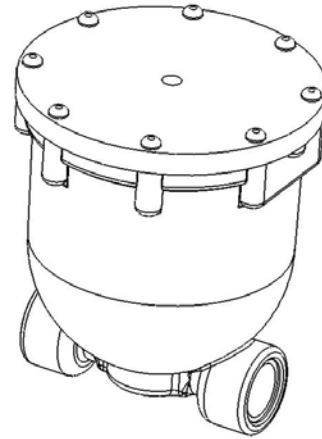


Air Vent Model SVA00R1 (1/2" Smooth Bore Ports)
INSTALLATION MANUAL

The SHURflo Air Vent is a device designed to vent air trapped in fluids being pumped to beverage equipment. The Air Vent will eliminate slugs of air being pumped to the beverage machine from the bag-in-a-box. This is done using patent-pending membrane technology. There are no moving parts or mechanisms to fail.

The Air Vent is designed to remove and trap air as the syrup flows through the device. It will then slowly vent the trapped air out the vent ports on the top of the unit as long as the Air Vent is maintained at pressure.



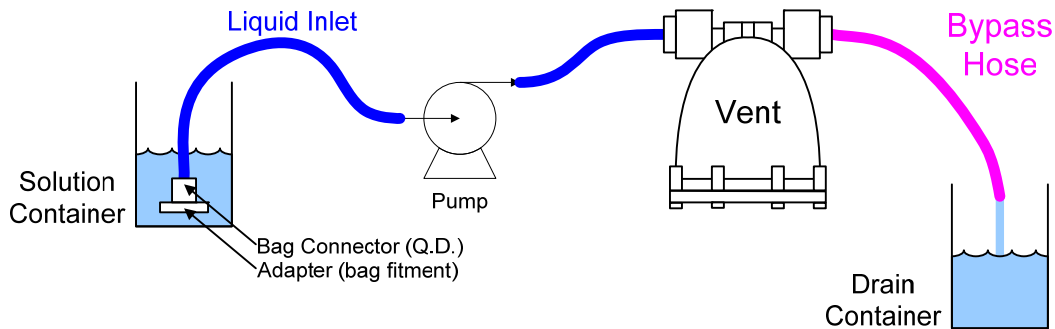
- The Air Vent may be placed anywhere in the pressurized side of the plumbing. Ports **are** directional, so care must be paid to plumb the unit in the proper flow direction referencing the label.
- The Air Vent must be plumbed in line. If the syrup does not flow through the device, the Air Vent will not remove the entrained air.
- The Air Vent must be mounted in the proper orientation to work, with the inlet and outlet on the bottom of the unit and the flat surface with the small vent holes facing up. Mounting in other orientations will reduce the performance.
- **Do not** freeze or mount near a high heat source. If the temperature may drop below freezing, reference winterizing instructions below.
- Do not block or pour liquids into the vent holes in the top flat surface. These are necessary for venting trapped air.
- Models with 1/2"-14 ports: Use the installed hose barbs. If other threaded fittings are substituted, they should be torque approximately 1/2 to 1 turn after *hand-tightened*. **Never** exceed 6 ft/lbs [88 Nm] of torque on the ports.
- Models with 1/2" smooth bore ports: The Air Vent has two screw holes next to each smooth bore port for use in holding 1/2" o-ring seal fittings in the port. Use the enclosed screws, two on each port, to hold in a fitting that has a shoulder. If the fitting has a separate collar or hook, use a screw to hold that in place. Do not over tighten the screws. The screws need only be snug in order to hold the fitting in place under pressure.
- Plumb the system using high pressure (2X pump rating), braided, flexible tubing to minimize vibration/noise.
- The Air Vent is rated for use up to 125 psi. Do not exceed this pressure. For proper venting, it is recommended to keep the Air Vent at a minimum of 40 psi. It will still vent air at lower pressures, but at a reduced rate.
- Sanitize the Air Vent upon installation. The SHURflo Air Vent is only one piece of a beverage dispensing system. Therefore, frequent sanitization of the Air Vent and **ALL** equipment in the system is required. **Sanitization is dependent on the concentrate type and its manufacturers requirements.** Factors which also affect the frequency of this procedure are: temperature, concentrate volatility, facility conditions, installation, and equipment. Perform the following procedure to assure compliance with NSF listed sanitizing requirements for the SHURflo Air Vent (*only*).

NOTE: Refer to equipment manufacturer's instructions for sanitizing and winterizing procedures for pumps, carbonators, dispensers and related tubing lines.

Air Vent SANITIZING and WINTERIZING PROCEDURE

STEPS:

- A. Warm water flush
- B. Detergent flush
- C. Warm water rinse
- D. Sanitizing solution flush
- E. Product purge



MATERIALS REQUIRED:

- A syrup pump such as the **SHURflo BEVERAGE GAS PUMP 166-296-XX** or equivalent.
- Common household bleach (Sodium Hypochlorite; 5.25%) or equivalent. **Do not** use Calcium Hypochlorite (Pool Shock).
- Common household **non-sudsing** liquid detergent, suitable for use in an automatic dish washing machine.
- An adapter is needed to hold the quick disconnect (Q.D.) fitting on the syrup suction (inlet) line open. A fitment cut from an empty bag will serve as the adapter.
- A 6 ft. length of 1/4" beverage tubing. (To serve as the bypass hose)
- Two five gallon buckets
- Measuring cup

SANITIZING PROCEDURE

1. Turn OFF CO₂ pressure to the pump. Open the dispenser valve to drop the line (outlet) pressure.
 - a) Remove the liquid outlet tubing from the Air Vent. Install the bypass tubing to the outlet port of the Air Vent.
 - b) Turn the Air Vent upside down, so that the inlet and outlet are at the top (see diagram).
 - c) Immerse the Q.D. (Bag Connector) and inlet suction tubing in 2 gallons of warm water (120 - 180°F)
2. Turn ON CO₂ to the pump (approx. 15 to 20 psi.), and pump the 2 gallons of warm water through the pump and Air Vent to flush out concentrate residue. Turn OFF CO₂ pressure to the pump.
3. Prepare 1 gallon of detergent solution in a clean container. Mix at the ratio of 1 oz. of detergent per each gallon of warm water (120-180°F).
 - a) Place the Q.D. in the detergent solution
 - b) Pump approximately 3/4 gallon of detergent solution through the pump and Air Vent.
 - c) Turn OFF CO₂ pressure to the pump. Allow the detergent solution to remain in the Air Vent for a contact time of two minutes.

- d) Turn the pump upside down and Air Vent right-side up (ports at the bottom) and operate the pump until the remaining detergent solution is pumped out. Turn OFF CO₂ pressure.
4. Repeat steps 1b) through 2 (Flush with 2 gallons of warm water 120 - 180°F)
5. Prepare 1 gallon of sanitizing solution (sodium hypochlorite) in a clean container. Mix at the ratio 1/4 oz. of bleach per each gallon of water to obtain a mixture of 100 ppm.
 - a) Place Q.D. in sanitizing solution container.
 - b) Turn the Air Vent upside down, so that the inlet and outlet are at the top.
 - c) Pump approximately 3/4 gallon of sanitizing solution through the pump and Air Vent.
 - d) Turn OFF CO₂ pressure to the pump. Allow the sanitizing solution to remain in the Air Vent for a contact time of ten minutes.
 - e) Turn the pump upside down and Air Vent right-side up and operate the pump until the remaining sanitizing solution is pumped out. Turn OFF CO₂ pressure. Disconnect the tubing from the inlet of the Air Vent and allow any remaining liquid to drain out.

At this point Winterize as outlined or continue with product purge.

6. **PRODUCT PURGE:** Connect Q.D. to the concentrate B-I-B. Reconnect the tubing to the inlet of the Air Vent. Operate the pump until a steady stream of concentrate flows through the bypass tubing. Pump approximately 30 oz. of concentrate through the pump. Turn OFF CO₂ pressure.
7. Disconnect the bypass tubing and reinstall the concentrate line to the dispenser. Test the dispensing valve for proper operation. Sample the dispensed drink quality to assure there is no off-taste. If an off-taste is detected additional concentrate purging may be necessary.

WINTERIZING

If the Air Vent is subjected to temperatures of 32° F [0°C] or lower, it must be drained of all liquid to prevent damage due to freezing. It is suggested that when taking a Air Vent out of service, the pump, Air Vent, and lines, etc. should be sanitized and purged of all fluid.

1. Sanitize the pump, Q.D., and inlet tubing as outlined in steps 1-5.

The winterizing procedure should be performed immediately following sanitization, if for no other reason than, it reduces duplication of various steps. Disconnect both the inlet and outlet of the Air Vent over a bucket, while the Air Vent is right-side up (the inlet and outlet are at the bottom). This will allow all liquid to drain out of the Air Vent.

2. Do not connect inlet and outlet tubing until the dispenser and lines have been properly sanitized and purged of solution.

CAUTION: If there is any chance the solution may drain back to the Air Vent, leave the fitting tubing disconnected. Cap-off both the inlet and outlet ports to prevent foreign debris from entering. It is suggested that if the outlet lines are removed a warning be posted.

3. Do not install the Q.D. to the B-I-B.

START-UP PROCEDURE

NOTE: When the pumps and system are restarted they should be sanitized prior to dispensing drinks.

1. Confirm that all tubing connections are properly clamped, fittings are tight, and tubing is not kinked.
2. Connect the Q.D./inlet tube onto the bag. Adjust gas regulator to about 30 psi.[1.4 bar] allowing the pump to stroke slowly. With high viscosity (thick) products (over 500 CPS), the pump should be primed with the **minimum** gas pressure. This prevents the shut-off feature from stopping pump operation due to high inlet vacuum during priming.
3. Operate the dispenser valve until **all** the air trapped within the tubing has been purged.

4. Once the air has been purged, adjust the CO2 regulator to the pressure necessary to maintain the desired brix.

SPECIFICATIONS

Maximum Working Pressure:	125 psi [25 bar]
Total Volume: (gas/liquid):	10 oz. [290 ml]
Temperature Range:	34-120° F [1-49°C]
Diameter:	3 3/4" [95 mm]
Height:	4 1/2" [12 cm]
Listings:	
Housing Material:	Nylon
Vent Membrane Material:	Proprietary
Threaded Ports:	1/2-14F-NPT
Hose Barbs:	Std. fittings supplied with SHURflo pumps are 3/8" barb fittings.
Mounting Bracket:	Two 7/32" [5.3 mm] φ holes at 4-1/16" [103 mm] centerline apart

LIMITED WARRANTY

SHURflo warrants the Air Vent to be free from material and workmanship defects (under normal use and service) for a period of one (1) year from the date of manufacture or one (1) year use, with proof of purchase, not to exceed two (2) years in any event.

The limited warranty will not apply to Air Vents that were improperly installed, misapplied, or are incompatible with components or liquid not manufactured by SHURflo. Failure due to foreign debris is not covered under the terms of this limited warranty. SHURflo will not warrant any Air Vent, which is physically damaged or altered outside the SHURflo factory.

Warranty claims may be resolved by an authorized dealer service center, or by SHURflo. Returns are to be shipped with charges pre-paid. Package all returns carefully. SHURflo will not be responsible for freight damage incurred during shipping to a service center.

SHURflo's obligation under this warranty policy is limited to the repair or replacement of the Air Vent. Air Vents found not defective (under the terms of this limited warranty) are subject to charges to be paid by the returnee for the testing and packaging of "tested good" units. Warranty returns will be shipped on a freight allowed basis. SHURflo reserves the right to choose the method of transportation.

SHURflo is not responsible nor will it reimburse for labor necessary to remove and reinstall a Air Vent if found defective.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on SHURflo's behalf. SHURflo shall not be liable for any labor, damage or other expense, nor shall SHURflo be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product or part. This limited warranty covers products distributed within the United States of America. Other world market areas should consult with their distributors for any deviation from this document.



* ISO 9001 Registered Site



SHURflo reserves the right to update specifications, prices, or make substitutions.

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