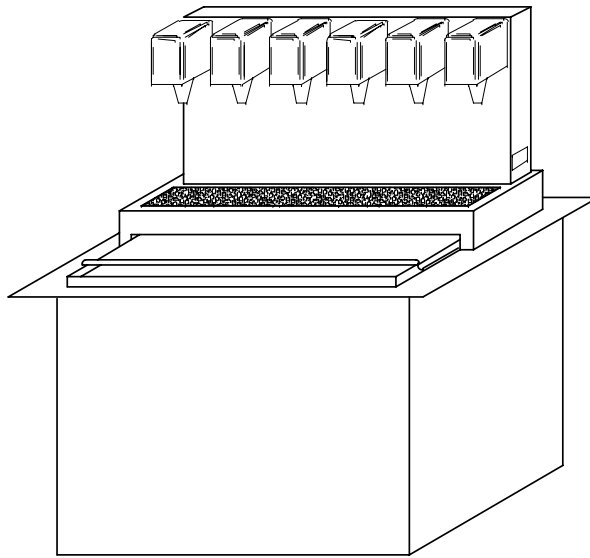


DROP-IN

142015

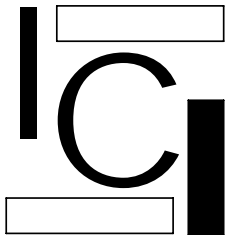
201415



222021

232321

INSTALLATION AND SERVICE MANUAL



INTERNATIONAL CARBONIC INC.

16630 Koala Rd.

Adelanto, California 92301

800 854-1177

IMPORTANT: This manual is a guide for installing, operating, servicing and maintaining this equipment. Refer to Table of Contents for page location of detailed information to answer questions that arise during installation, operating, service and maintenance, or installation of this equipment.

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PREFACE

INTERNATIONAL CARBONIC INC. has enjoyed over 53 years of manufacturing excellence in the field of carbonation and in the beverage related industry. We have had a long and proud history with quality as our standard and innovation as our goal. Originally started just after World War II in Canfield, Ohio as Carbonic Dispensers. We enjoyed patents on the first Sodajet type carbonator. This method of carbonation instantaneously carbonated the water to 100% saturation. We developed the first patented dispensing valve to dispense bulk beverage with carbonation equal to or in excess of bottled beverages. A valve with three flavors and soda was another first. We were the first to incorporate the total postmix package, i.e., carbonation, refrigeration, and the ability to dispense from one self contained unit. We have pioneered many such firsts and will continue to develop advanced systems for the future, such as electronic interrogatable portion controls to electronic liquid level controls.

We hope you enjoy this piece of equipment that has been produced to give many years of trouble free service. We thank you for your purchase and hope we may serve you in the future.

INSTALLATION PROCEDURES

GENERAL DESCRIPTION

Upon receiving unit, immediately uncrate and inspect for shipping damage.

ALL DROP-IN'S ARE SHIPPED WITH 3" SHIPPING LEGS. THESE MAY BE REMOVED AFTER INSTALLATION ALTHOUGH IT IS RECOMMENDED THAT THESE REMAIN IN PLACE IN CASE OF UNIT REMOVAL FROM INSTALLATION SIGHT. THE DROP-IN UNIT IS EQUIPPED WITH STAINLESS STEEL INLET LINES THAT ARE LOCATED ON THE BOTTOM OF THE DROP-IN. BE SURE NOT TO BEND THESE LINES DURING INSTALLATION, IF BENT OR CRIMPED UNIT COULD BECOME INOPERABLE.

WARNING: Before shipping or relocating a DROP-IN into a freezing ambient environment empty plain and carbonated water. Syrup systems should be flushed and water drained from ice bin. A freezing ambient environment will cause existing water in unit to freeze possibly resulting in damage to syrup coils, water coil, ice bin, valve(s), etc.

At this time make sure all parts are also included with shipment, i.e., high pressure regulator, low pressure regulator, legs, etc. If shipping damage has occurred, immediately notify transit agency that transported equipment. If parts are missing, notify factory.

Location of Soda Fast and Ice Cooled Equipment:

Prior to locating drop-in in its permanent position mark and cut hole position. The following hole sizes should be cut to accommodate the following:

Model	Hole size
232321	23 1/2" X 23 1/2"
222021	22 3/4" X 20 3/4"
142015	14 3/4" X 20 3/4"
201415	20 3/4" x 14 3/4"

After hole is cut and prior to installing drop-in into hole use RTV as a sealant around perimeter of hole. Ice bin must be sealed to counter. Some or all of the following connections may be made prior to installing the drop-in in the counter.

The five (5) connections to be made are as follows: Drop-in soda line (s) to carbonator, still drink line (s) to water (Optional), syrup lines to syrup containers or pumps, drain to drain outlet, and electrical to proper source.

Carbonator and Connection Water Supply: See SODA FAST CARBONATOR Instruction/Installation Procedure.

Drop-In Soda Lines to Carbonator: Connect lines marked SODA to soda outlet on carbonator.

Drop-In Still Drink Lines: Marked WATER (Optional) should be connected to incoming water source. Note: If connected on pressure side of water pump a water regulator must be installed. After WATER line is made but prior to connection line should be flushed to eliminate any debris.

Non-Carb: Marked NON-CARB and is syrup line that is dedicated to line marked WATER.

Drop-In Syrup Lines: 1, 2, 3 etc. must be connected to B.I.B. quick coupler for later connection to B.I.B. pumps at outlet side of box or connected to outlet quick disconnect for use on transfer tank.

Installing Drain:

DROP-IN'S ARE EQUIPPED WITH THE FOLLOWING DRAINS:

232321	1" PVC NPT
222021	3/4" PVC NPT
142015	1/2" PVC NPT
201415	1/2" PVC NPT

PLEASE USE CAUTION WHEN TIGHTENING FITTING TO COLD PLATE.

NOTE: Do not reduce drain connection from cabinet outlet. Be sure all connections are watertight.

Electrical Connection:

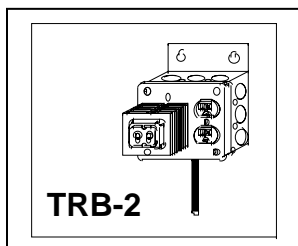
All units must be wired in accordance with N.E.C. or local city ordinance.

Drop-In units have electrical wire (s) extending from the base of the cabinet, which are marked 24 volt. This wire (s) will be connected to 24-volt transformer (s). The transformer supplied for carbonated systems will be 24 volt, 40 VA. When two 24-volt wires are routed through the drop-in the number of valves exceed the amount recommended for voltage draw on one transformer. The transformer voltage used for Juice applications will be 24 volt, 40 VA.

Illumination: When drop-in units are supplied with illumination (Optional), a lamp cord with plug will extend from the base of the drop-in. The S-980 illuminated merchandiser is 115 volt.

The drop-in unit is equipped with a door interlock switch for the dispensing heads.

National Sanitation Foundation requires the door be closed during the dispensing of beverages.



TRB: Transfer Receptacle Box, see illustration. This optional part can be supplied and can be Made as a TRB-2 or TRB-4, the numeral 2 or 4 indicating the number of outlets required.

Ice Bin Capacity:

Drop-In Units:	
201415	40LBS
142015	40LBS
222021	80LBS
232321	100LBS

Installing High Pressure Regulator:

Install CO2 high pressure regulator (furnished with Soda Fast unit) on carbon dioxide gas cylinder, always making certain a good washer is used in the connection, and tighten securely so there is no leakage at this connection. Replace regulator anytime it should continue to creep above the desired pressure setting. Connect 1/4" tubing from outlet of gas regulator on CO2 tank for later connection to low-pressure gas regulator assembly.

Installing Low Pressure Regulator:

Install low pressure on bulkhead, B.I.B. rack, or location of choice. Connect 1/4" tubing from high-pressure regulator to incoming port on low-pressure regulator. Fabricate necessary lines to connect to syrup boxes or tanks. Connect it and adjust low-pressure regulator. Normal settings for transfer tanks average 10 to 40 p.s.i.

Carbonator and Connecting Water Supply: See SODA FAST CARBONATOR Instruction/Installation Procedure. This step must be accomplished prior to proceeding.

Priming Pump:

1. Turn on water supply.
2. Open valve on CO2 tank.
3. Turn on electrical power.
4. Turn high-pressure regulator screw clockwise until the pressure is adjusted to 90 to 100 p.s.i.
5. Actuate each valve by depressing push lever, push button, etc. until all trapped air is relieved. Manually depress valve-actuating arm until carbonator is activated and carbonated water is being dispensed.
6. Permit carbonator to run until it automatically shuts off. Pump is now fully primed and carbonator is ready for use.
7. Ice down drop-in cold plate, do not use sub-cooled ice.
8. Drop-in unit is now ready for adjustment on water flow. Prior to connecting syrup to individual valves adjust all valves for standard or fast flow water adjustments, see brixing instructions.

Testing for Leaks:

Completely back off adjusting screw on low-pressure regulator.

Close valve on top of CO2 cylinder.

Wait for 5 minutes or more. If pressure on high-pressure gauge decreases excessively, there is a leak in the carbonator circuit.

All connections including cylinder valve should be coated with soapsuds. If bubbles appear a leak is apparent.

Always be sure that the low pressure adjusting screw is completely backed off before testing carbonator circuit for leaks. Otherwise, gas going into the syrup tanks would cause this high pressure gauge needle to balance with pressure in syrup tanks, which would be a false indication of a leak in the carbonator circuit.

After it has been determined that there are no leaks in the carbonator circuit, open CO2 cylinder valve and adjust low pressure regulator to 15 p.s.i. Allow enough time for the syrup tanks to fill completely with gas, (5 minutes or longer).

Next, completely back off low-pressure regulator adjusting screw, and if gauge needle of low-pressure regulator commences to move downward, there is a leak in the low-pressure circuit. Check all connections with soapsuds, paying particular attention to syrup tank covers, syrup quick disconnects etc. If low pressure gauge needle remains stationary, there is no leak.

Unpack LOOSE-SHIPPED PARTS. At this time make sure all parts listed are present and in good condition. If any parts are missing, notify factory.

TABLE 2-1

LOOSE - SHIPPED PARTS

Item No.	Part No.	Name	Qty
1		Installation/Service Manual	1
2	S-768-K	Keys	2
3	-----	I.D. Labels	1 per flavor
4*	SF	Carbonator	1
5*	S-101	High Pressure CO2 Regulator	1
6*	S-221	Low Pressure CO2 Regulator	1
7*	S-105	6' Gas Line (Inner Braid)	1
* Optional			

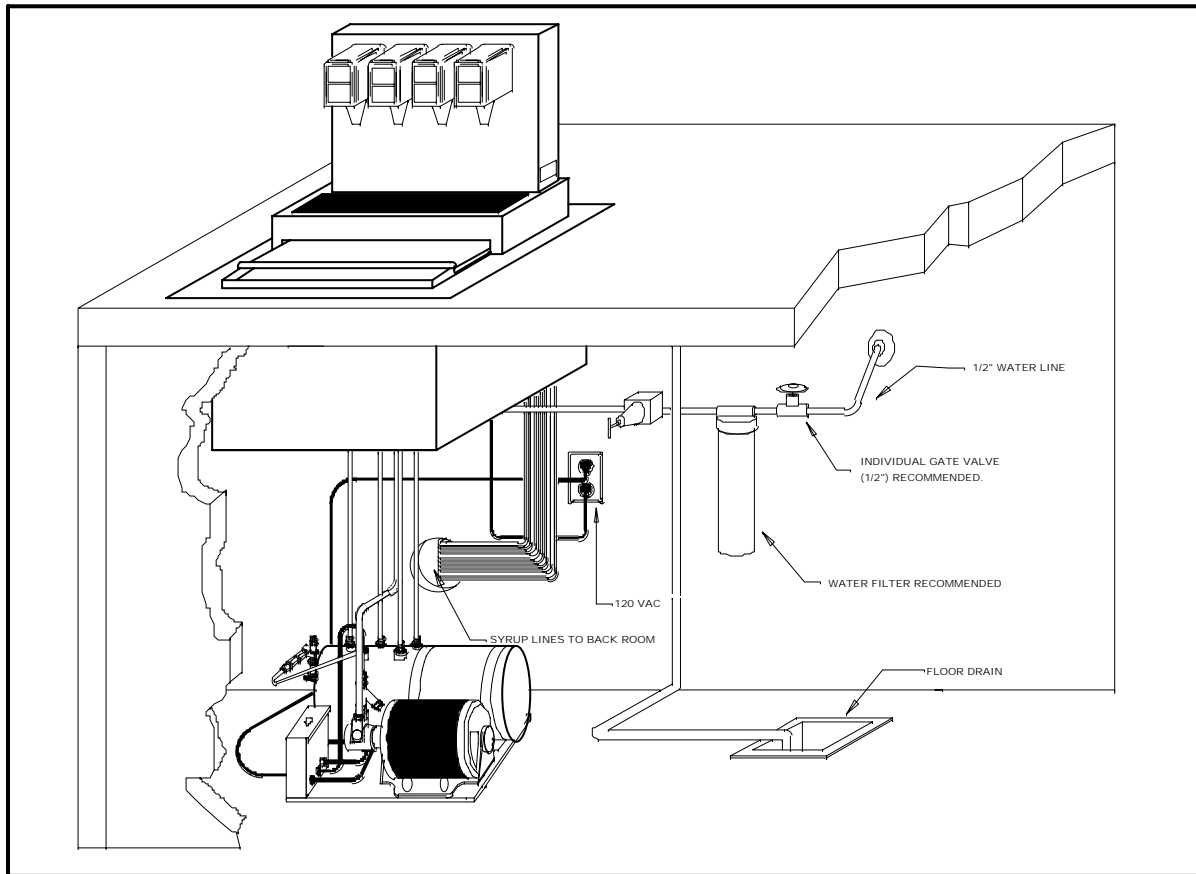


FIGURE 2-1. SAMPLE OF POSSIBLE INSTALLATION.

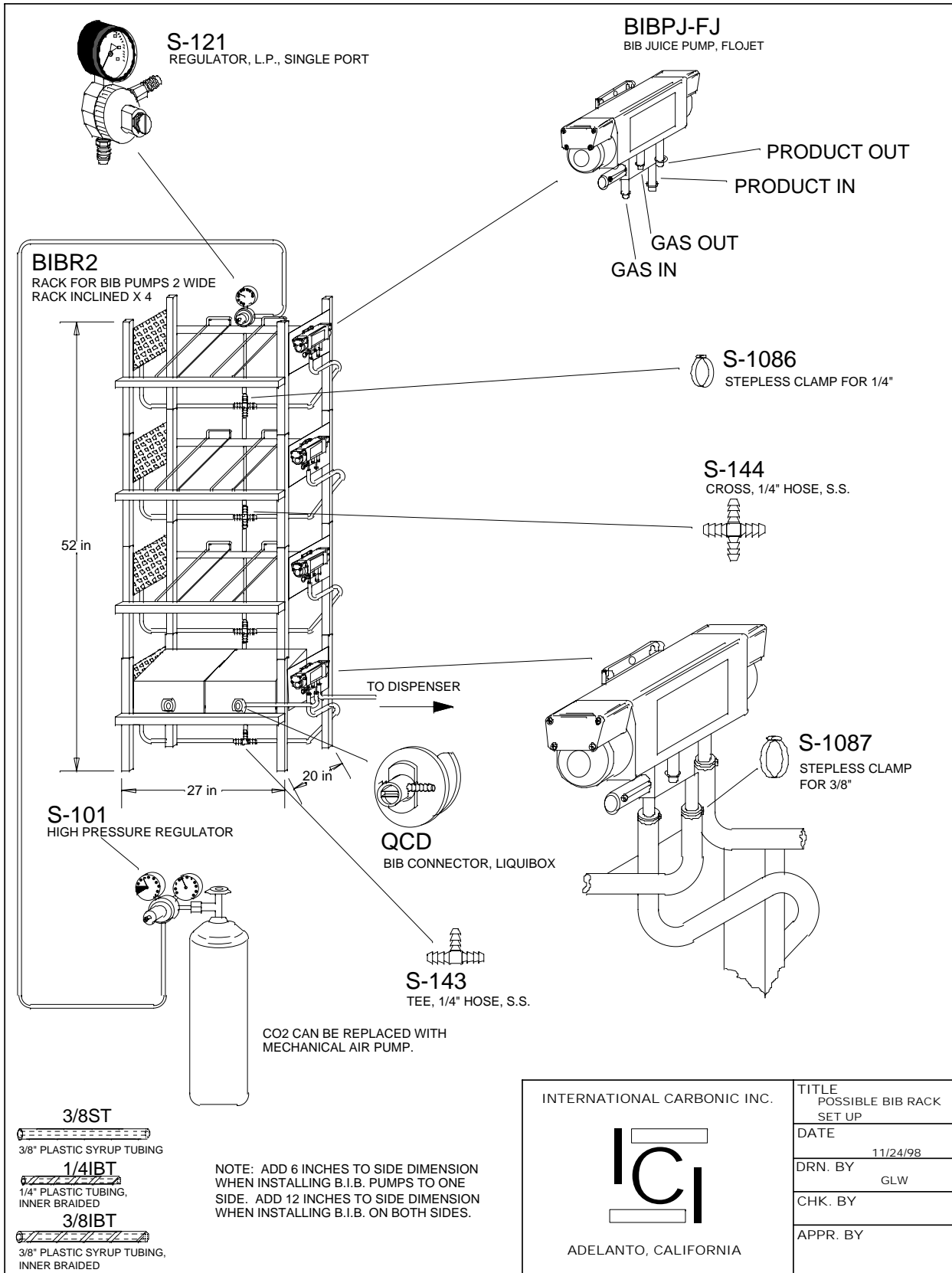
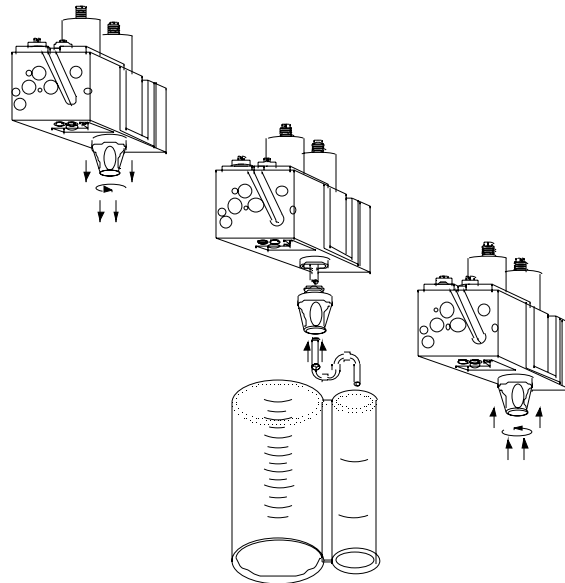


FIGURE 2-1. SAMPLE OF POSSIBLE INSTALLATION BACK ROOM

BRIX INSTRUCTIONS

1. Make sure carbonator/water flow is in an operating condition, i.e., high-pressure regulators set, water and power on and refrigeration in a ready to go mode. In the case of juice systems make sure water flow is un-restricted. It is also recommended that a water pressure regulator be utilized on all systems. Water bath systems must have an ice bank formed.
2. Adjust water flow to 6 ounces in 5 seconds.
3. Remove nozzle (twist and pull down), then insert syrup separator through nozzle, be it "S" type or plastic tube, and on $\frac{1}{4}$ " plastic syrup outlet located inside hidden nozzle area. Then press nozzle back in position.
4. Actuate valve until syrup separator is full of syrup. Hold brix cup close enough to valve outlet to form "S" on the flexible plastic tube so as to prevent any water following the flexible tube into syrup section. This formed "S" will also hold syrup in tube for a more reliable brix reading.
5. Actuate valve allowing the soda water to flow into large section of cup and syrup into smaller section. Adjust the syrup metering pin/flow-control as necessary to secure a proper brix. When proper brix syrup adjustments have been made, the two sections of the cup should fill to the desired ration.



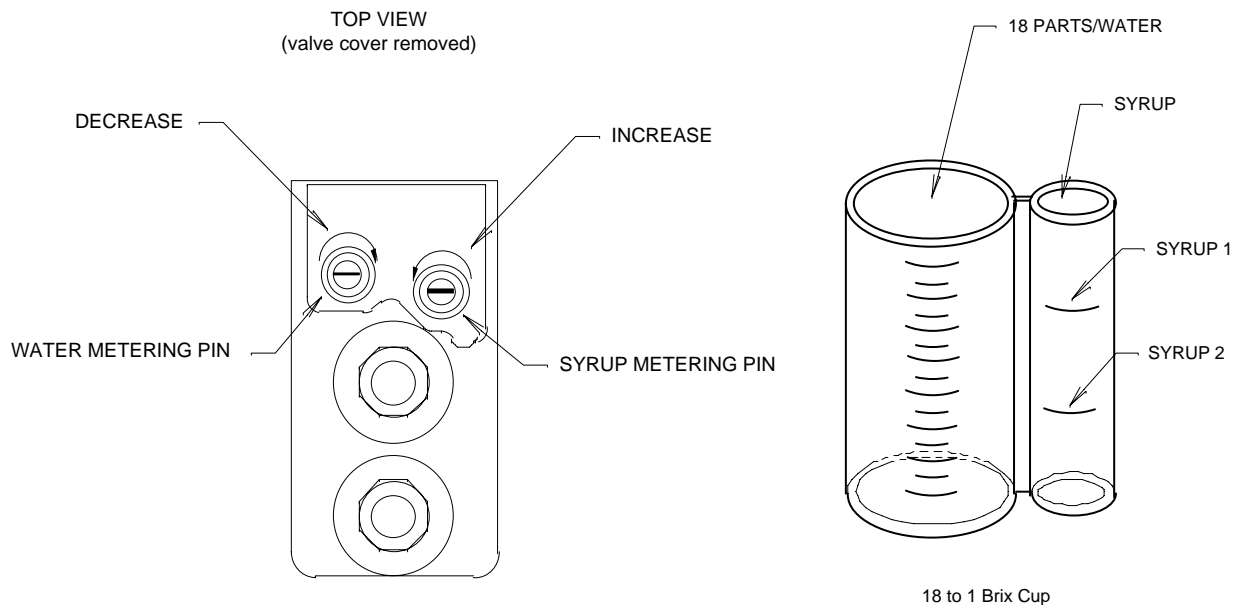
Brix Instructions Continued

BRIXING PFC-II VALVE

The water and syrup flows are individually adjusted by their respective metering pin or flow-controls. Located under the valve cover on the top rear of the valve, see illustration.

One recommended method utilizes the ratio brix cup. The brix cup is divided into two sections, one to hold up to 9 parts water and the smaller section to hold one or two parts of syrup. When adjusting a flavor with a ratio of more than 9 to 1 syrup 2 line must be used. When using syrup 2 line the waterside is doubled to 18 to 1 vs. 9 to 1.

When facing the valve, the syrup is always to the right and the water/soda is to the left. To decrease syrup or water flow, turn metering pin clockwise. To decrease syrup or water flow, when using flow control valves turn counter-clockwise. To increase, reverse rotation respectively. The ultimate goal is to achieve a proper ratio of water vs. syrup. This ratio can and will vary with differing products.



Maintenance:

Cleaning your valve is recommended to insure a constant quality drink. If a valve is not sanitized on a regular basis (nightly recommended), the possibility of foamy and off-tasting drinks is greatly increased.

1. Turn off key switch normally located on valve plate or side of cabinet. Or disconnect tower from electrical supply.
2. Clean all exposed areas of valve with mild soap or sanitizing solution and warm water.
3. Remove nozzle and place in warm water. Do not soak nozzle in bleach water, this will turn the nozzle yellow and cause deterioration. It is recommended to use a soft bristle brush, part No. S-1064, to clean any hard to get areas of valve or nozzle. Do not soak nozzle in extremely hot water, nozzle will warp.

SANITIZING PROCEDURES

Your local health department rules and general area cleanliness should determine the frequency at which the unit should be sanitized.

EQUIPMENT REQUIRED:

1. Stainless Steel containers (product tanks), or large volume container.
2. CO2 Supply if applicable (Same as used with dispensing unit).
3. Cleaning Agent.
4. Sanitizing Solution.
5. Phenolphthalein.

NOTE: One recommended cleaning agent and sanitizing agent is manufactured by:

MT. HOOD CHEMICAL CORP.
4444 N.W. Yeon Avenue
Portland, Oregon 97210

Trade names are: STAR - CHLORINATED CLEANER
CROWN - 12.5% SODIUM HYPOCHLORITE BLEACH

Use STAR at 18 oz. per 1 gallon of water yields 2% Sodium Hydroxide Solution.

Use Crown at 2 ounce per 9 gallons of water (gives 200 PPM of available chlorine) at a minimum contact time of 10 minutes.

1. Disconnect syrup containers and remove product from tubing by purging with carbon dioxide or flushing with warm water.
2. Visually inspect valve by removing nozzle and inspecting nozzle and valve cavity. Clean nozzle with cleaning agent, then sanitizing solution, then with potable water. Inspect valve cavity and if dirty clean with soft bristle brush. Clean exteriors of valve with a soft cloth and warm water. Replace valve nozzle then go to step #3.
3. Fill syrup lines with a caustic-based (low sudsing, non-perfumed, and rinsed) detergent solution, (STAR). The solution should be prepared in accordance with the manufacturers recommendations, but should be at least 2 percent sodium hydroxide. Make sure the syrup lines are completely filled and allow standing for at least 10 minutes.
4. Flush the detergent solution from the syrup lines with clean water. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.
5. Fill the syrup lines with a low PH (7.0) chloride solution containing maximum 200-PPM chlorine. Make sure that lines are completely filled and allow standing for 30 minutes.
6. Reconnect syrup containers and ready Unit for operation.
7. Draw drinks to refill syrup lines and flush the chloride solution from the dispenser.
8. Taste the beverage to verify that there is no off taste.

NOTE: WHEN SANITIZING A TWO FLAVOR VALVE BOTH SYRUPS SHOULD BE FLUSHED SIMULTANEOUSLY, BOTH SYRUPS SHOULD BE CLEANED, (DETERGENT SOLUTION), SIMULTANEOUSLY, BOTH SYRUPS SHOULD BE FLUSHED UNTIL FREE OF DETERGENT SIMULTANEOUSLY AND BOTH SYRUPS SHOULD BE SANITIZED SIMULTANEOUSLY.

Cold plate systems:

Keep the ice bin clean and the cold plate free of mineral build up. The interval for cleaning will vary depending on your water conditions. If cold plates are not allowed to drain freely the system will lose efficiency.

TROUBLE SHOOTING

IMPORTANT: Only qualified personnel should service the DROP IN unit and components.

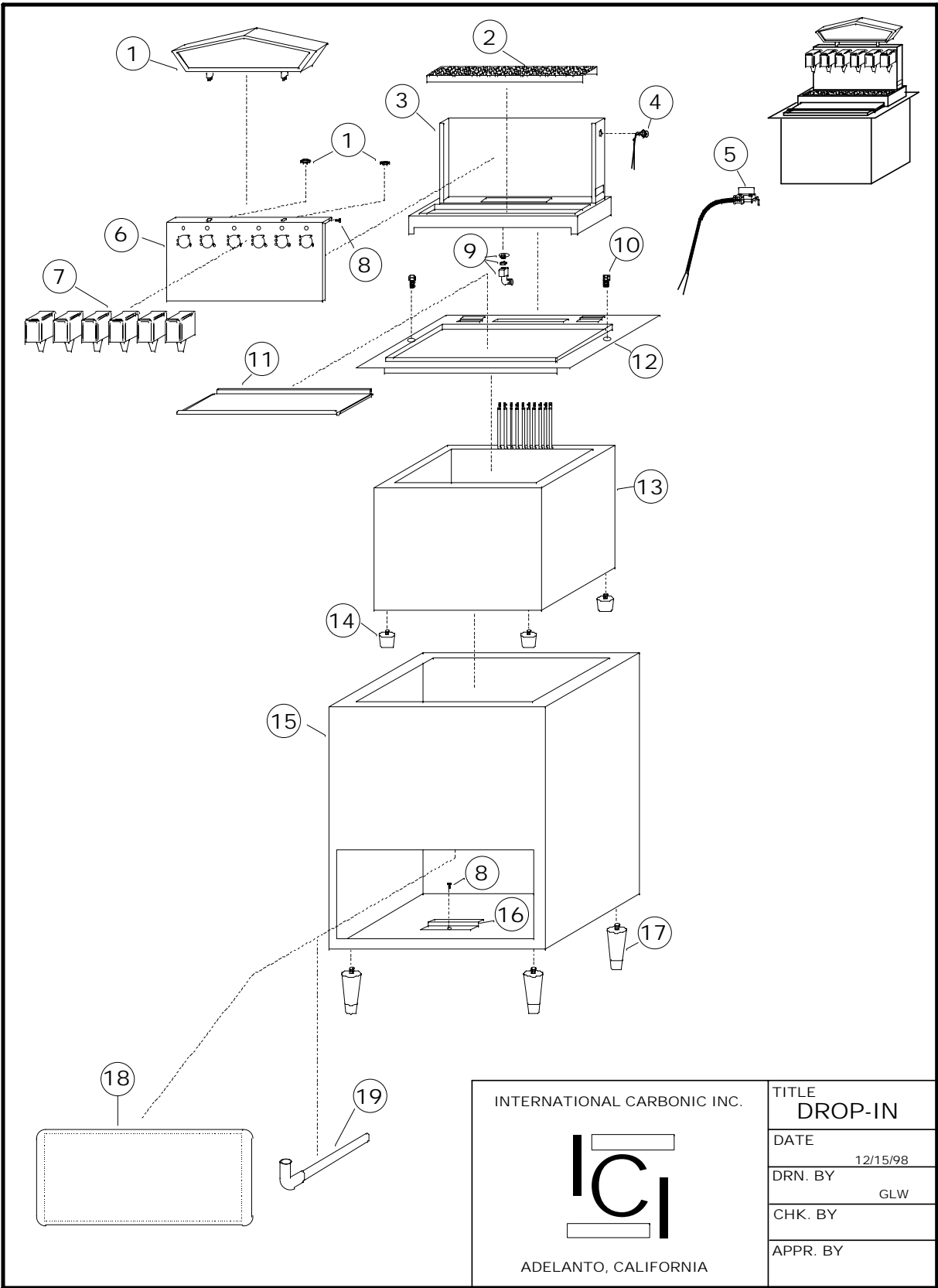
WARNING: To avoid personal injury and or property damage, always disconnect electrical power, shut off plain water and CO2 supplies before starting any repairs. If repairs are to be made to the carbonated water system, bleed carbonated water system pressure before proceeding. If repairs are to be made to syrup system, remove quick disconnects from syrup tanks, or remove QCD from BIB, then bleed system pressure before proceeding.


CARBONATOR

Trouble		Probable Cause		Remedy
DISPENSING VALVES				
Water or syrup leaking from nozzle after actuation	1.	Foreign debris under plunger seat or bent, creased stem.	1.	a. Disconnect syrup or water from affected valve. b. Relieve pressure by activating valve. c. Remove E-623 nut from syrup or water solenoid. d. Remove e-525 coil assembly from e-527 stem. e. Remove E-527 stem from valve body. Note: care should be taken not to dent smooth E-527 wall. f. Valve stem seat should be inspected for any foreign debris. If debris is found remove at this time, also check E-730 stem. Movement should be unrestricted and free. g. Inspect E-730 plunger seat for damage, replace if damaged. h. Reassemble by reversing above procedure.
No water, no syrup being dispensed from valve	1. 2. 3. 4. 5. 6.	No electrical power. Frozen water bath. Pinched or crimped lines. Broken sub-miniature switch. Bad transformer. Disconnected wire.	1. 2. 3. 4. 5. 6.	1. Plug power cord into electrical box. Check line voltage. 2. See "Frozen water bath". 3. Repair defective line. 4. Replace defective switch. 5. Replace defective transformer. 6. Attach disconnected wire.
No syrup being dispensed	1. 2. 3. 4. 5. 6. 7. 8.	Syrup container empty. Syrup lines crimped. CO2 cylinder empty. QCD of syrup installed incorrectly. Low-pressure regulator defective or plugged. Syrup disconnect not attached correctly. Loose electrical connection of syrup solenoid and or open electrical connection. Frozen water bath.	1. 2. 3. 4. 5. 6. 7. 8.	1. Replenish syrup supply. 2. Straighten syrup lines. 3. Change CO2 cylinder. 4. Re-install QCD correctly. 5. Repair or replace low-pressure regulator. 6. Lubricate and attach. 7. Tighten connection and/or repair open circuit. Check proper voltage. 8. See "Frozen Water Bath".

No water being dispensed	<ol style="list-style-type: none"> 1. Plain water inlet supply shutoff closed. 2. Water filter fouled/clogged. 3. Pinched or crimped line. 4. Loose electrical connection, 24 volt. 5. Water pump motor worn out or damaged. 6. Water pump worn out or damaged. 7. Frozen water bath. 	<ol style="list-style-type: none"> 1. Open plain water inlet supply line shut off valve. 2. Replace filter or cartridge. 3. Repair defective line. 4. Tighten connection and or repair open circuit. 5. Replace motor. 6. Replace water pump. 7. See "Frozen water bath".
Volumes of CO2 to low in finished product	<ol style="list-style-type: none"> 1. High-pressure regulator out of adjustment. 2. CO2 cylinder empty. 3. Water, oil, or dirt in CO2 supply. 4. Temperature above quality limits. 	<ol style="list-style-type: none"> 1. Adjust high-pressure regulator as instructed. 2. Replace CO2 cylinder. 3. Clean contaminated CO2 system, (lines, regulator, etc.) and sanitize as instructed. 4. See refrigeration/machine specifications vs. volume requirements.
Dispensed product makes foam as it leaves dispensing valve	<ol style="list-style-type: none"> 1. Pressure of CO2 to high. 2. Syrup over-carbonated with CO2. 3. Dirty nozzle and valve cavity. 4. Temperature above quality limits. 	<ol style="list-style-type: none"> 1. Adjust high-pressure regulator as instructed. 2. Remove syrup tank quick disconnects. Relieve pressure; shake tank vigorously, as necessary to remove over-carbonation. Clean contaminated nozzle and sanitize as instructed. 3. See refrigeration/machine specifications vs. volume requirements. 4.
Dispensed product comes out clear but foams in cup or glass	<ol style="list-style-type: none"> 1. Oil film or soap scum in cup or glass. 2. Ice used for finished drink is subcooled. 	<ol style="list-style-type: none"> 1. Use clean cups and glasses. 2. Do not use ice directly from freezer. Allow ice to become "wet" before using. Note; crushed ice also causes foaming of beverage. Carbonation is released on sharp edges of the ice.
Water-to-syrup ratio to low or too high	<ol style="list-style-type: none"> 1. Syrup flow regulator not properly adjusted. 2. CO2 gas pressure in syrup tanks insufficient. 3. Syrup tubing I.D. Insufficient. 	<ol style="list-style-type: none"> 1. Adjust water-to-syrup ratio (see dispensing station installation instructions). 2. Adjust low-pressure regulator as instructed. 3. Increase syrup tubing I.D. Note: see "Brix instructions"

<p>Adjustment of syrup metering pin does not produce desired water-to-syrup ratio</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	<p>No syrup supply. Syrup tank quick disconnects not secure. Low-pressure CO2 regulator out of adjustment. B.I.B. QCD disconnected or improperly installed. Syrup line restricted. Dirty or inoperative metering pin or piston in syrup flow control.</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	<p>Replenish syrup supply as instructed. Secure quick disconnects. Adjust low-pressure CO2 regulator as instructed. Connect B.I.B. disconnect securely. Clear restriction or replace restricted line. Disassemble and clean syrup flow control. Adjust water-to-syrup ratio, see "Brix instruction".</p>
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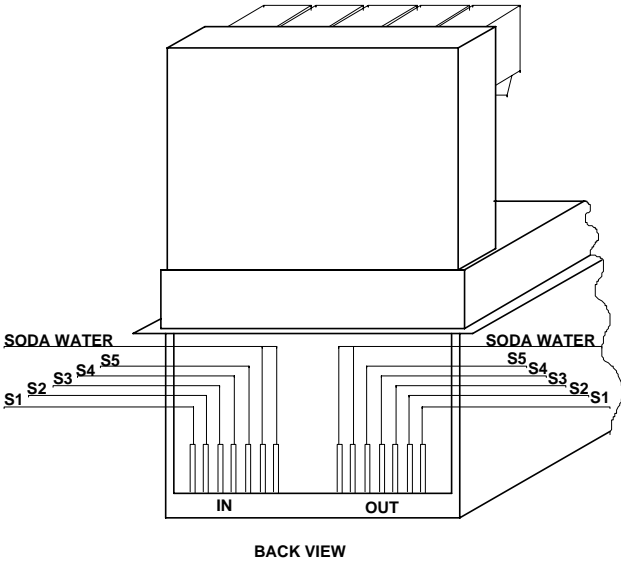
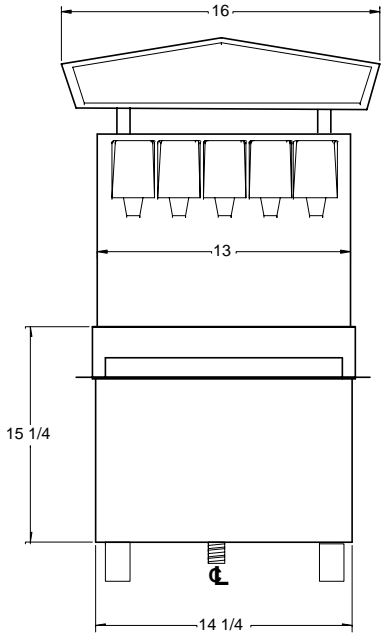
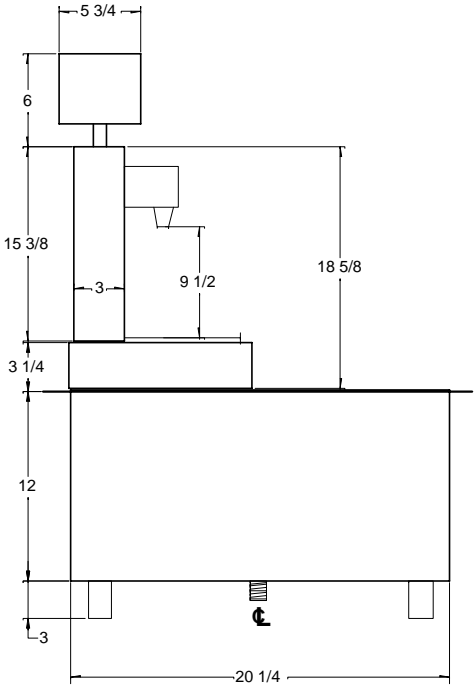


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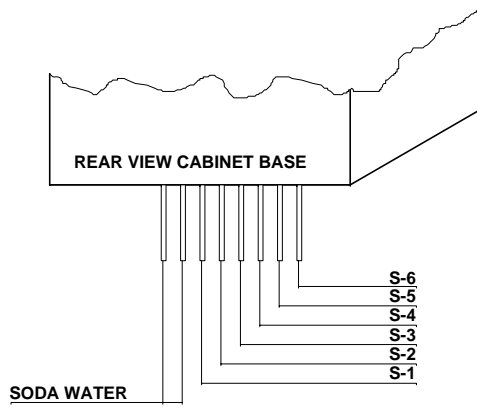
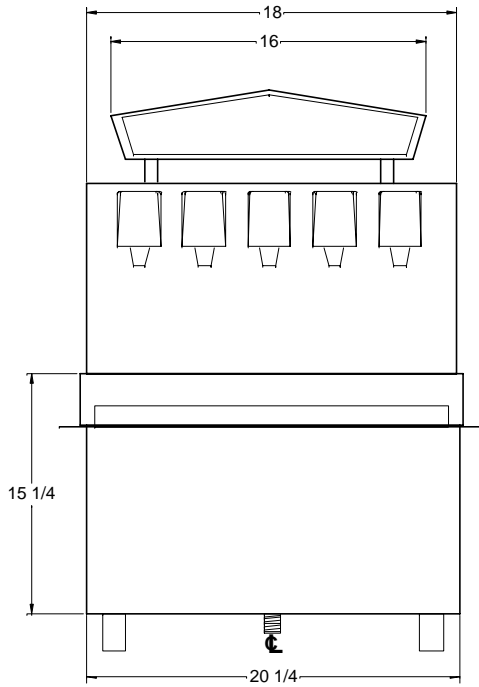
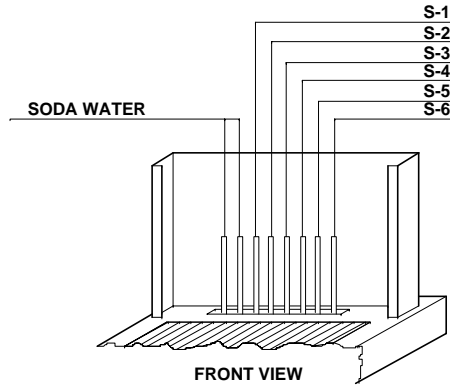
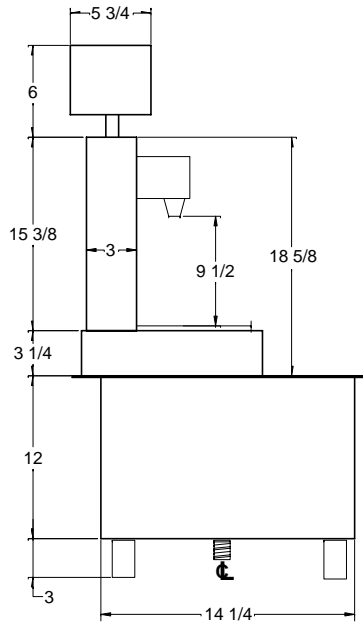
DROP-IN

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SYM	QTY	PART NO.	PART NO.	PART NO.	DESCRIPTION
1	1	S-980	S-980	S-980	ILLUMINATED MERCHANDISER, COMPLETE
2	1	S-877	S-869	S-886	ANTI SPLASH, CUP REST
3	1	S-874	S-867	S-884	RISER ASSY. W/ CM BACK
4	1	S-768	S-768	S-768	SWITCH LOCK
5	1	S-859	S-859	S-859	DOOR SWITCH ASSY
6	1	S-875	S-858	S-885	VALVE MOUNTING PLATE
7		PFC-II-QR	PFC-II	PFC-II-QR	PFC-II VALVE W/QUICK RELEASE (QR NOT AVAILABLE W/201415)
8	3	A-20	A-20	A-20	SCREW, 8-32 X 3/8, PHILLIPS, TH, S.S.
9	1	S-1161	S-1161	S-1164	PLASTIC DRAIN ASSY., ELBOW
10	2	A-59	A-59		SCREW, 10-24 X 1/2 HEX CAP, S.S.
10	2		A-26	A-26	SCREW, 1/4-20 X 1/2 HEX CAP, S.S.
11	1	S-872	S-865	S-887	DOOR
12	1	S-876	S-868	S-883	PICTURE FRAME
13	1	S-873	S-870	S-882	WRAPPER, BUCKET, COLD PLATE, & PICTURE FRAME ASSY.
14	1 SET	S-677	S-677	S-677	LEG, 3", SET OF 4
15	1	S-842	S-837	S-863	SLEEVE
16	1	S-889	S-889	S-889	HOLD DOWN BRACKET FOR SODA FAST CARBONATOR
17	1 SET	S-854	S-854	S-854	LEG, 6", S.S, SET OF 4
18	2	S-834	S-838	S-864	SERVICE PANEL, FRONT & REAR
19	1	S-839	S-839	S-888	DRAIN ASSY. FOR SLEEVE

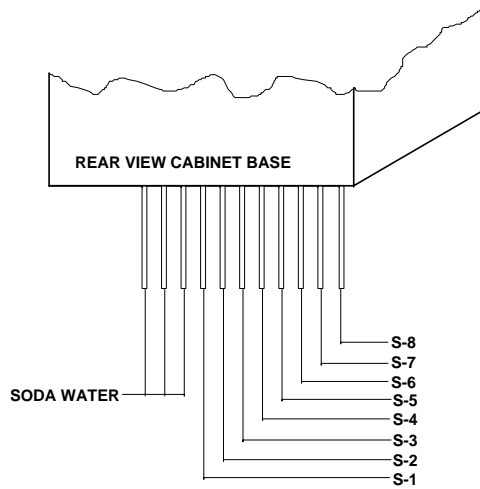
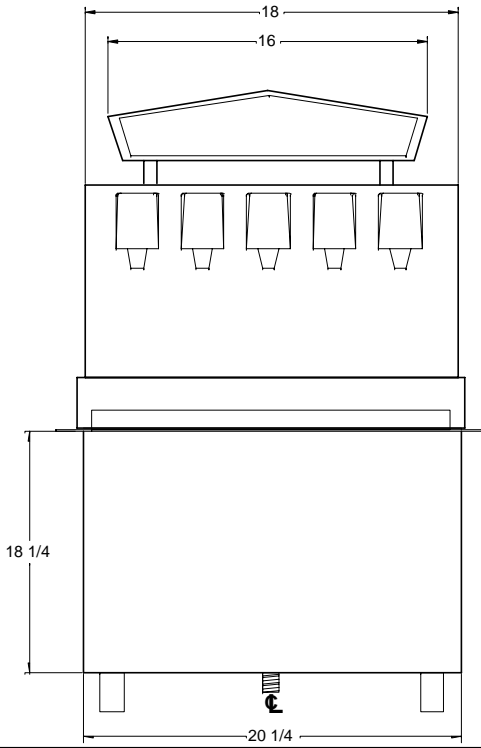
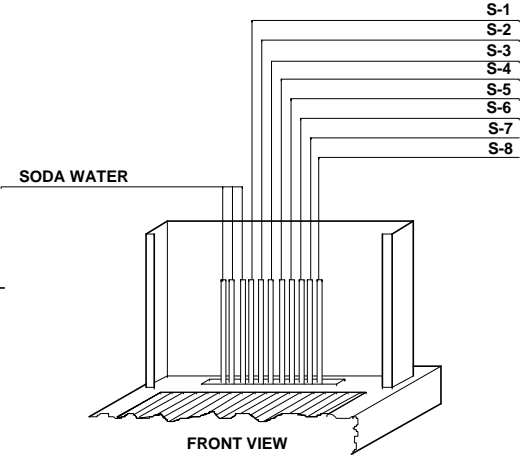
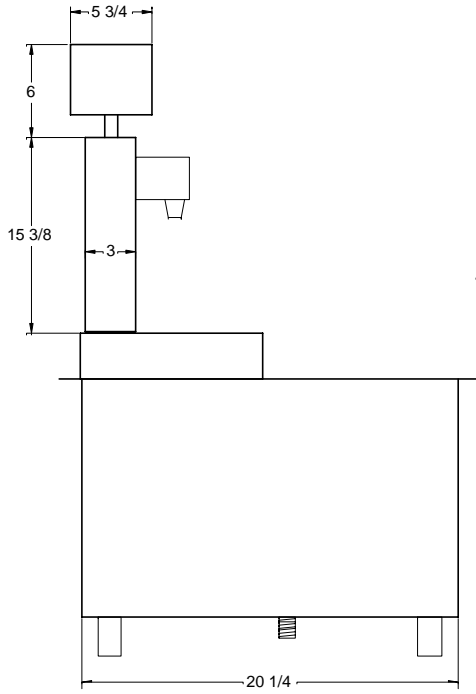
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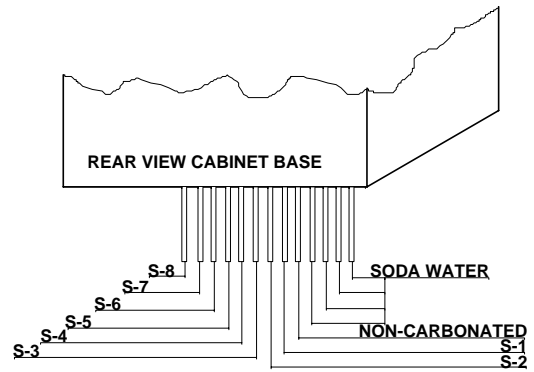
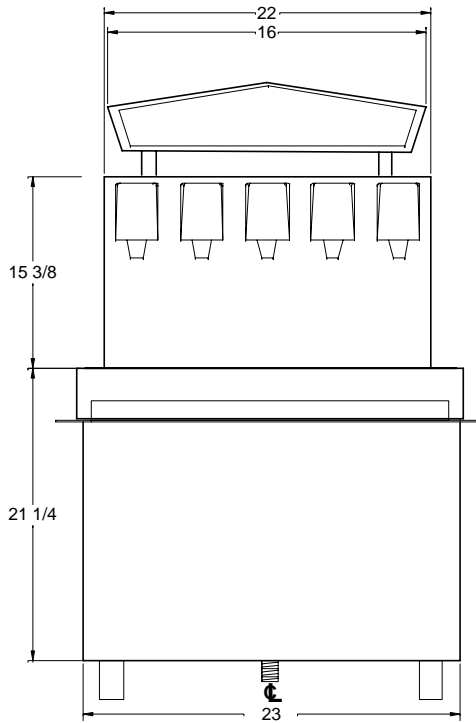
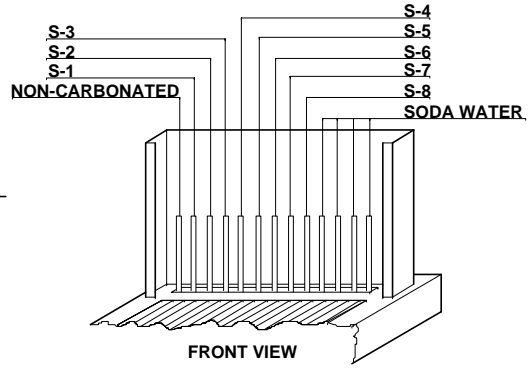
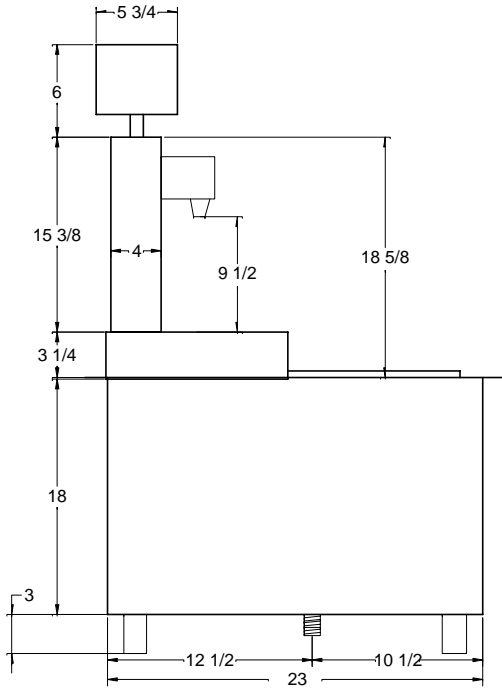
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