

AC Beverage Auto Gas Changeover (ACB)

Installation & Operation Manual

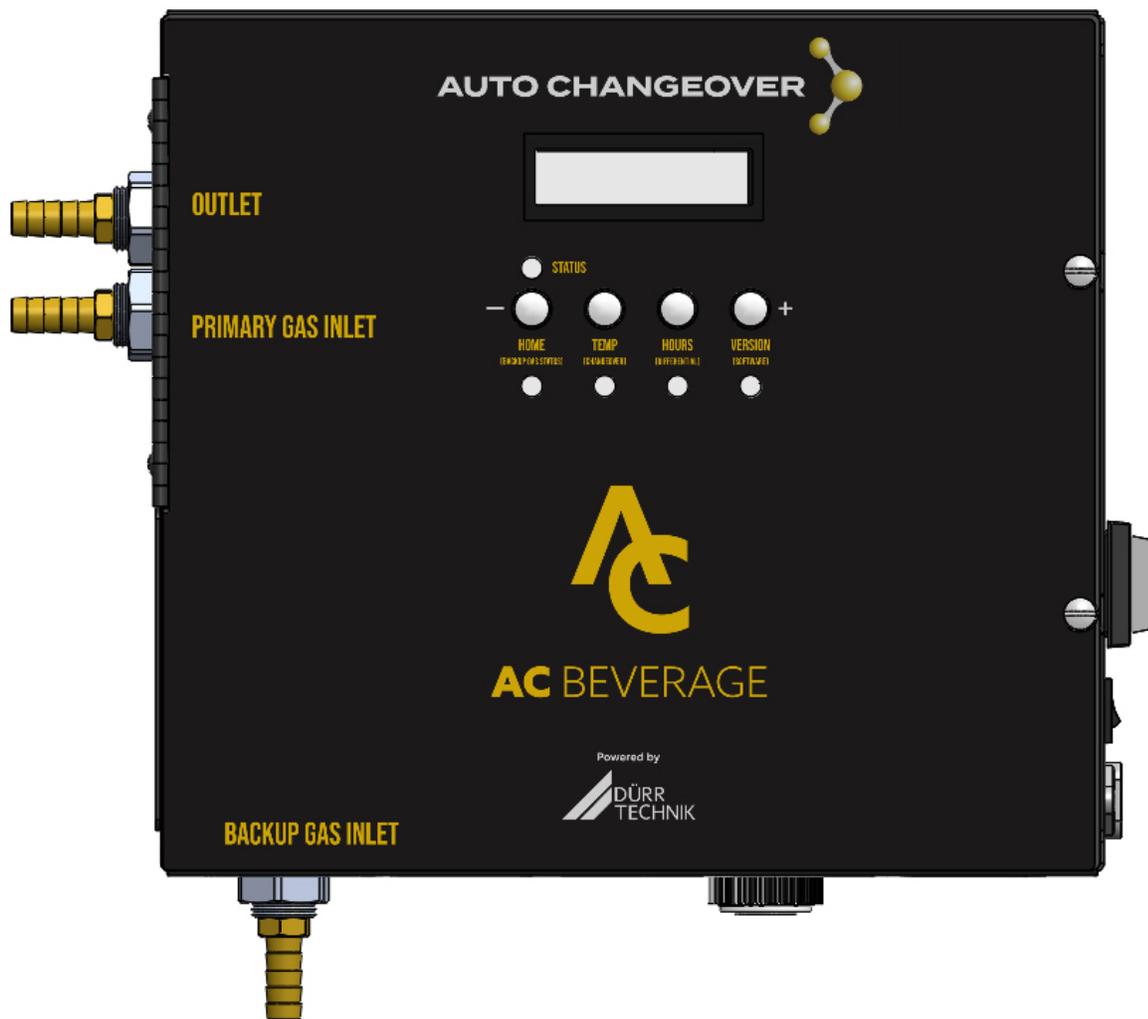


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Safety & Procedural Notices

Correct use of the Auto Changeover is important for your personal safety and for trouble-free use. Incorrect use can cause damage to the Auto Changeover and shorten the lifespan of the components, or in rare cases, cause personal injury, or asphyxiation if used in an unventilated room.

All personnel involved with installation, operations, and maintenance of the Auto Changeover 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 Auto Changeover 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 Auto Changeover 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 Auto Changeover, 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 immediately. Any damage should be noted and reported on the delivering carrier's receipt. Finally, photographs should be taken and shared with the shipper and supplier.

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

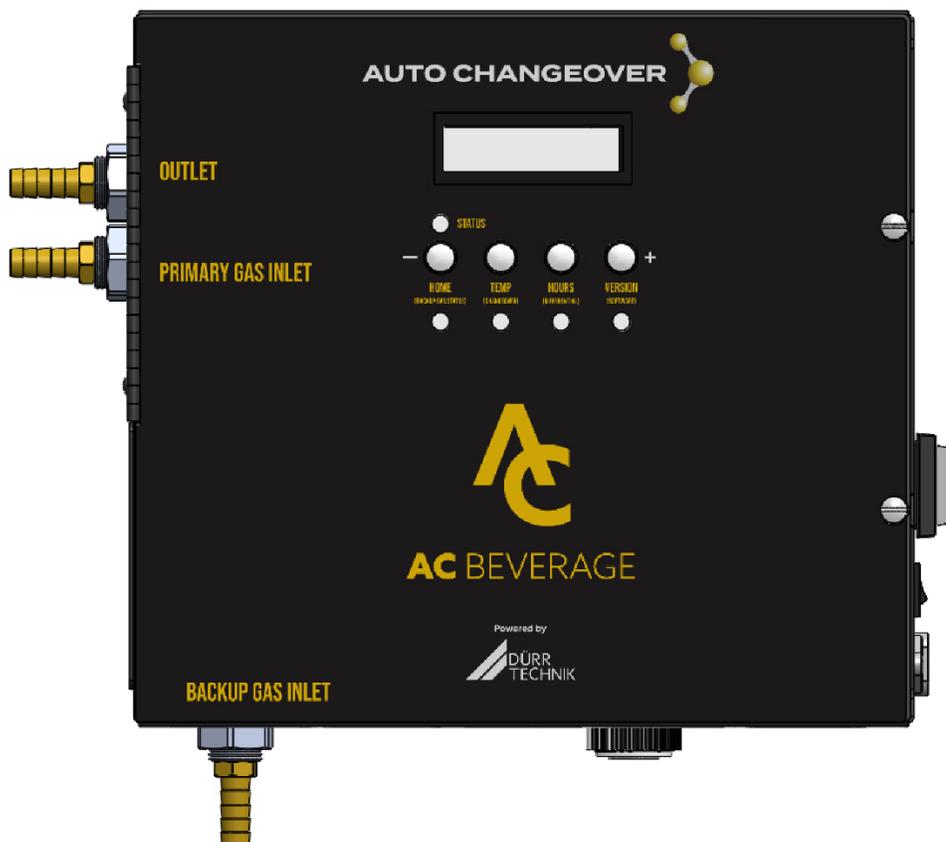
What's Included?

AC Beverage Auto Gas Changeover (ACB)

(1) Mounting Hardware Kit (3 screws)

(1) Power Supply Cable (for NEMA 5-15P outlet)

Specifications



AUTO CHANGEOVER (ACB) DATA SHEET

Electrical	115V/60Hz/1PH NEMA 5-15P
Power Consumption	1 amps (max)
Dimensions	12" W x 11" H x 2.5" D
Weight	10 lbs
Mounting Options	Wall mount only
Installation Clearance	4" on left & bottom sides. 1" on right & top sides
Maximum Primary Gas Inlet Pressure	150 psi
Maximum Backup Gas Inlet Pressure	150 psi
Auto Changeover Setting Range	0 psi - 120 psi
Max (Auto Changeover + Differential) Setting	150 psi
Duty Cycle	100% Continuous

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 Auto Gas Changeover(s) in a dry and climate controlled (40-95°F) room.

Always keep Auto Gas Changeover(s) in box as shipped until arriving at installation location.

Do not connect the power cable until this manual has been read completely.

Never place/stack objects on top of Auto Changeover(s).

Location Requirements

The Auto Changeover should be mounted to a wall using the included French Cleat hardware.

The Auto Changeover should be installed indoors, in an environment between 33F and 95F, in an upright position where it will not be damaged by spraying water (water jetting) or moving equipment. Leave at least 1" of clearance on the top side and at least 2" of clearance on the bottom side.

Mounting

The Auto Changeover should be wall-mounted using the included hardware.

Note: Mount system so that digital display and buttons can be easily reached and viewed.

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 3/8" barb fittings for all inlet and outlet connections.

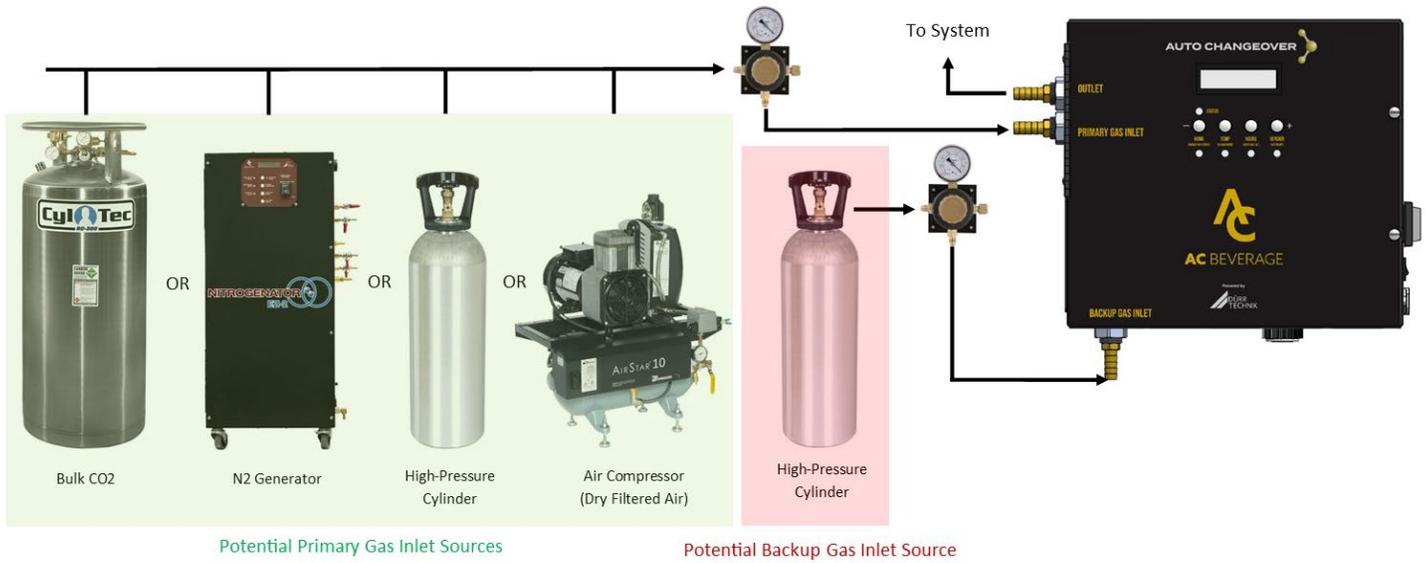
A flexible, food-grade 3/8" ID braided gas tubing/hose capable of handling at least 150psi is recommended for making all gas connections.

To minimize gas leaks, it is recommended that appropriately sized Oetiker Stepless® Ear Hose Clamps be utilized. To determine the proper clamp size, refer to technical data sheets of both the clamp and tubing manufacturers. Always make sure to fully compress/tighten the clamp when making connections.

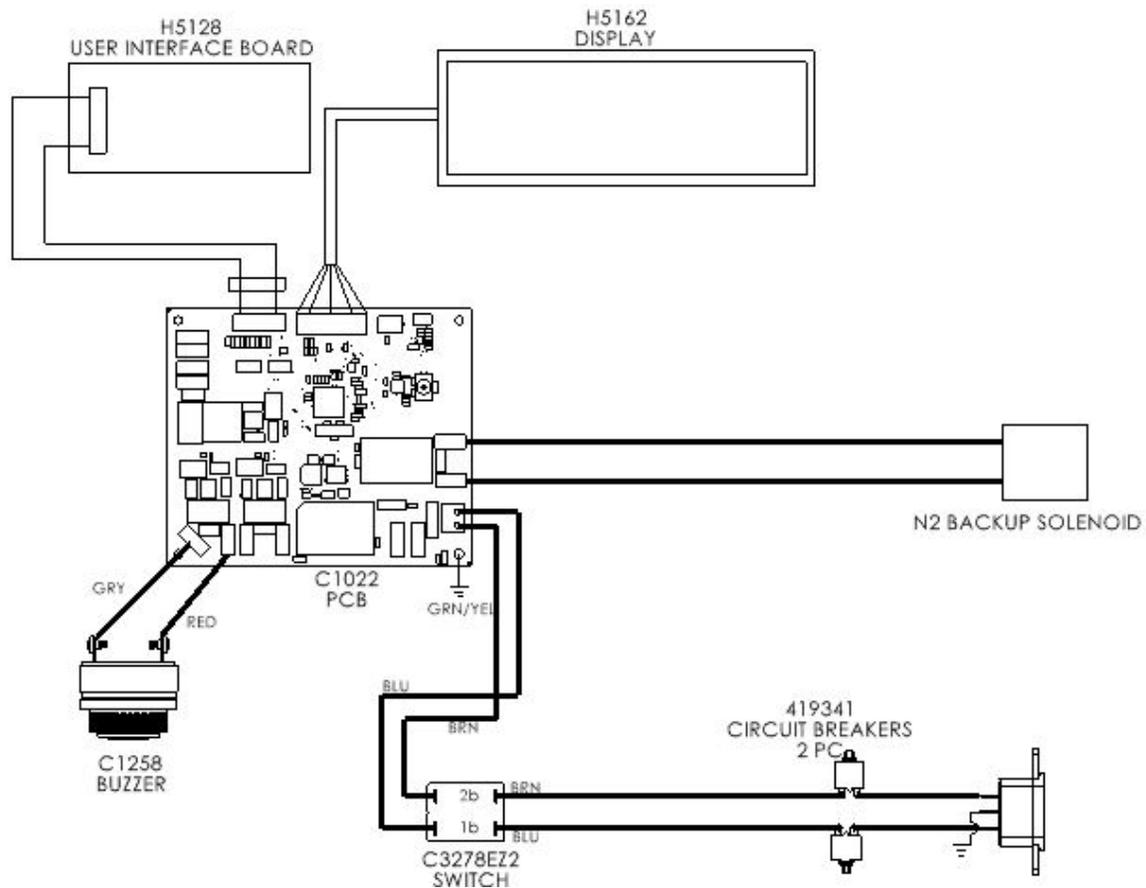
Warning: Improper clamp or tubing can result in gas leaks, personal injury, or asphyxiation in an unventilated room.

Schematics

Gas Connections



Electrical



System Calibration

Adjusting ACB Changeover Pressure Setting

The changeover pressure setting determines the pressure at which the ACB will switch from supplying the system with primary gas to supplying the system with backup gas. System requirements will determine the changeover pressure setting. Ask the question: what is the lowest pressure that the outlet pressure can reach without compromising the performance of my system?

Once the desired changeover pressure setting has been determined, hold the changeover (psi) button for 10 seconds - or until the screen changes to show the changeover setting menu. Use the far left and far right buttons to adjust the setting up or down. Hold the changeover (psi) button again for 10 seconds to save this setting. The display will return to the home screen once saved. Press the changeover (psi) button to view the current changeover setting and ensure the change has taken effect.

Adjusting ACB Differential Pressure Setting

The differential setting should remain at 10psi (unless change is necessary). The differential setting determines the pressure at which the ACB will switch from supplying the system with backup gas to supplying the system with primary gas. Add the differential setting to the current changeover setting to determine the pressure at which the ACB will switch back to supplying primary gas to the system.

Once the desired differential pressure setting has been determined (if necessary), hold the diff (psi) button for 10 seconds - or until the screen changes to show the differential setting menu. Use the far left and far right buttons to adjust the setting up or down. Hold the diff (psi) button again for 10 seconds to save this setting. The display will return to the home screen once saved. Press the diff (psi) button to view the current differential setting and ensure the change has taken effect.

Adjusting Internal Regulator Pressure Setting

The internal regulator pressure should be set to the halfway point between the changeover setting and the changeover + differential setting.

Once the internal regulator set pressure has been determined, connect a regulated gas supply to the backup gas inlet port. If it's not already, install a shutoff valve on the outlet port, so that gas can be shut off or vented while calibrating. Ensure the regulator supplying the backup gas inlet port is set to a pressure that is at least 10lbs higher than the previously determined internal regulator setting. Finally, ensure there is no gas being supplied to the primary gas inlet port and that the internal regulator adjustment knob is turned all the way counterclockwise (pressure at lowest setting).

Plug in the ACB and wait 10 seconds for the system to switch over to backup gas. Now, turn the knob clockwise until the digital display shows the previously determined internal regulator pressure setting and continue adjusting the regulator until the previously determined internal regulator set point is reached. If you exceed the pressure setting, turn the regulator all the way counterclockwise, briefly vent the pressure using the shutoff valve, and repeat this step taking care not to exceed predetermined internal regulator set pressure.

Calibration Example

I am looking to use a bulk CO₂ tank for the primary gas supply and a high-pressure CO₂ cylinder for my backup gas. Because I am feeding both my draft beer system and soda system, I must figure out the lowest CO₂ pressure that I can supply without affecting system performance. After doing some research, I have determined the equipment with the highest-pressure requirement are the soda pumps, which are set to 100psi. So, my changeover pressure (ACB setting), should be set to 100psi. When the primary gas supply dips to 100psi, the ACB will automatically switch over to supplying backup gas.

Once the ACB switches to backup gas, it will look for a pressure increase from the supply of backup gas. In this case, it would look for pressure to increase from 100psi to 105psi, since the internal regulator would be set to 105psi (halfway between changeover and changeover + differential settings). To provide some buffer, the backup gas supply pressure would need to be at least 10psi greater than internal regulator pressure setting, meaning the regulator supplying the backup gas inlet port would need to be set to at least 115psi.

The ACB is set with a 10psi differential by default, which should be sufficient in most cases. In this example, when the primary source gets back up to 100psi (changeover + differential), the ACB will stop supplying backup gas and will switch back to supplying the system with primary gas. Since the primary gas must reach at least 110psi to switch back to supplying the system, it is imperative that the regulator supplying the Primary Gas Inlet Port supply at least 10psi greater than the changeover + diff settings to provide some buffer, which in this case would be 120psi.

CO₂ (recommended pressures & settings):

Changeover: **100psi** (lowest pressure beverage system will tolerate before impacting performance)

Differential: **10psi** (default setting)

Internal Regulator: **105psi** (changeover + ½ differential setting)

Backup gas supply: **115psi** or greater (internal regulator setting + 10psi buffer)

Primary gas supply pressure: **120psi** or greater (changeover + differential + 10psi buffer)

N₂ (recommended pressures & settings):

Changeover: **70psi** (lowest pressure beverage system will tolerate before impacting performance)

Differential: **10psi** (default setting)

Internal Regulator: **75psi** (changeover + ½ differential setting)

Backup gas supply: **85psi** or greater (internal regulator setting + 10psi buffer)

Primary gas supply pressure: **90psi** or greater (changeover + differential + 10psi buffer)

States of Operation:

No User Intervention Required

Standby (primary gas inlet pressure is above the changeover setting)

- **BACKUP GAS STATUS** indicator light will be **OFF**
- **DIGITAL DISPLAY** home screen will read out OUTLET PRESSURE & BACKUP STATUS
 - Press the changeover (psi) button to view current changeover setting
 - Press the diff (psi) button to view the current differential setting
 - Press the software (version) button to view current software version

User Intervention Required

Backup Gas ON (supply fell below the changeover setting – backup valve opened automatically)

- **BACKUP GAS STATUS** indicator light will **FLASH YELLOW** until the HOME button is pressed and remain illuminated **SOLID YELLOW** until backup gas turns **OFF**
- **DIGITAL DISPLAY** provides a message recommending action(s) user(s) should take

NOTE: When the backup gas supply is triggered, an alarm will sound, triggering the user to intervene. First, read the message on the display and perform all recommended steps listed on display. In the case that backup gas is ON, it is recommended that backup gas level(s) be checked, and usage monitored until a replacement is delivered or until the primary source can be refilled or serviced (if applicable). If there is a gas leak and/or the system needs serviced, you may need to call the gas provider (to refill backup tanks) and your local authorized service tech to ensure the gas system is working properly.

TO SILENCE THE ALARM SOUND, PRESS THE HOME BUTTON

ALARM WILL SOUND AGAIN IN 12 HOURS IF PRIMARY GAS SUPPLY PRESSURE DOES NOT RISE ABOVE CHANGEOVER + DIFFERENTIAL SETTING IN THAT TIME

Troubleshooting

- ✓ Is the ACB plugged into a functional power outlet?
- ✓ Does the display indicate any error messages?
- ✓ Is the source/tank supplying the primary gas inlet port low or empty?
- ✓ Is the source/tank supplying the backup gas inlet port low or empty?
- ✓ Is the regulator supplying the primary gas port set to a pressure greater than (changeover + differential + 10psi)
- ✓ Is the regulator supplying the backup gas port set to a pressure greater than (internal regulator setting + 10psi)

IF ACB IS DYSFUNCTIONAL, CONTACT AC BEVERAGE TO TROUBLESHOOT OR SCHEDULE SERVICE.

(800) 925-3818 – INFO@ACBEVERAGE.COM – WWW.ACBEVERAGE.COM

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 provided that 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.