Flow

Installation

Note: Only service technicians that are qualified to work on beverage, electric and pneumatic equipment are permitted to perform the installation, maintenance, and repairs.

Storage

Store Recirculation Kits in a dry and climate controlled (40-95°F) room.

Always keep Recirculation Kits in box as shipped until arriving at installation location.

Do not insert batteries or turn on the gas supply until this manual has been read completely and all connections are made as stated within this manual.

Never place/stack objects on top of the Recirculation Kit.

Location Requirements

The Recirculation Kit should be mounted to a wall using the included French Cleat hardware.

The Recirculation Kit should be installed indoors, in an environment between 33F and 95F, in an upright position where it will not be damaged by moving equipment, kegs, keg racks, etc. Leave at least 1” of clearance on the top side and at least 2” of clearance on the bottom side.

Mounting

The Recirculation Kit should be wall-mounted using the included French Cleat & hardware.

Note: Use the best general practices to ensure the wall will support the system at its full weight.

Making Connections

The system is equipped with 1/2” and 3/8” female push-to-connect bulkhead fittings for all inlet and outlet connections. Ensure all ports have been connected before system startup.

WARNING: If installed in a non-ventilated area - one that is sealed off from normal living space air changes - it is mandatory that a tube is connected to the vent port and redirected outdoors or to a well-ventilated area (one that is not sealed off from normal living space air changes).

Note: Push-to connect locking clips are recommended to secure connections once tested to be leak free.

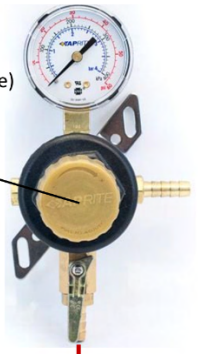
Schematics

AC-BUCKET

Regulator(s) NOT included with Recirculation Kit

1371 — Secondary Regulator

(controls recirculation & liquid outlet pressure)

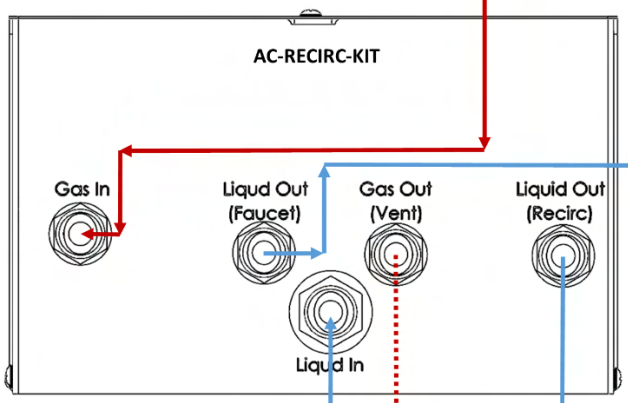


GAS SUPPLY

NOTICE: AC-BUCKET is designed for use with non-carbonated beverages and does not support gas pressure.

650SS

(flow control faucet)



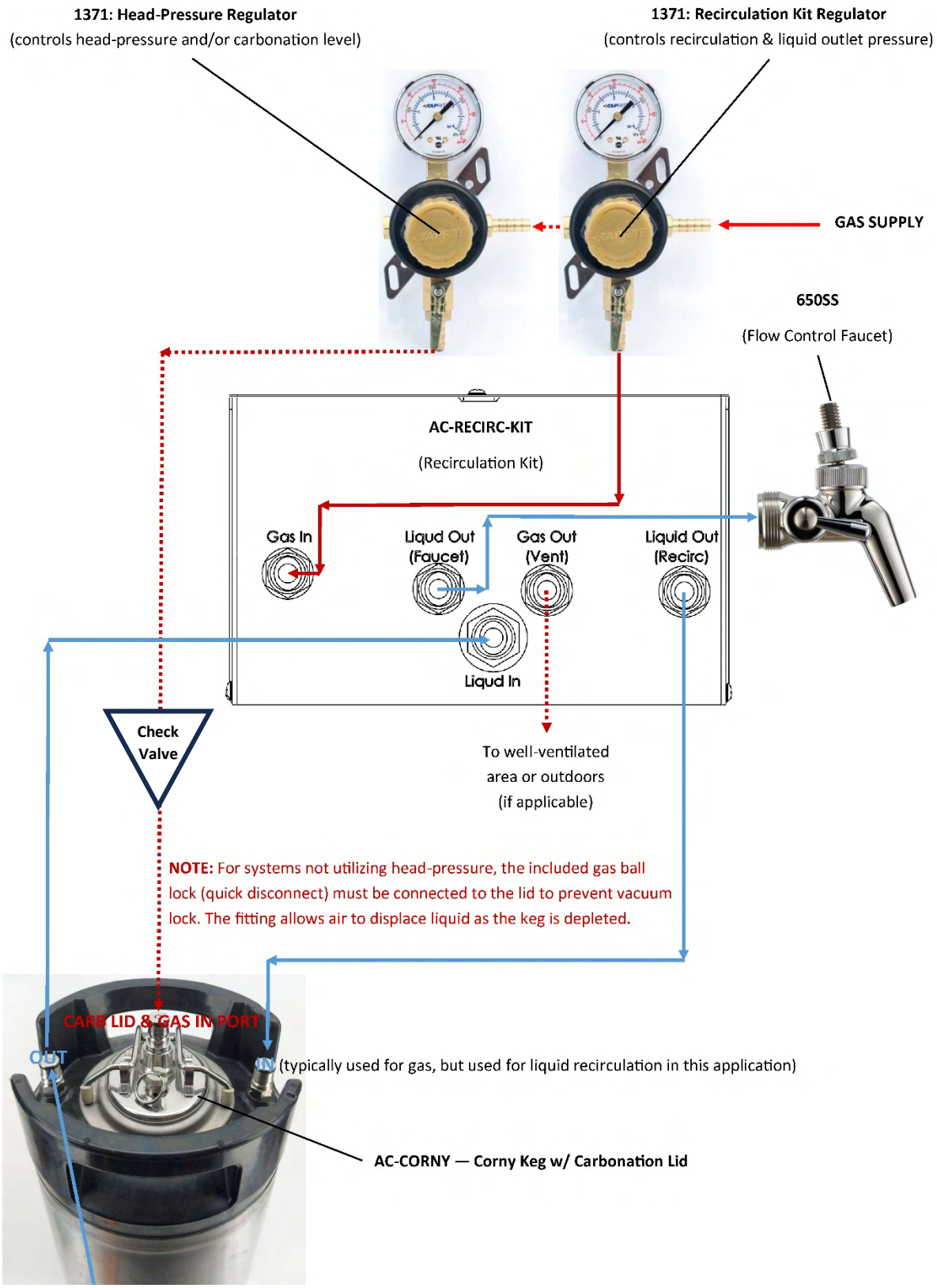
To well-ventilated area or outdoors (if applicable)

AC-BUCKET

(clear container with wide opening allows for easy cleaning and liquid levels at a glance)

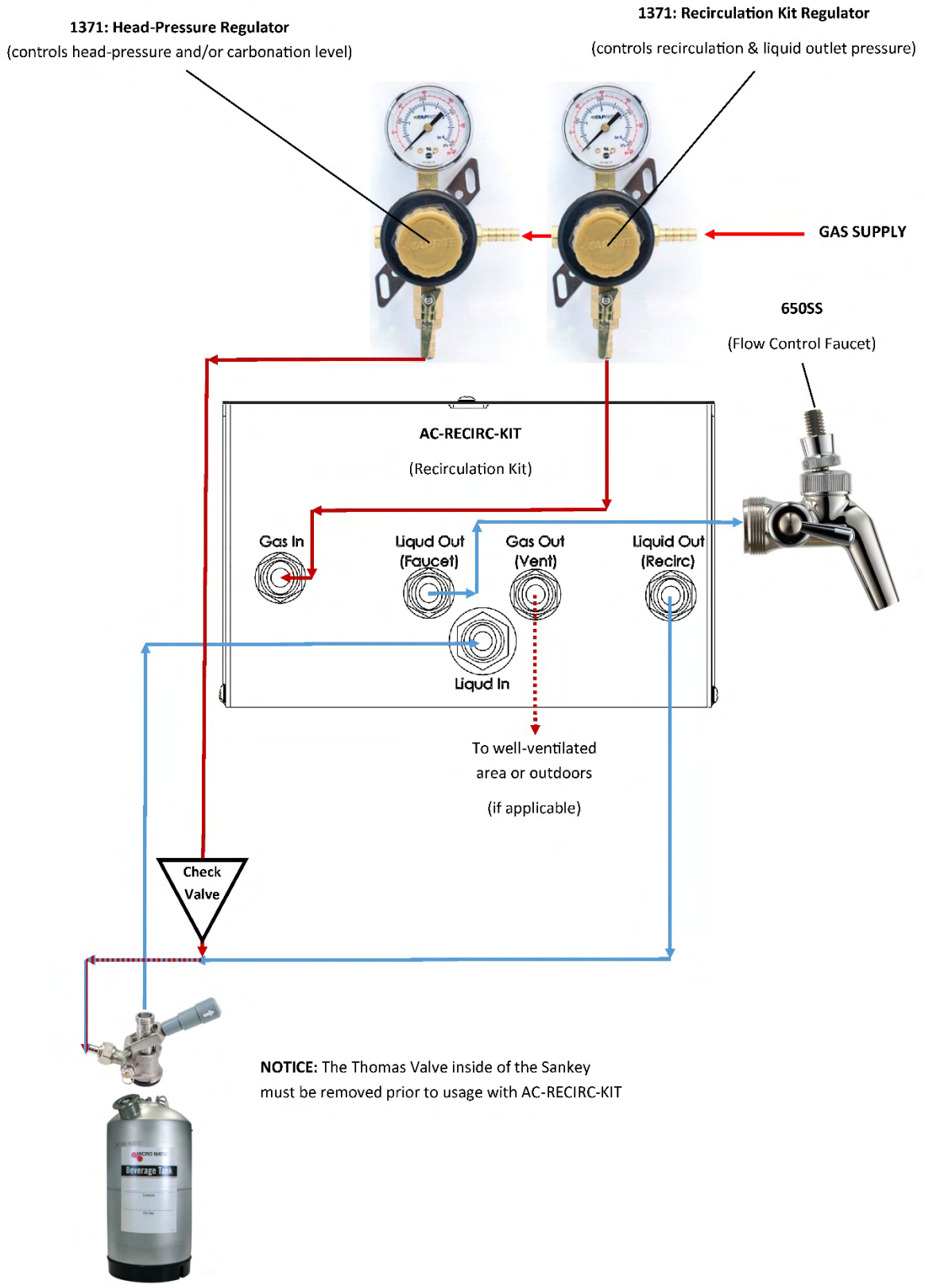
AC-CORNY

Regulator(s) NOT included with Recirculation Kit



AC-SANKEY

Regulator(s) NOT included with Recirculation Kit



NOTICE: The Thomas Valve inside of the Sankey must be removed prior to usage with AC-RECIRC-KIT

Startup Procedure

Before proceeding, confirm location requirements have been met, the system is properly mounted, all connections have been made properly, and Gas Out (vent) has been plumbed (if applicable). Turn the gas supply feeding the Recirculation Kit ON. Open the faucet to prime the pumps and begin pouring. If using FOBs, ensure the sight glass is full of liquid and that the float has risen to the top. Finally, download the B-HYVE app, pair your phone to the device, and ensure it is set to the current local time. See instructions/image below for more information on pairing to the B-HYVE, button operation, etc.

Daily Operation

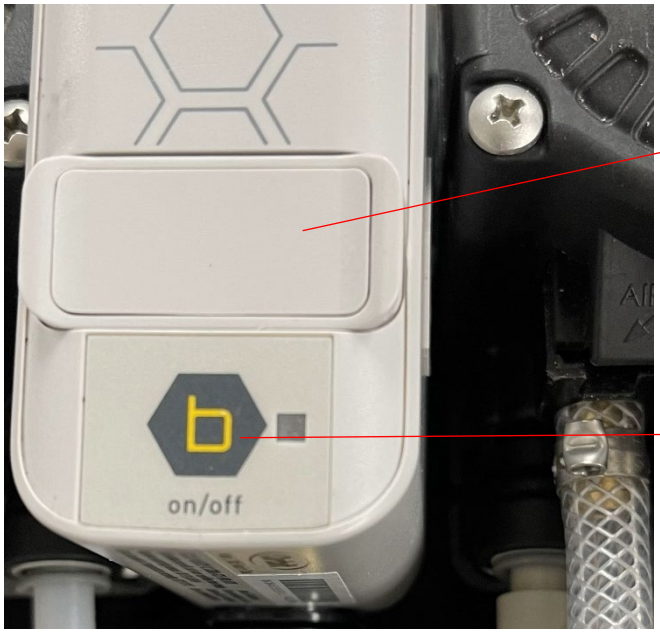
The recirculation kit was designed for hands-free operation. Simply keep an eye on gas and liquid levels to maintain interruption free service.

Using the B-HYVE app, you can control when the system recirculates/mixes (up to 16 times/day) and manually override at any time (via the app or the "B" button inside) to mix if necessary. Hold the button labeled "B" (inside the enclosure) for 5 seconds to force mixing indefinitely. Press the button again to stop mixing and resume normal scheduled mixings.

The system does not need to be turned off. Create a schedule that matches restaurant hours to minimize gas consumption and ensure product is mixed when it matters.

By default, the system will mix for one minute, every other hour, for a total of 12 mixes/cycles per day.

Note: The BHYVE app can be downloaded from the App Store or Play Store and can be used to customize the mixing schedule. In the app, "watering schedule" can be viewed as "mixing schedule."



Removable battery tray

(2) AA batteries.

Change annually or as needed (monitor battery life via the app)

Button Operation:

Press once to enter pairing mode (blue light will flash)

Hold for 5 seconds to force mixing indefinitely.
Press again to stop mixing & resume scheduled mixings

Press 5 times quickly to reset paired devices & schedule

If you remove or change the batteries, you will need to reconnect to Bluetooth® for an accurate date/time.

In Place Line Cleaning Procedure (at least monthly)

⚠WARNING

When using cleaning fluids or chemicals, rubber gloves and eye protection should be worn.

The Recirculation Kit, like all beverage equipment, must be maintained and cleaned to ensure optimal performance, taste, and interruption free service. The lines can be cleaned using similar practices as draft beer or soda line cleaning, however, there are a few caveats that must be taken into consideration.

1. YOU MUST have the recirculation function engaged while the cleaning solution is connected to ensure the LIQUID OUT (recirc) tube/pump is filled with cleaning solution.
2. YOU MUST have the recirculation function engaged again once the rinse water has been attached to ensure the cleaning solution has been fully removed from the LIQUID OUT (recirc) tube/pump.
3. YOU MUST use two buckets/kegs during cleaning and rinsing stages to avoid product being pumped into the cleaner keg/bucket and cleaner pumped into the rinse water keg/bucket.
4. DO NOT attempt to backflush or force liquid backwards through tubes/lines.
5. DO NOT exceed 30 psi of liquid inlet pressure.
6. DO NOT exceed 120F liquid inlet temperatures.

WARNING: Always refer to manufacturers' instructions when preparing solution and cleaning beverage lines.

WARNING: Only service technicians that are qualified to work on beverage equipment are permitted to perform in place line cleanings on the Recirculation Kit.

WARNING: Failure to follow cleaning instructions and/or rinse the lines thoroughly can result in serious injury or death, especially if cleaning solution is consumed, even in small amounts.

What's Required?

1. Potable water
2. Rubber gloves
3. Protective eyewear
4. Approved cleaning solution (contact AC Beverage to determine compatibility)
5. Sink (to dump excess product, cleaning solution & water)
6. Clear container w/ measurement graduations (must fit under faucet)
7. (1) Clean, empty corny keg/bucket (for cleaning solution)
8. (1) Clean, empty corny keg/bucket (for potable rinse water)
9. (1) Empty corny keg/bucket (for discharge during cleaning/rinsing from LIQUID OUT (recirc) tube/pump)
10. Formal training on draft beverage system cleaning, maintenance, and service.

Line Cleaning Procedure (Example)

PREPARE

1. Disconnect the LIQUID IN tube from the keg/bucket containing product.
2. Hold the button labeled “B” (inside of the enclosure) for 5 seconds to enter constant recirculation mode. Allow it to pump for at least 5 seconds. Press the button label “B” to stop the constant recirculation.
    a. Pumps residual product in the LIQUID OUT (recirc) tube/pump back to the keg/bucket.
3. Disconnect the LIQUID OUT (recirc) tube from the keg/bucket.
    a. Product keg/bucket is now completely disconnected.

CLEAN

WARNING
When using cleaning fluids or chemicals, rubber gloves and eye protection should be worn.

4. Prepare two empty kegs/buckets, at least one of which needs to be clean.
5. Fill the clean one with appropriate amount of cleaning solution. Leave the second one empty. If the empty vessel is a corny keg, remove the lid now so liquid levels can be monitored as filled.
    a. The volume of solution prepared should be at least 4X the liquid contained in the system and its respective tubes.
6. Attach the LIQUID IN tube to the keg/bucket containing the cleaning solution.
7. Attach the LIQUID OUT tube to the empty keg/bucket.
8. Open the faucet until half of the cleaning solution is dispensed.
9. Hold the button labeled “B” (inside of the enclosure) for 5 seconds to enter constant recirculation mode. Allow it to pump for at least 30 seconds. Press the button label “B” to stop the constant recirculation.
    a. Pumps solution through LIQUID OUT (recirc) tube/pump and into the empty keg/bucket.
10. After allowing 10 minutes to soak, open the faucet and dispense the remaining cleaning solution.
11. Disconnect the LIQUID IN tube from the cleaning keg that contained cleaning solution originally.
12. Disconnect the LIQUID OUT (recirc) tube from the other keg/bucket that was once empty.

RINSE

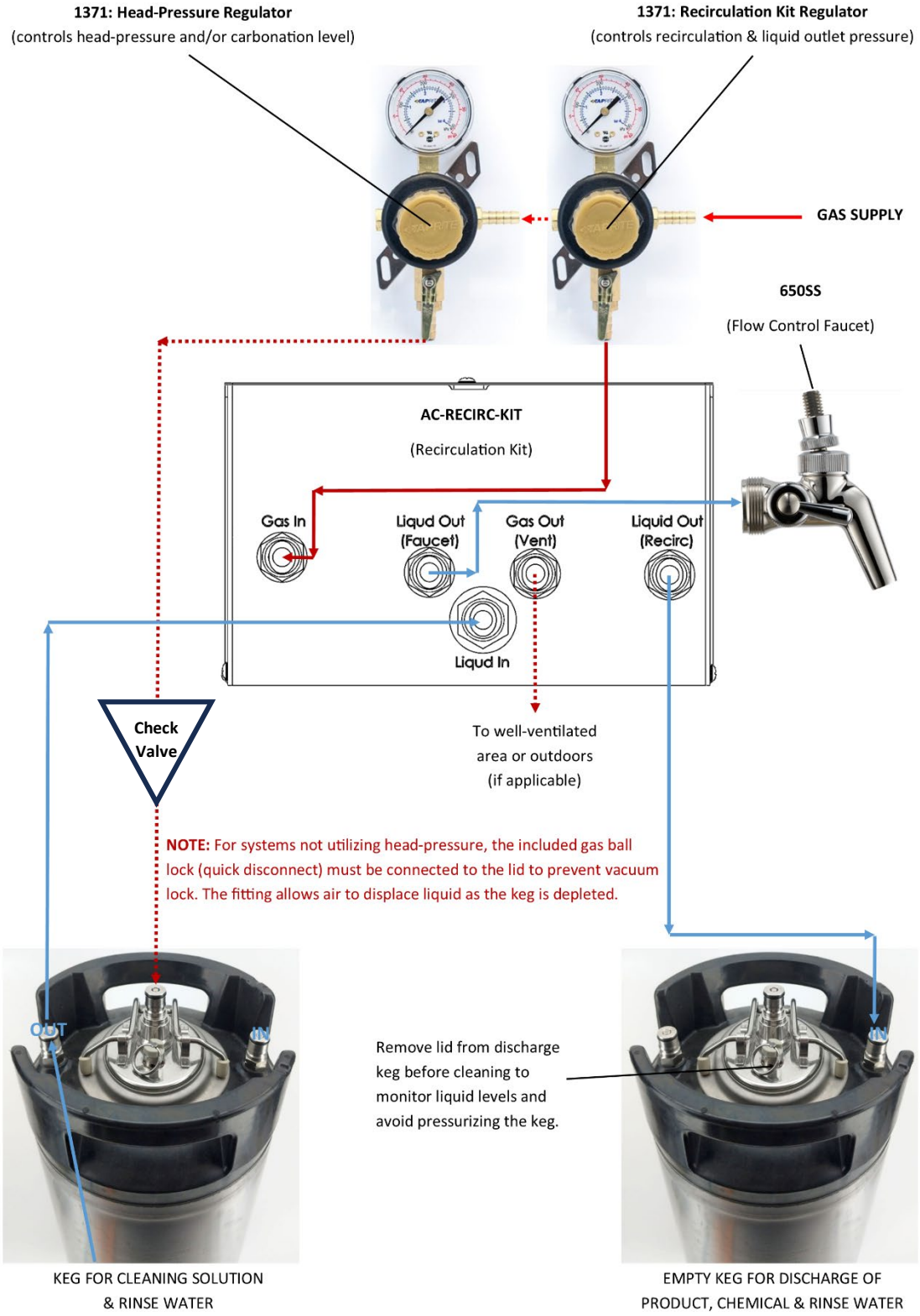
13. Prepare two empty kegs/buckets, at least one of which needs to be clean.
14. Fill the clean one with potable water and leave the second one empty.
15. Attach the LIQUID IN tube to the keg/bucket containing potable water.
16. Attach the LIQUID OUT (recirc) tube to the empty keg/bucket.
17. Open the faucet until half of the rinse water has been dispensed.
18. Hold the button labeled “B” (inside of the enclosure) for 5 seconds to enter constant recirculation mode. Allow it to pump for at least 30 seconds. Press the button label “B” to stop the constant recirculation.
    a. Pumps rinse water through LIQUID OUT (recirc) tube/pump and into empty keg/bucket.
19. Open the faucet until the remainder of the rinse water has been dispensed.
20. Disconnect the LIQUID IN tube from the keg/bucket containing potable water.
21. Hold the button labeled “B” (inside of the enclosure) for 5 seconds to enter constant recirculation mode. Allow it to pump for at least 5 seconds. Press the button label “B” to stop the constant recirculation.
    a. Pumps residual water in the LIQUID OUT (recirc) tube/pump to the once empty keg/bucket.
    b. Prevents product from getting watered down once reconnected.
22. Disconnect the LIQUID OUT (recirc) tube from the once empty keg/bucket.

RESUME OPERATION

23. Connect LIQUID IN tube and LIQUID OUT (recirc) tube to the keg/bucket containing product.
24. Resume normal operation. Open faucet until the product begins to pour.

Line Cleaning Schematics

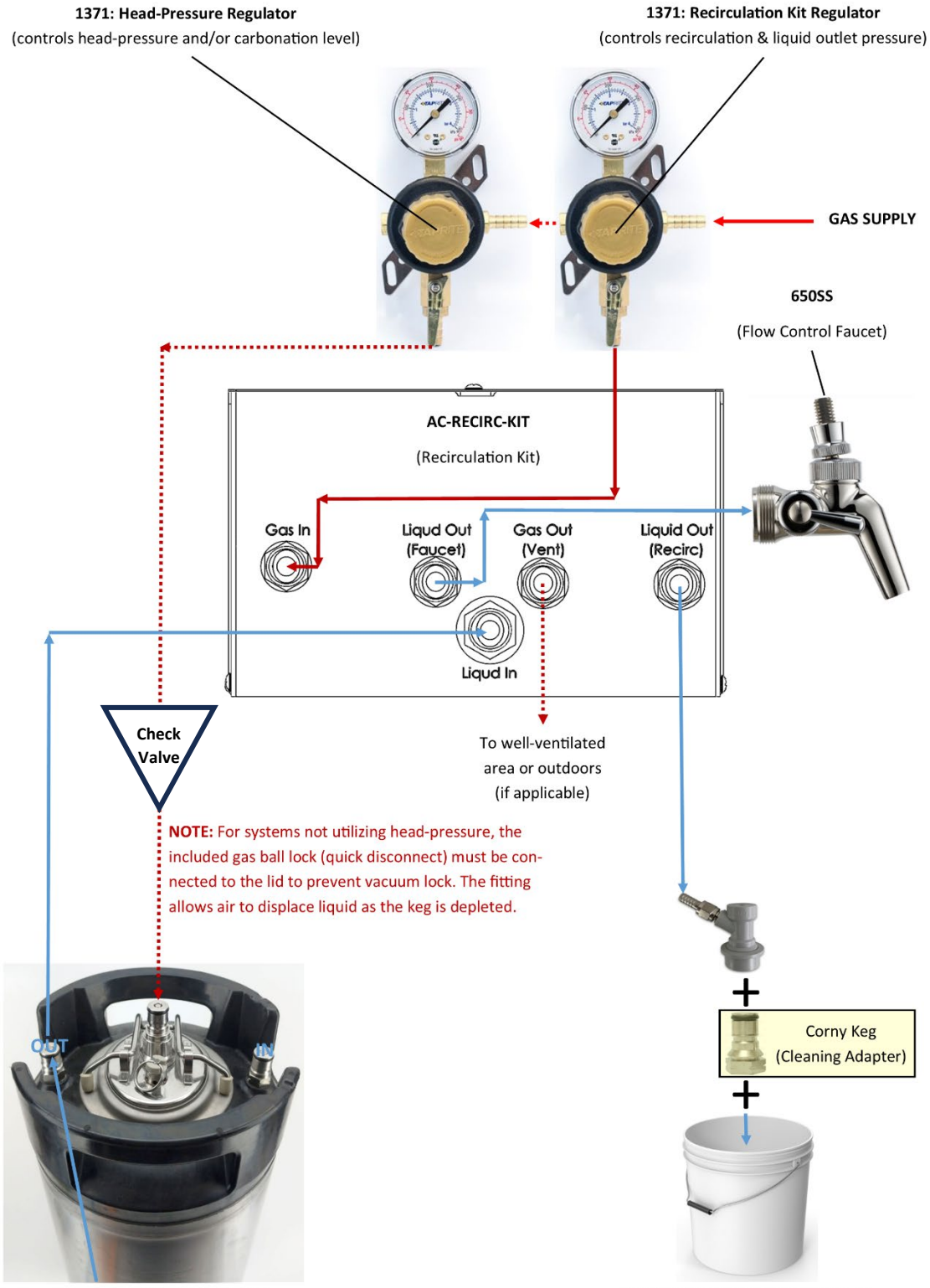
Corny Keg (using two corny kegs to clean)



KEG FOR CLEANING SOLUTION & RINSE WATER

EMPTY KEG FOR DISCHARGE OF PRODUCT, CHEMICAL & RINSE WATER

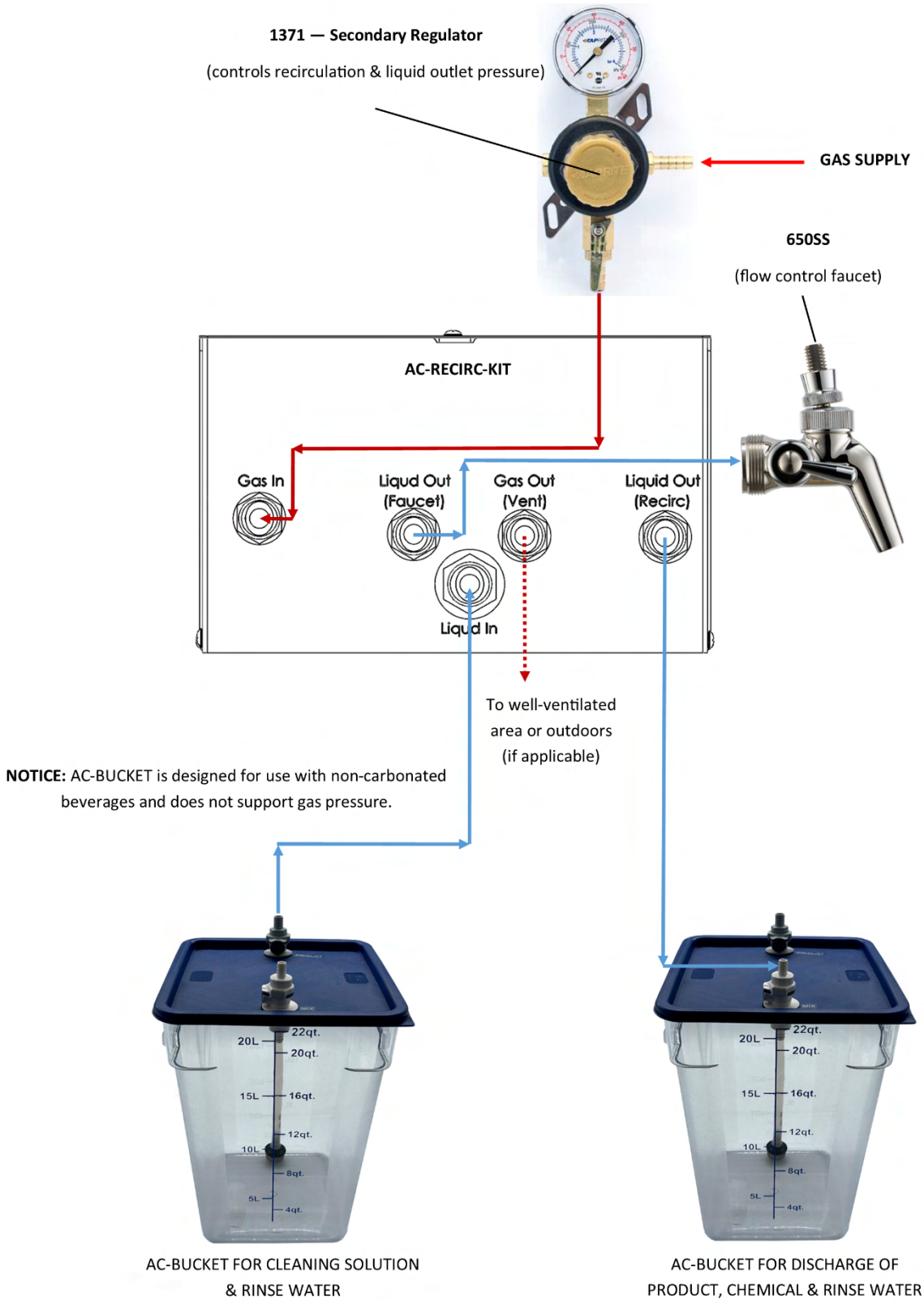
Corny Keg (using a corny keg, a bucket and a corny keg post fitting to clean)



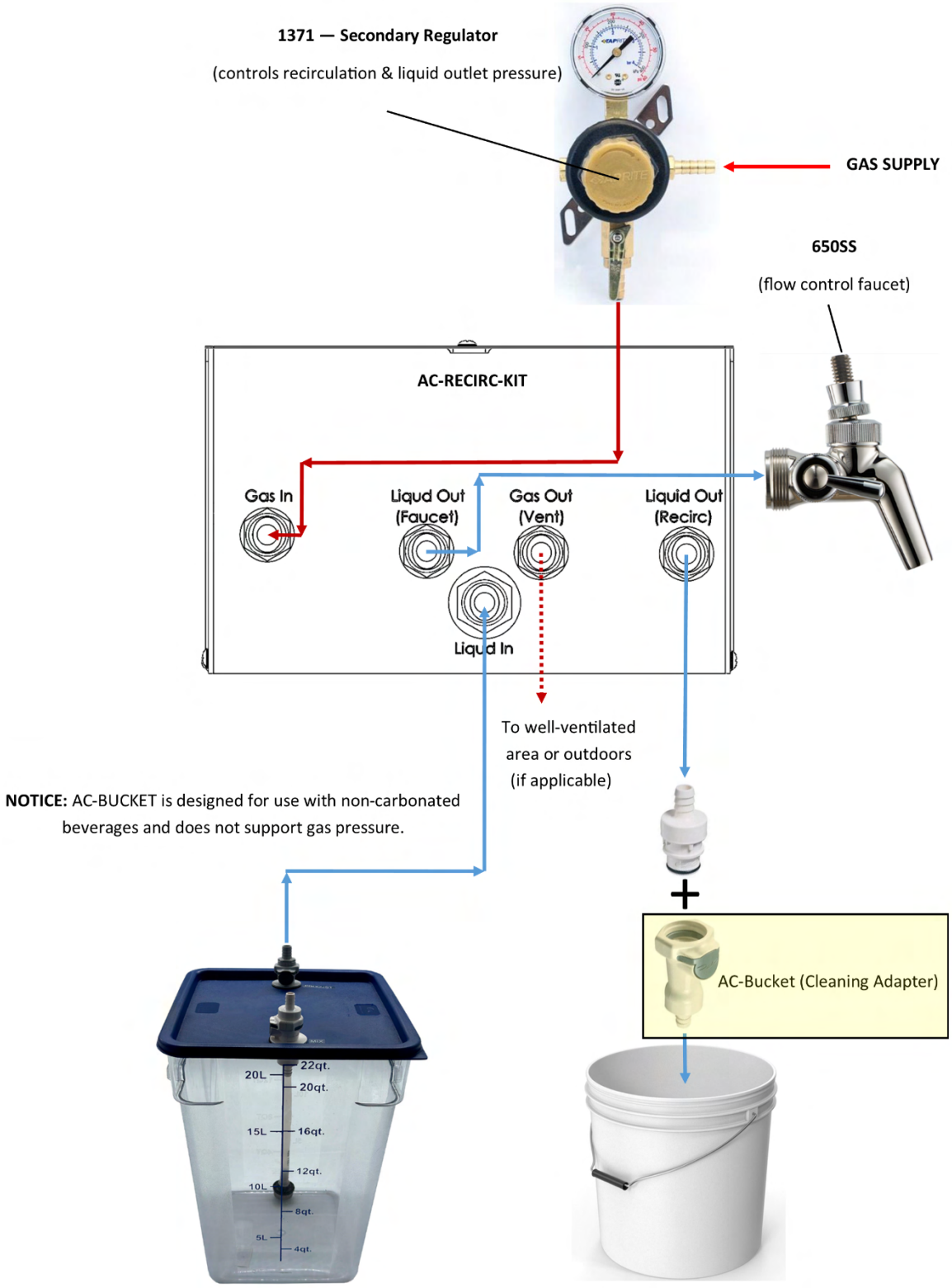
KEG FOR CLEANING SOLUTION
& RINSE WATER

EMPTY BUCKET FOR DISCHARGE OF
PRODUCT, CHEMICAL & RINSE WATER

AC-Bucket (using two AC-Buckets to clean)



AC-Bucket (using an AC-Bucket, an extra bucket and a quick connect fitting to clean)



Troubleshooting

Basic Checklist

- ✓ Is there adequate gas pressure supplying the Gas In port?
- ✓ Is there liquid in the keg or bucket?
- ✓ Is a FOB being used?
    - IF using a FOB, is there liquid inside the sight glass?
        - Push on the vent mechanism until the FOB fills with liquid.
    - IF using a FOB, is the float stuck at the bottom?
        - Use the mechanism at the bottom to assist the float in rising to the top.
- ✓ Have all connections been made properly?
    - If using a Corny Keg:
        - Connect the LIQUID IN tube to the OUT port on the keg.
        - Connect the LIQUID OUT (recirc) tube to the IN port on the keg.
        - Head pressure applications only:
            - Use Corny Keg Lid with Gas In port for total of three connections.
            - Connect the head pressure tube to the only port on the lid of the keg.
            - N2 extends shelf life without adding carbonation/effervescence.
            - CO2 extends shelf life while adding carbonation/effervescence over time.
            - Corny Keg Lid with Carbonation Stones available to increase carbonation rate.
    - If using AC-Bucket:
        - Connect the LIQUID IN tube (white male quick disconnect fitting) to the white female quick disconnect fitting located on the lid of the bucket.
        - Connect the LIQUID OUT (recirc) tube (grey male quick disconnect fitting) to the grey female quick disconnect fitting located on the lid of the bucket.

Note: AC-Bucket CANNOT be pressurized. AC-Bucket & Corny Keg are available for purchase through AC Beverage.

Symptoms, Issues & Solutions Table

Symptom	Potential Issue(s)	Potential Solution(s)
Nothing comes out of faucet when opened. (no flow)	1. Gas supply is low/empty. 2. Keg/bucket is low/empty. 3. Connections have not been made properly to system or keg/bucket. 4. FOB float is stuck down.	1. Check pressure & attach a full cylinder. 2. Fill keg/bucket with more product. 3. See the schematic section for more information. 4. Use vent to fill FOB with liquid and lever to manually raise float if necessary.
Product is settling out. (not mixing)	1. BHYVE schedule has not been setup. 2. BHYVE batteries need replaced. 3. Gas supply is low. 4. Connections have not been made properly to system or keg/bucket.	1. See the Daily Operation section for more information. 2. Replace (2) AA batteries. Remove enclosure lid using thumb screw and pull battery tray from front of BHYVE. 3. Attach a full gas cylinder. 4. See schematic section for more information.
Product dispensing too slowly. (low flow rate)	1. System/tubes are dirty. 2. Gas supply is low. 3. Flow control faucet adjustment needed.	1. Schedule line cleaning with service provider. 2. Check pressure & attach a full cylinder. 3. With faucet open, slowly adjust flow control level to increase flow rate.
Product dispensing too quickly. (high flow rate)	1. Gas pressure too high. 2. Flow control faucet adjustment needed.	1. Adjust pressure (if authorized to do so). 2. With faucet open, slowly adjust flow control lever to decrease flow rate.
Product pouring foamy	1. Gas supply is low/empty. 2. Head pressure (if applicable) on keg is set too high. 3. Temperature is too high. 4. System needs recalibrated.	1. Check pressure & attach full cylinder. 2. If qualified to do so, make an adjustment to head pressure. 3. Measure the temperature of product, check temperature of the power pack (if applicable) and check temperature of the product storage cooler. Call for service if any of them are above 39F. 4. Pouring carbonated products requires a balance of pressure and restriction. Consult with AC Beverage to determine the ideal pressure settings for the application.

Warranty

AC Beverage warrants that its products will be free from defects in material and workmanship, under normal use, regular service, and maintenance, for 1 year from the date of sale.

Prerequisites: This warranty is available to the first end user for equipment purchased from AC Beverage or authorized dealers. Equipment sold without such authorization will not be covered under this warranty. Equipment installed by AC Beverage carries a 90-day labor warranty. Equipment not installed by AC Beverage does Not carry a labor warranty. All equipment must be maintained and cleaned regularly. In case of equipment failure, the customer must contact AC Beverage for repair authorization before any repairs are made.

Warranty Period: Warranty period is one (1) year from the date of installation but no longer than fourteen (14) months from date of sale. Please do not return any item to AC Beverage without first notifying us and explaining the complete circumstances. AC Beverage must be notified and approve any merchandise returned for repair.

Warranty Coverage: If a product is deemed defective by AC Beverage within the warranty period described above, AC Beverage, at its discretion, will either repair or authorize the repair of the product. AC Beverage will be responsible for the labor charges within the warranty period if all above mentioned prerequisites are satisfied. The customer is responsible for the return of the defective part or product to AC Beverage for inspection and defect determination. Customer must package the part or product before shipping it. AC Beverage will cover the shipping costs for the part or product as described in the Shipping segment of this warranty.

Defect Determination: Defect determination is the sole discretion of AC Beverage. Customers must contact AC Beverage to receive authorization for any course of action prior to any repairs. A warranty claim in writing must be submitted to AC Beverage to process the claim and authorize any reimbursements. If a repair is made without the explicit authorization from AC Beverage, it will not be covered by the warranty and will not be reimbursed. “Authorization for return” is for inspection purposes only. It is the sole discretion of AC Beverage as to whether a repair will be performed under warranty.

Product Delivery: The customer is responsible for inspecting units upon receipt for concealed damage caused during shipping. The customer must report damaged or non-working units or components to AC Beverage immediately. Deliveries with physical damage should be denied. A claim must be filed with the carrier for any damages during shipping. AC Beverage is not responsible for units damaged during shipping.

Warranty does not cover:

- Physical damage or water damage to the unit caused by negligence of the user.
- Improper installation and modifications made without AC Beverage’s explicit approval.
- Damage resulting from electrical supply, water supply, drainage, flood, storm, or any other incidents.
- Repairs made without the explicit authorization of AC Beverage or without the submission of a written warranty claim.

AC BEVERAGE IS NOT RESPONSIBLE FOR ECONOMIC LOSS OR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSSES OR DAMAGES ARISING FROM EQUIPMENT FAILURE.

Shipping: During the warranty period AC Beverage will be responsible for shipping charges as described in the previous segments. AC Beverage will ship replacement parts using standard ground shipping only. If expedited shipping is needed, the customer will incur the difference in shipping cost.