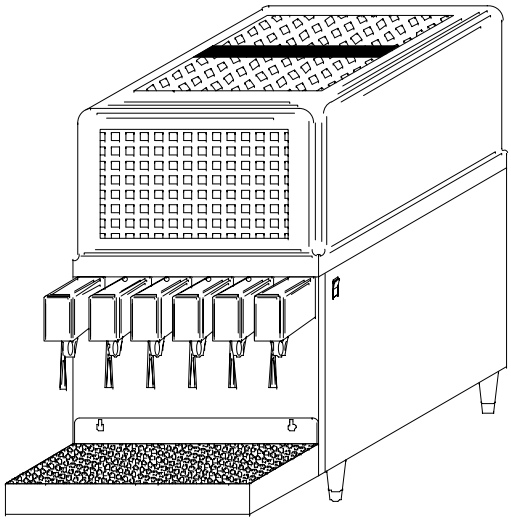
CONCEPT 6000

C-6000

INSTALLATION AND SERVICE MANUAL



INTERNATIONAL CARBONIC INC.

16630 KOALA RD., ADELANTO, CA 92301

(800) 854-1177 * FAX (760) 246-4044

"SODA-FAST SYSTEMS FOR EVERY APPLICATION AND USE"

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.

CHAPTER I

GENERAL DESCRIPTION

This chapter gives the description, theory of operation, and design data for the CONCEPT 6000 and related components.

SYSTEM DESCRIPTION

The CONCEPT 6000 is a complete self contained beverage dispenser which when combined with related components, will produce a variety of cooled carbonated and non-carbonated beverages.

The CONCEPT 6000 consists of a lift out refrigeration condensing unit, a water reservoir, water-cooling coil, an agitator pump, and syrup cooling coil(s) and dispensing valve(s).

For proper function the CONCEPT 6000 must have a water supply, and electrical supply and drainage. The CONCEPT 6000 is designed with a unique lift off drain pan that can be emptied at any convenient drain outlet. Other items that will be required if used in B.I.B., (Bag in Box), or transfer tank, (FIGAL), installations will be High-pressure regulator, Low-pressure regulator, connecting lines, quick couplers, or disconnects, C02 and carbonator if carbonated drinks are required.

> WARNING: Before shipping or relocating a CONCEPT 6000 into a freezing ambient environment empty plain and carbonated water. Syrup systems should be flushed, ice bank melted, and water drained from water bath. A freezing ambient environment will cause existing water in unit to freeze possibly resulting in damage to syrup coils, water coil, water bath, valve(s), etc.

TABLE I - I

DESIGN DATA

COOLING UNIT

Overall cabinet dimensions:	CONCEPT 6000
Height	33 1/4”
Width	16 3/4”
Depth	23 3/4”

Weights:	CONCEPT 6000
Shipping	174 LBS
Dry weight	132 LBS
Operational Weight	232 LBS
Ice Bank	35 LBS

Capacities: Unit water bath (no ice bank)	12 gallons
Refrigerant requirement (R-134-A)	305 grams
Ambient operating temperature	40 F to 100 F.

Electrical Requirements: The cooling unit requires a 115 VAC, single phase, 60 Hertz power circuit.

	CONCEPT 6000
Circuit Ampacity	8.8 Amps
Condensing Unit	6.9 Amps
Transformer	.5 Amps
Agitator	.8 Amps

Water Filter Recommended (Optional) See Manufacturer Specifications for Operating Conditions

	Pressure
Incoming Water Pressure Regulator (Optional)	25 – 40
C02 High-pressure Regulator (Carbonated units only) PSI	90 – 100
C02 Low-pressure Regulator (Carbonated/Flavored units only)	BIB Approx. 40 PSI
C02 Low-pressure Regulator (Carbonated/Flavored units only)	FIGAL Approx. 30 PSI
C02 Low-pressure Regulator (Optional)	FIGAL Approx. 30 PSI
C02 Diet Drink Pressure Regulator (if required)	6 - 10 PSI
DISPENSING VALVES Ambient Operating Temperature	40 F to 100 F
Electrical Requirements: Operating Voltage	24VAC, 6Ohz

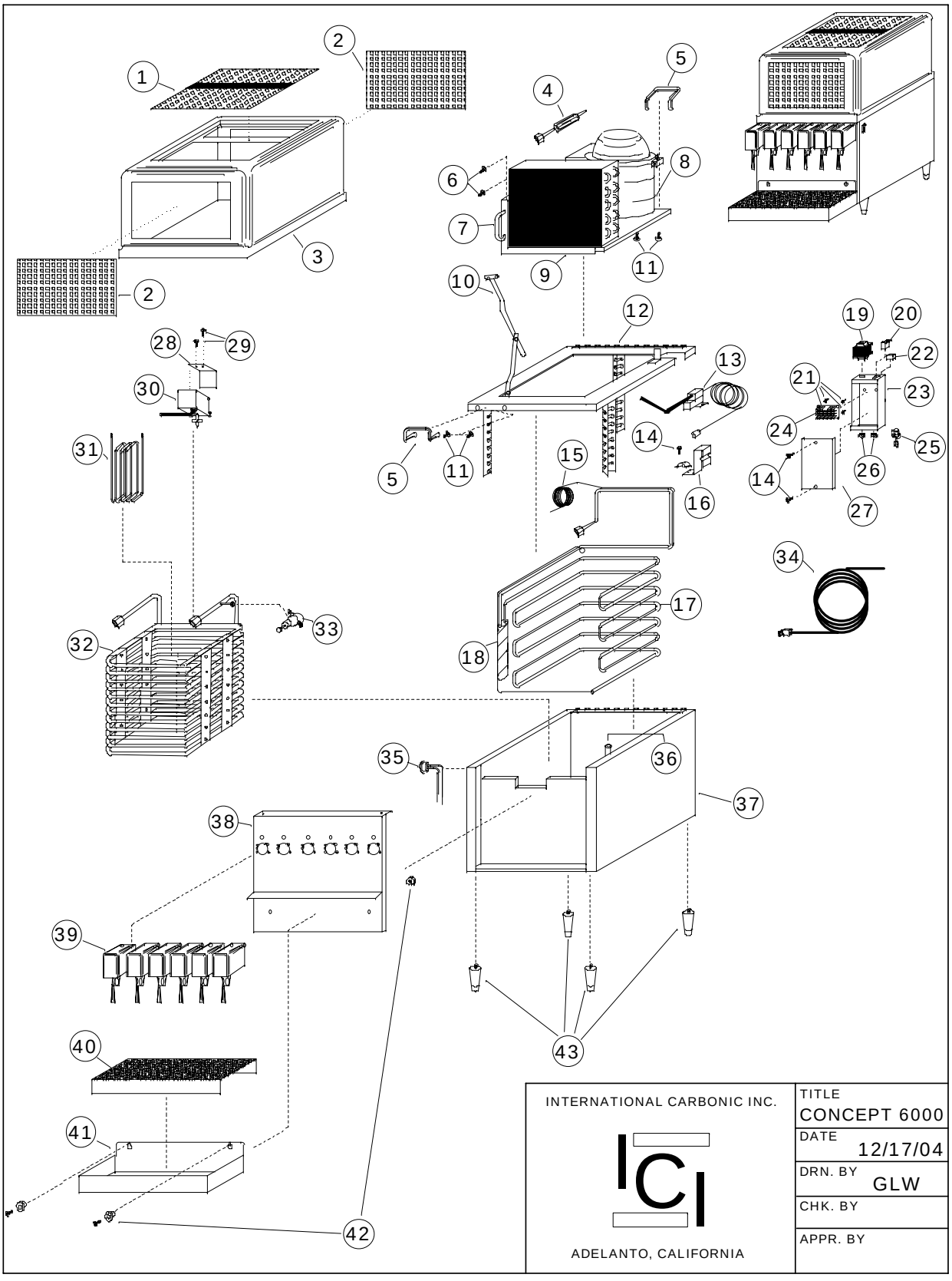
INTERNATIONAL CARBONIC INC.
ADELANTO, CALIFORNIA
TITLE
CONCEPT 6000
DATE
12/17/04
DRN. BY
GLW
CHK. BY
APPR. BY

FIGURE 1-1

CONCEPT 6000

SYM	QTY	PART NO.		DESCRIPTION
1	1	S-1288	S-1262	TOP GRID
2	2		S-1290	FRONT AND REAR VENT
3	1		S-1289	COVER ONLY
4	2	S-1291 REFRIGERATION DECK ASSY.	S-192Y	REFRIGERANT DRIER, R-134
5	2		S-1276	OFFSET HANDLE 5"
6	2		A-24	10-24 X 3/8 T.H.,SCREW
7	1		S-1470	HANDLE
8	1		AEA3440YXAXL	CONDENSING UNIT, 1/3 H.P.
			AEA3440YXA	COMPRESSOR ONLY, 1/3 H.P.
9	1		S-1275	HANDLE BRACKET
10	1		S-1277	SUPPORT HINGE
11	4		A-26	SCREW, 1/4-20 X 1/2 HEX
12	1		S-1281	REFRIGERATION SUPPORT DECK
13	1		S0513-A	EIBC
14	2		A-20	8-32 X 3/8 T.H., S.S. SCREW
15	1		Z0008	CAP TUBE, 12' - 1/8
16	1		S-1304-U	ICE BANK BULB BRACKET
17	1		S-1283	EVAPORATOR
18	1		S-409	9" ACCUMULATOR
19	1	E-276		TRANSFORMER, 40 VA, JUICE
20	1	S-766		UNIT ON/OFF SWITCH
21	4	S-1335		TERMINAL BOARD SPACER, NYLON, 3/8"
22	1	S-1244		SNAP IN RECEPTACLE

FIGURE 1-2

CONCEPT 6000 cont.

23	1	S-1279	CONTROL BOX WITH COVER
24	1	S-1309	TERMINAL BOARD
25	2	E-664	STRAIN RELIEF
26	2	S-46	BUSHING
27	1	S-1280	CONTROL BOX COVER ONLY
28	1	S-1270-LG	AGITATOR BRACKET
	1	S-1306-LG	AGITATOR BRACKET, JUICE
29	2	F-4	#8 X 1/2 SELF TAPPING SCREW
30	1	S-1256-LG	AGITATOR
	1	S-835-L	AG1TATOR JUICE
31	1-6	S-688	SYRUP COIL
32	1	S-1278-SS	WATER COIL, S.S.
	1	S-1278	WATER COIL, JUICE
33	1	S-208-A	WATER REGULATOR, OPTIONAL
34	1	E-141-12	CORD
35	1	S-768	SWITCHLOCK W/KEYS
36	1	S-1285	STANDPIPE, 13 1/4"
37	1	S-1284	WRAPPER & BUCKET ASSEMBLY W/INSULATION
38	1	S-1286	VALVE MOUNTING PLATE
39	6	PFC-II-QR	DISPENSING VALVES
40	1	S-1150-A	CUP REST
41	1	S-1150	DRAIN PAN W/CUP REST
42	1 SET	S-743	DRAIN PAN HARDWARE, SET
43	1 SET	S-765	LEGS, 4", SET OF 4
	1	S-1287	BASE, OPTIONAL

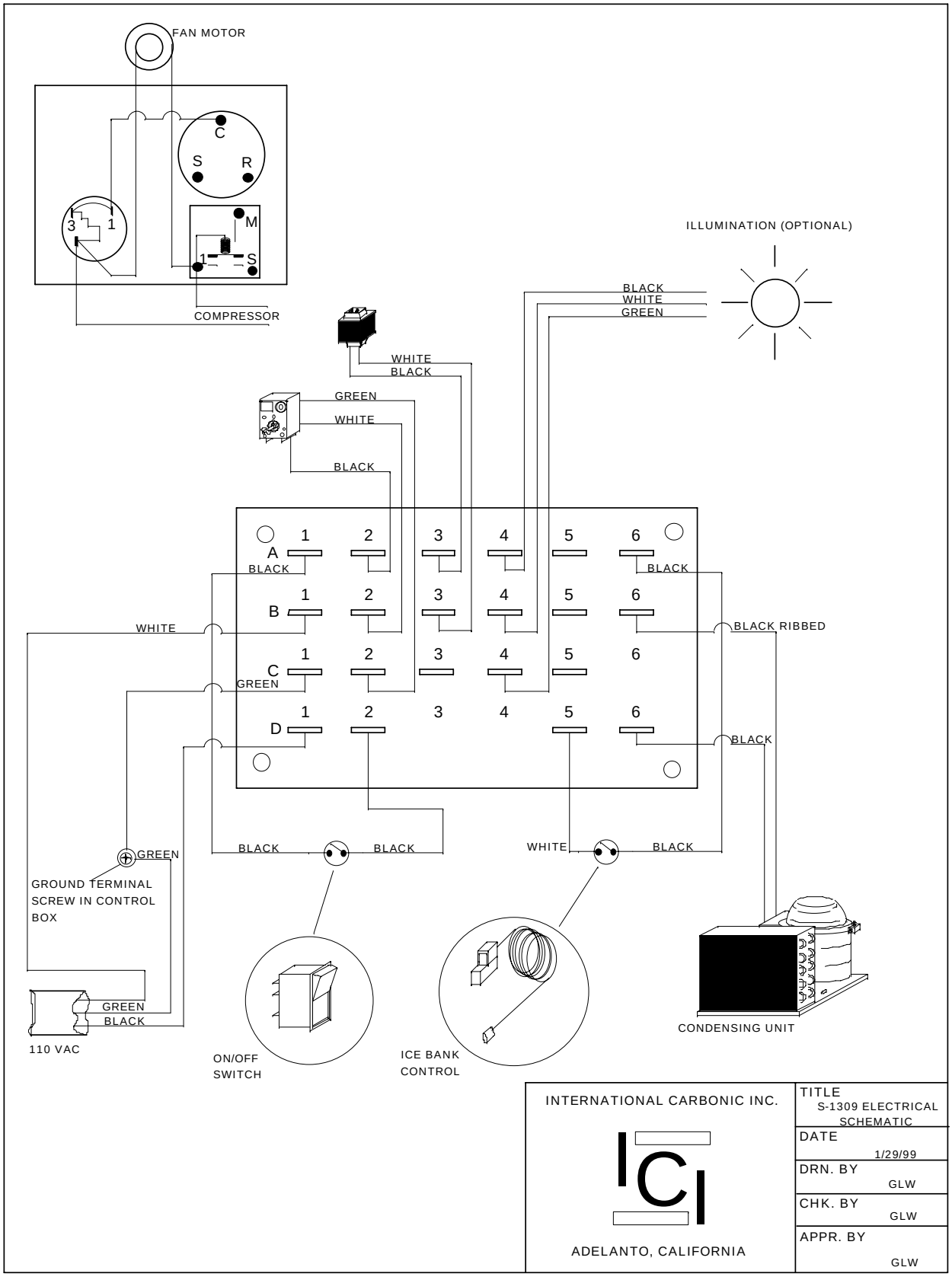
FAN MOTOR
C
S
R
3
1
M
1
S
COMPRESSOR
ILLUMINATION (OPTIONAL)
BLACK
WHITE
GREEN
WHITE
BLACK
GREEN
WHITE
BLACK
A
B
C
D
1
2
3
4
5
6
BLACK
BLACK
WHITE
BLACK RIBBED
GREEN
BLACK
GREEN
GROUND TERMINAL SCREW IN CONTROL BOX
BLACK
BLACK
WHITE
BLACK
GREEN
BLACK
110 VAC
ON/OFF SWITCH
ICE BANK CONTROL
CONDENSING UNIT
INTERNATIONAL CARBONIC INC.
ADELANTO, CALIFORNIA
TITLE
S-1309 ELECTRICAL SCHEMATIC
DATE
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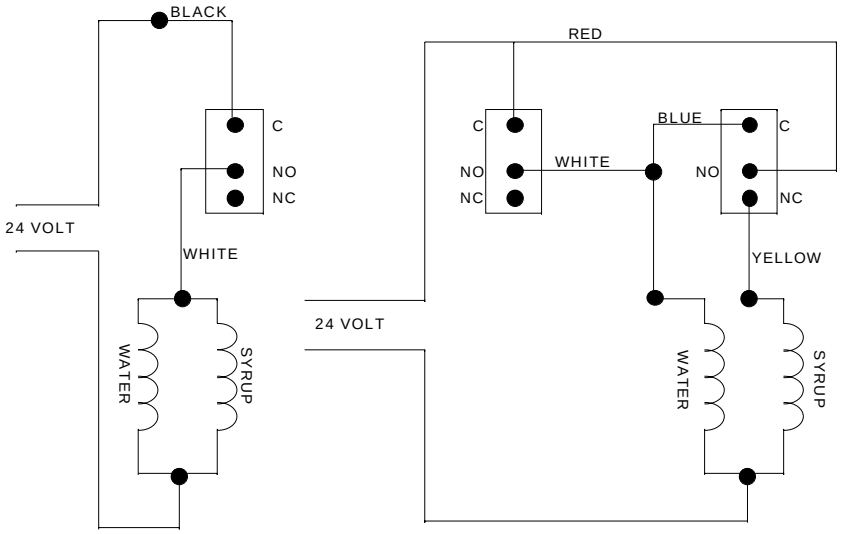
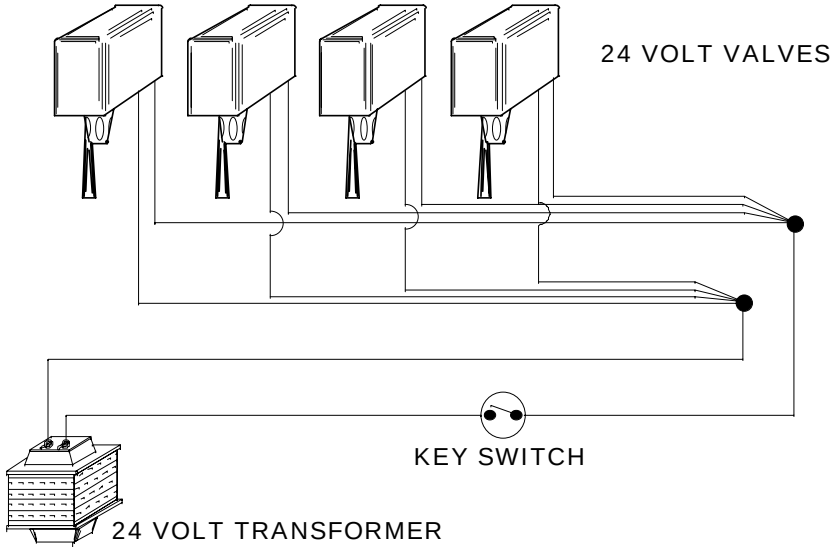
FIGURE 1-3

VALVE SCHEMATIC



SINGLE DUAL



ELECTRICAL SCHEMATIC 24 VOLT

FIGURE 1-4

THEORY OF OPERATION

The CONCEPT 6000 was designed to manufacture and dispense carbonated or non-carbonated beverages much like your local bottling plant that cans or bottles your favorite carbonated or non-carbonated drink.

Initially water is carbonated and then chilled to dispense a quality drink. To chill the water the water is routed through a water coil that is submerged in an ice cold water bath. The temperature of the incoming water is at ambient temperature as it enters the water coil. As the incoming water passes through the water coil the heat is removed from the water in the water coil and chilled to a temperature acceptable for a quality drink. In both cases, carbonated or juice drinks, this procedure is performed. If the CONCEPT 6000 is a carbonated unit the water is routed from a carbonator tank through the water coil then this cold water is mixed with syrup concentrate at the valve. In the case of the juice or non-carbonated drinks the carbonator tank is not needed so the chilled water is directed straight from the water coil to the valve.

The water bath holds approximately 12 gallons of water. A certain amount of this water will be transformed into ice, approximately 35 pounds. This water reserve and ice bank will act as a reservoir for refrigeration. This reserve is utilized during peak periods when the BTU output of the compressor is not sufficient to meet the demand of the draw.

It should be recognized that without refrigeration your carbonation system would not produce a drink that will hold carbonation. There is a direct relationship between dispensed temperature and the volumes of C02 that can be held in liquid form.

The following will give a general overview of the flow of individual circuits and a clearer understanding of our mini bottling plant.

Carbon dioxide gas (CO2) passes from a C02 cylinder through high-pressure regulator (S-101). The high-pressure regulator regulates the CO2 feeding the CONCEPT 6000 and should be set at 90-100 PSI. The gas, after leaving the high-pressure regulator, is routed through flexible tubing to a low-pressure regulator. The flow of CO2 is teed to go in two directions at the low-pressure regulator. One path takes the gas, set at 90 to 100 PSI, to the carbonator. This gas must be at a pressure greater than the incoming water by at least 25-PSI to assure the proper function of the carbonator. The second path of C02 is routed through low-pressure regulator to be regulated at pressures suitable for the syrup concentrate being dispensed. The low-pressure regulator may be set at many different settings but primarily the settings are directed towards B.I.B. or transfer tank type installations. The average settings may vary from 10 to 60 PSI, this of course will be influenced by length of run, ambient temperature and baume of product. Typically B.I.B. installations are set at an average of 40 PSI and transfer tank installations are set at an average of 30 PSI.

As discussed earlier carbonated or plain water enters the CONCEPT 6000 through the incoming water line. This water proceeds through the water coil where it is chilled prior to going directly to a valve.

The water source should be regulated, this is normally performed by the use of an in line water regulator. If the water is not regulated and the water pressure is equal or greater than the incoming CO2 the act of carbonation will be greatly inhibited or completely eliminated.

At the proper settings, the gas pressure will stop the water from entering the carbonator tank. To force the water into the tank a liquid level control and motor/pump will be used. This combination will force the water into the tank mixing the water and CO2 together.

If using a ICI Soda Fast carbonator, the carbonator utilizes a Soda Jet Recirculating Principle. Our Company pioneered this principle in the early 1950's. This principle produces instantaneous carbonation at extremely large capacities of 100 gallons per hour minimum.

The level of the carbonated water within the stainless steel mixing tank is used to operate the motor driven pump. The liquid level control, in conjunction with a probe housed in the carbonator tank, control the pump motor. The motor will come on when the carbonated water within the mixing tank recedes to a predetermined low level and stops the pump motor when the carbonated water reaches a predetermined high level.

During the cycle of operation, fresh water enters the carbonator through the soda jet after passing through a short tube to the water pump inlet fittings. The water pump has impellers which drives the water through a dual check valve and then through the soda jet and into the carbonator tank.

The position and angle of the soda jet is fixed to direct an extremely high velocity jet of fresh water so as to impinge upon the surface of the stored body of carbonator water within the stainless steel mixing tank. The force created by this jet of fresh water entering the mixing tank causes all the water within to cascade and foamesce through the carbon dioxide gas area in a continuous recirculating-manner.

This action causes a breakdown of the surface tension of the water, forming numerous minute gases filled water bubbles. The micro thin walls of these water bubbles surrounded by gas both inside and out, offer maximum water surface for the absorption of the gas. The size opening through this jet permits large volumes of water to be carbonated.

As the incoming water is being carbonated, the level within the tank rises to contact the upper probe, which will de-energize a relay on the liquid level control and stop the motor from turning the pump. This motor will be inactive until water within the tank recedes below the long probe, at which time, the relay on the liquid level control will close, engaging the motor once again.

CHAPTER II

INSTALLATION

This chapter covers unpacking and inspection, selecting location, installing CONCEPT 6000 and related components, connecting water inlet and electrical requirements.

UNPACKING AND INSPECTION

Upon receiving unit, immediately remove unit from shipping carton and inspect for shipping damage.

NOTE: Before leaving the factory the CONCEPT 6000 was carefully inspected and the carrier has accepted and signed for it. Any damage or irregularities should be noted at the time of delivery and immediately reported to delivering carrier. Request a written inspection report from claims inspector to substantiate any necessary claim. File claim with delivering agency, not International Carbonic Inc.!

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-1150	Drain Pan	1
3	S-768-K	Keys	2
4	- - - - -	I.D. Labels	1per flavor
5	S-765	4” Legs	4
6*	SF	Carbonator	1
7*	S-101	High Pressure CO2 Regulator	1
8*	S-221	Low Pressure CO2 Regulator	1
9*	S-105	6’ Gas Line (Inner Braid)	1
10**	S-208	Water Pressure Regulator	1
11**	S-1287	Base	1
12**	S-990	Illuminated Merchandiser	1

* Carbonated Models Only

** Optional

SELECTING LOCATION

IMPORTANT: Ambient temperature for CONCEPT 6000 should not exceed 100 degrees “F”. Operation of cooling unit in ambient above 100 degrees “F” can and will contribute to early failure of condensing unit and poor quality of finished product.

LOCATION RECOMMENDATIONS FOR CONCEPT 6000

1. Position unit as close as possible to proper electrical source, 120V 60HZ.

2. Position unit with a minimum of 2" space between bulkhead and cabinet for sufficient ventilation. Allow enough space between ceiling and unit for cover removal.

3. Position unit as close as possible to water source. Half inch gate valve recommended for water connection.

4. Enough space must be allowed to install C02 cylinder, syrup containers, racks, pumps, water filter, etc.

5. Position unit as close as possible to floor drain.

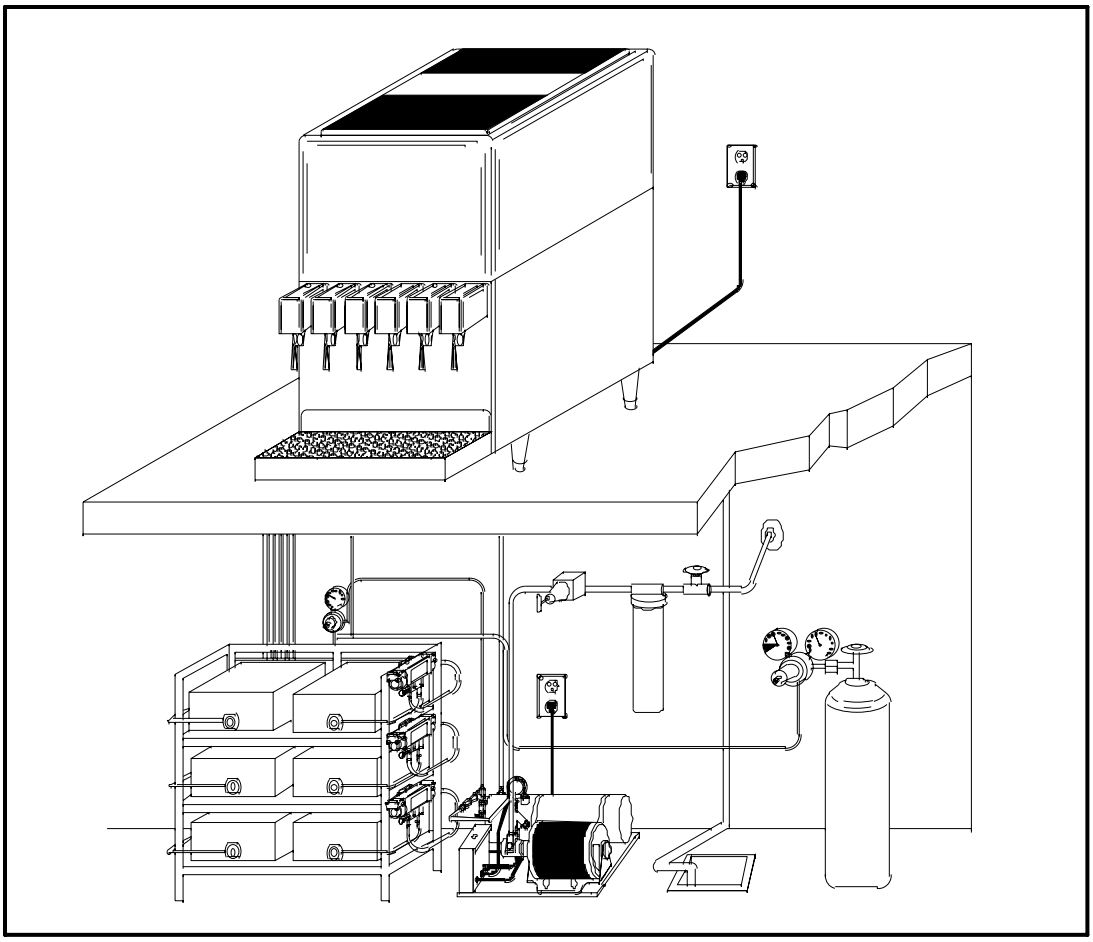


FIGURE 2-1. SAMPLE OF POSSIBLE INSTALLATION.

INSTALLATION

1. Make all connections: C02 gas, plain water and syrups.

2. Place CONCEPT 6000 in position. Make sure sufficient space between bulkheads, walls and overheads is available for proper air circulation around cooling unit.

INSTALL HIGH-PRESSURE C02 REGULATOR, C02 CYLINDER AND LINES
(FOR CARBONATED UNITS ONLY)

1. Install high-pressure C02 regulator, (S-101) on C02 cylinder using a new seal gasket.

MAKE SURE NEW WASHER IS INSIDE REGULATOR ASSEMBLIES COUPLING NUT BEFORE CONNECTING TO CYLINDER.

> WARNING-: To avoid personal injury and/or property damage, always secure C02 cylinder with safety chain to prevent cylinder from falling. It is recommended that the C02 cylinder be installed away from heavily traveled areas such as doors, passageways, corridors, etc.

2. Connect 1/4" inner braided plastic tubing from outlet of high-pressure C02 regulator, (S-101), on C02 cylinder to Tee connection at low-pressure regulator, (S-221), using prefabricated gas charging line, (S-105).

3. A line must be fabricated at this time. Cut inner braid tubing to size and install nipple, (S-145), and nut, (S-150), to each end of tubing making sure either oetiker or ferrule is previously installed on line. Secure these connections by use of proper tool. Connect ¼“, inner braid plastic tubing from outlet of tee at low-pressure regulator, (S-221), (optional furnished with unit), to supplied line from unit marked gas.

INSTALL LOW-PRESSURE REGULATOR AND LINES (OPTIONAL)

1. Install low-pressure C02 regulator on the wall or another supporting structure in general vicinity of cooling unit, C02 cylinder, B.I.B. rack or syrup tanks.

2. Connect 1/4" inner braided plastic tubing from outlets of low-pressure C02 regulator, (S-221), to inlets of B.I.B. pump or syrup tanks.

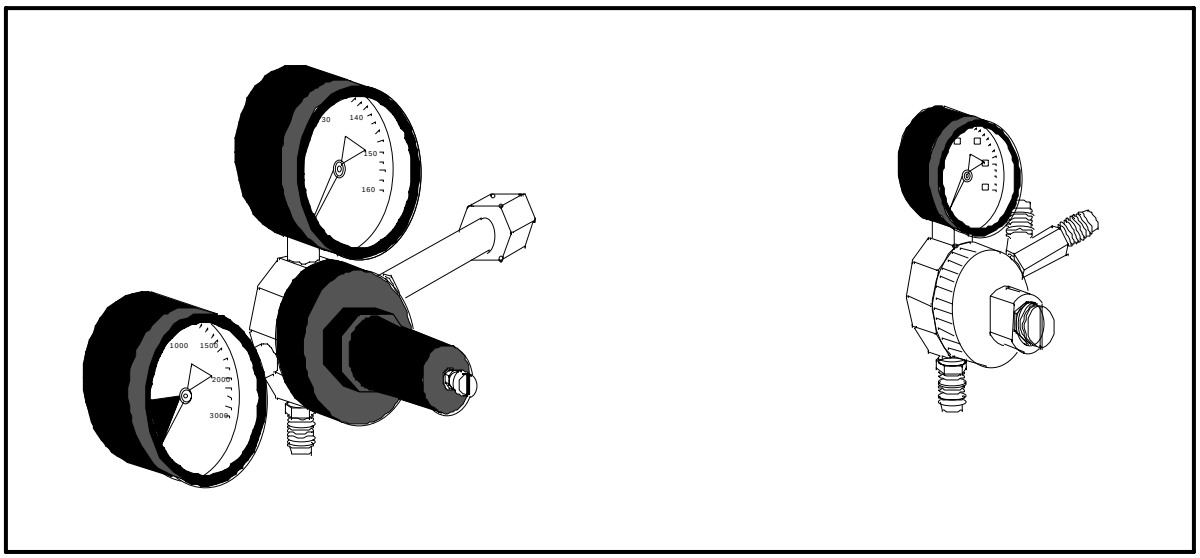


FIGURE 2-2
HIGH-PRESSURE C02 REGULATOR
(S-101)

FIGURE 2-3
LOW-PRESSUREC02 REGULATOR
(S-221)

INSTALL WATER FILTER ASSY. (OPTIONAL)

1. Install water filter assembly on wall or other supporting structure.

2. Connect water filter assembly to inlet of valve on water supply line using minimum 3/8" I.D. water line.

3. Connect water filter assembly outlet to CONCEPT 6000 plain water inlet fitting using minimum 3/8" I.D. water line. See CONNECTING WATER INLET.

When a water filter is used, it is important that it has a minimum 100 gallons per hour capacity and should be thoroughly flushed before it is connected to the water inlet connection.

INSTALL WATER PRESSURE REGULATOR (OPTIONAL)

If water pressure exceeds 40 psi, a water pressure regulator or water pressure reducing valve should be installed in the water supply line and adjusted to maintain a pressure of 25 to 40 psi, (The water regulator must have an orifice of at least 3/16" so as not to restrict the water flow through the valve. Valves that are built with 1/2" pipe thread connection usually have a sufficient orifice opening.) Note: Juice systems may require more water pressure than 25 to 40 psi but a water regulator is still recommended to keep pressure constant.

INSTALL WATER HOLDING TANK (OPTIONAL)

When no water pressure is available or where the water supply system is inadequate, a water holding tank may be installed above the pump level. The pump will pump water from the holding tank to the carbonator.

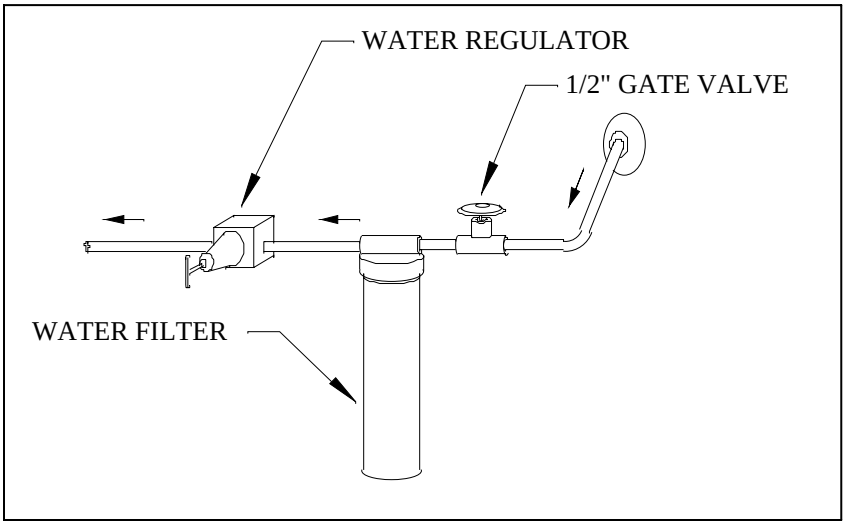


FIGURE 2-4. SUGGESTED WATER FLOW INSTALLATION

INSTALL DRAIN LINE

1. Connect drain line on CONCEPT 6000 unit with drain using 3/8" I.D. clear plastic pipe or 3/8" copper tubing to nearest outlet.

2. Do not reduce drain connection from cabinet outlet.

3. Be sure all connections are water tight.

INSTALL B.I.B. OR SYRUP TANKS AND ACCESSORIES (OPTIONAL)

1. Place B.I.B. or syrup tanks as close as possible to CONCEPT 6000 unit, preferably no farther than 5 feet.

2. Lay out syrup lines from unit to syrup pumps or tanks.

3. Connect lines from low-pressure regulator for B.I.B. or transfer tank installations.

4. Connect line from low-pressure regulator to Q.C.D. for B.I.B. or install quick disconnect for transfer tank type installations.

5. Install incoming syrup line to unit on Q.C.D. for B.I.B.

6. Install quick disconnect on incoming line to accommodate transfer tank installs.

7. Activate Q.C.D. or install quick disconnects to transfer tanks.

8. Check all connections for leaks, (see Chapter IV).

CONNECTING WATER INLET

WATER PIPE CONNECTIONS AND FIXTURES DIRECTLY CONNECTED TO POTABLE WATER SUPPLY SHALL BE SIZED, INSTALLED AND MAINTAINED ACCORDING TO FEDERAL, STATE, AND LOCAL LAWS.

The water connection on the CONCEPT 6000 is made to a flexible water line by means of a 3/8", male flare. Due to the large capacity of the pump, any restriction of the incoming fresh water supply would starve the water pump and create noise within the pump, poor carbonation and extremely long running time.

After all primary water lines are made up, but prior to connecting water supply to cabinet, be sure to thoroughly flush all incoming water lines to remove all scale and any impurities that may be in the lines. It is important to remember that the CONCEPT 6000 has a carbonator capacity of a minimum of 100 gallons per hour. Therefore, it is imperative that the fresh water conduit have not less than 3/8" I.D. passageway for any distance greater than ten feet from the CONCEPT 6000. It can be reduced to 3/8" O.D. copper tubing and connected to the water inlet connection with-in ten feet of the CONCEPT 6000. All water inlet connections are clearly tagged.

ELECTRICAL REQUIREMENTS:

The CONCEPT 6000 requires a 120 VAC, single phase, 60 Hertz power circuit, and must be wired in accordance with N.E.C. or local ordinance.

NOTE: Check CHAPTER I for running amperage and connect to appropriate electrical circuit.

CHAPTER III

PREPARATION

All steps in previous chapters should be understood and carried out before proceeding.

PREPARING SYSTEM FOR OPERATION

Be sure that electrical power is unplugged, valve on C02 cylinder is closed, valve on water supply line is closed, and release pressure of C02 gas and water from carbonator tank.

PREPARING AND STARTING REFRIGERATION UNIT

1. CONCEPT 6000 refrigeration is pre-set at factory and ready to operate.

2. Remove cover, hinge up refrigeration deck.

3. Fill water bath with clean water until water runs out of condensate drain outlet, (S-682).

4. Open water inlet supply line.

5. Plug CONCEPT 6000 power cord into electrical receptacle box, turn power switch to the "ON" position. Make sure compressor, condenser fan motor, agitator motor start. The process of cooling the water bath will now commence. With ambient and water temperature of 75 degree “F” initial pull down or formation of complete ice bank will take approximately 5 – 5.5 hrs. When full ice bank has been formed, compressor and condenser fan motor will stop. Agitator will continue to operate, circulating water in water bath.

PURGE DISPENSING VALVES

Dispense water from dispensing valves until all air is purged from soda water and non-carbonated water lines.

ACTIVATE HIGH-PRESSURE C02 SYSTEM

1. Open valve on the C02 cylinder. Be sure to open valve completely or until valve is back seated.

2. Turn high-pressure C02 regulator screw clockwise until the pressure is 90 to 100 psi, Carbonated units only.

3. Dispense water from dispensing valves until the carbonator activates, carbonated units only.

4. Allow carbonator to run until it automatically shuts off. Pump is fully primed and carbonator is now ready for use, carbonated units only.

5. Check all connections on high-pressure C02 system for leaks. Repair any leaks that are found.

ACTIVATE LOW-PRESSURE C02 GAS AND SYRUP SYSTEMS (OPTIONAL)

1. Make sure high-pressure C02 regulator pressure is 90 to 100 psi.

2. Make sure all B.I.B. racks or syrup tanks are full.

3. Make sure all Q.C.D.,s are in a operational position or gas and syrup quick disconnects are connected tightly with syrup tanks.

4. Turn low-pressure C02 regulator screw clockwise until the pressure is approx. 40 psi for B.I.B. and approx. 30 psi for FIGAL.

NOTE: These pressures will vary depending on baume of product, type of pumps, etc.

5. If diet drink regulator is required turn C02 diet drink pressure regulator screw clockwise until the pressure is 6 to 10 psi.

6. Dispense syrup from dispensing valves until all air is purged from syrup lines and syrup is dispensed.

7. Check for syrup and gas leaks. Repair any leaks that may be found.

ADJUST WATER FLOW RATE

Adjust dispensing valves water flow rate as instructed in chapter IV, OPERATORS INSTRUCTIONS.

ADJUST WATER-TO-SYRUP "RATIO"

Adjust dispensing valves for Water-to-syrup "Ratio" of dispensed product as instructed in chapter IV, OPERATOR INSTRUCTIONS.

ADJUST SIZE OF DRINK DISPENSED (FOR PORTION CONTROL VALVES-PCT ONLY)

Adjust size of drink dispensed as instructed in chapter IV, OPERATOR INSTRUCTIONS.

CHAPTER IV

OPERATORS INSTRUCTIONS

This chapter covers operator's responsibilities for daily pre-operation check, adjustments, replenishing C02 and syrup supplies, cleaning, and sanitizing.

DAILY PRE-OPERATION CHECK

1. Make sure high-pressure C02 regulator's pound per square inch indicator is not in shaded portion of dial. If so, C02 cylinder is almost empty and must be replaced.

NOTE: This reading should be carried out at normal room temperature.

Make sure there is a sufficient syrup supply in all syrup containers. If not, replenish syrup supply.

REPLENISHING C02 SUPPLY

NOTE: If pound per square inch indicator of high-pressure C02 regulator on C02 cylinder is in shaded portion of the dial, C02 cylinder is almost empty and should be changed.

C02 supply must be checked daily and if necessary, replenished as instructed (see CHAPTER II).

REPLENISHING SYRUP SUPPLY

Syrup supply must be checked daily and if necessary, replenished as instructed (see CHAPTER II).

COOLING UNIT MAINTENANCE

NOTE: Air circulation through the condenser coil, required to cool the condenser coil/compressor, is drawn in through vents at the top and sides, through condenser coil and is exhausted out grills at the rear top and back of cover. Restricting air circulation through the cooling unit will decrease its cooling capacity.

To avoid needless and sometimes costly repairs, it is imperative to keep condenser fins clean. This may be accomplished by one of three methods. One method is use of a condenser brush (a longhaired, soft bristle brush) to gently sweep fins of condenser clean. Second method is to use a strong vacuum. The third method is to use C02 or an air hose to blow out condenser. The latter method should only be attempted after normal business hours to avoid dust contamination.

CHECKING WATER BATH

Periodically check water level in water bath. If it is low more water should be added as instructed for maximum product cooling. This dehydration will normally not occur in normal temperate climate zones. With normal humidity the opposite will occur therefore a condensate drain is installed. Any extra water in the water bath will exit the unit via the drain outlet. When unit is building it's first ice bank it is normal to have water overflow the into the drain hose.

CHANGING WATER BATH

Drain water bath a minimum of twice a year. This can be accomplished by siphoning water with short hose into bucket or removing over flow standpipe. Once water is drained and ice bank is melted, water bath, water coils, bath walls, tank, etc. should be cleaned. Refill with distilled water if at all possible. Fill water bath to the top of the standpipe, (S-1285).

ADJUSTMENTS

Periodically C02 regulators should be checked for proper pressure settings and if necessary, adjust as instructed. These settings can be recorded in NOTE section of this manual.

ADJUSTING WATER FLOW RATE

If adjustment of water flow rate should be necessary, adjust as instructed.

ADJUSTING WATER-TO-SYRUP RATIO, “BRIX”, OF DISPENSED PRODUCT

Water-To-Syrup BRIX" of dispensed product should be checked and if necessary, adjust as instructed.

ADJUSTING SIZE OF DRINK DISPENSED (FOR PORTION CONTROL VALVES-PCT ONLY)

Drink size of dispensed product should be checked and if necessary, adjust as instructed.

TESTING FOR LEAKS

1. Completely back off adjusting screw on low-pressure C02 regulator.

2. Close valve on top C02 cylinder.

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

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

S. Always be sure that the low-pressure adjusting screw is completely backed off before testing carbonator circuit for leaks. Otherwise, gas going into 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.

6. After it has been determined that there are no leaks in the carbonator circuit, open C02 cylinder valve and adjust low-pressure regulator to 15 psi. Allow enough time for the syrup tanks to fill completely with gas, (5 minutes or longer).

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

CHAPTER V

SERVICE AND MAINTENANCE

This chapter describes service and maintenance procedures to be performed on CONCEPT 6000 units and related components.

PERIODIC INSPECTION AND CLEANING

Daily:

1. Clean any syrup from storage tanks/B.I.B. racks, connecting sockets/Q.C.D.s and general syrup storage area with warm water.

2. Check the C02 gas supply. If cylinder pressure is below 500 P.S.I., replace the cylinder.

NOTE: Readings should be taken at normal room temperature, approximately 70 degrees “F” and above. If C02 cylinder is stored in a walk-in refrigerator, the P.S.I. indicator will read below 500 psi even when cylinder is full.

3. Check the C02 gas pressure supplying the carbonator and syrup tanks. These pressures should not change. If a change occurs repeatedly, contact your local service agency. It is suggested to make a comment about this occurrence in NOTE SECTION of manual.

4. Clean the beverage dispensing area.

5. Remove and clean nozzles and all exposed areas on valves.

6. Wipe exterior of unit with moist towel. Stainless cleans well with carbonated water.

Weekly:

1. Order syrup to maintain proper inventory.

2. Check all C02 gas connections for leaks.

3. Measure the water-to-syrup ratio on all beverages, adjust ratio if necessary.

4. Check condenser coil for obstructions or dirt.

Monthly:

1. Clean condenser fins or filter to make sure the refrigeration unit has adequate air-flow.

2. Inspect components of cooling unit water bath for cleanliness.

3. Check entire system for leaks or damaged components. Repair as necessary.

CONCEPT 6000 CABINET MAINTENANCE

PERIODIC CLEANING

Periodically wash all external surfaces of CONCEPT 6000 cabinet, rinse with clean water, then wipe dry with a clean soft cloth. DO NOT USE ABRASIVE TYPE CLEANERS.

CLEANING CONDENSER COIL

IMPORTANT: Air circulation through the condenser coil is required to cool the compressor. Air is drawn in through grills on the top, sides, and front of the cooling unit, through condenser coil and exhausted out grills on the rear top and back vents of unit. Restricting air circulation through the cooling unit will decrease its cooling capacity.

NOTE: Cleaning condenser coil should be done during non-use periods.

1. Unplug refrigeration unit power cord from electrical socket.

2. Remove cover of unit.

3. Vacuum or use a soft brush to clean fins of condenser coil. Use low-pressure compressed air or C02 gas to blow through condenser fins. This should only be performed after normal business hours to prevent dust contamination. A damp cloth on backside of condenser coil will prevent some dust contamination

4. Replace cover.

S. Plug CONCEPT 6000 power cord in electrical socket.

CHECKING / CHANGING WATER BATH

Periodically check water level in water bath. If it is low, more water should be added for maximum product cooling. Before adding more water, water bath and ice bank should be checked for excessive mineral deposit build up.

NOTE: The water in water bath should be changed and all components in water bath should be cleaned as often as necessary to keep it clean. A convenient time to perform this operation is when the system is being sanitized.

1. Unplug refrigeration unit power cord from electrical socket.

2. Remove cover from unit and hinge up refrigeration deck.

3. Look down into water bath (if necessary, use flashlight) and inspect water bath, ice bank and all components for cleanliness. Water, ice bank and all components should be clear and free of foreign particles. If ice bank is clear of foreign particles, it does not have to be melted down. Proceed to step 10, if foreign particles are present in the ice bank, proceed to step 4.

4. Siphon out water with short hose or pull out over flow standpipe.

5. Allow ice bank to melt. Hot water may be used to speed melting.

CAUTION: Never use an ice pick or other sharp instruments to remove ice from evaporator coil. Such practice can result in puncture to the refrigeration circuit.

6. Use fiber brush and carefully clean mineral deposit from all components.

7. Wash evaporator coil with a mild soap solution. Copper cleans well with mild solution of citric acid (1 cup of citric acid for 2 gallons of water). Stainless steel cleans well with carbonated water. Then rinse with clean water.

7. Rinse out water bath with clean water until water running out of siphon hose is clean.

9. Insert standpipe in drain hole

10. Fill water bath to top of standpipe.

11. Return refrigeration deck to flat position and replace cover.

12. Plug refrigeration unit power cord in electrical socket.

REPLENISHING C02 SUPPLY

1. Close empty C02 cylinder shutoff valve.

2. Disconnect high-pressure C02 regulator and then remove empty C02 cylinder

3. Install full C02 cylinder and connect high-pressure C02 regulator. See installation procedure in CHAPTER II.

MAKE SURE C02 CYLINDER IS POSITIONED IN UPRIGHT POSITION AND FASTENED WITH SAFETY CHAIN. ALWAYS OPEN C02 VALVE COMPLETELY OR UNTIL BACK SEATED DURING OPERATION. WHEN BOTTLE IS EMPTY ALWAYS CLOSE VALVE ASSEMBLY COMPLETELY.

REPLENISHING SYRUP SUPPLY

1. Remove Q.C.D.s from empty B.I.B. or syrup & C02 quick disconnects from empty syrup tank.

2. Install full syrup container in position, rinse Q.C.D.s or quick disconnects in warm water, then connect Q.C.D.s or syrup & C02 quick disconnects to tank.

3. Activate valve until syrup flows from valve normally. See CHAPTER II.

SYRUP FLAVOR CHANGE

1. Remove Q.C.D.s from applicable B.I.B. or syrup quick disconnects from applicable syrup tank.

2. Sanitize applicable syrup system in accordance with instructions. See paragraph CLEANING AND SANITIZING in this chapter.

3. Install full syrup container in position, rinse Q.C.D.s or quick disconnects in warm water, then connect Q.C.D.s or syrup & C02 quick disconnects to container.

4. Activate valve until syrup flows from valve normally. See CHAPTER II.

CHANGING WATER FILTER CARTRIDGE

Follow manufacturer's instructions for water filter.

ADJUSTMENTS

HIGH-PRESSURE C02 REGULATOR

The high-pressure C02 regulator will have two gauges that extend above and to the side of the bell housing screw area. The P.S.I. gauge will show graduated indications up to 3000 psi and be the gauge the farthest from the C02 cylinder connection. This gauge will normally have a Red area indicating 500 psi to 0 psi. This gauge will be used to check volume of liquid in the C02 cylinder. The other gauge will show regulated pressure that will be delivered to the CONCEPT 6000 carbonation system. This gauge can be indicated from 0-160 psi up to 0-300 psi. By turning the high-pressure regulator adjustment screw clockwise we will increase pressure supplied to our carbonator which will be indicated on this gauge. To lower pressure to carbonation system it is recommended that the adjustment screw be turned counter clockwise several full turns and then the relief valve, (S-215), be lifted lowering pressure in carbonating system, now readjust. When adjusting C02 high-pressure regulator a setting of 70-75 psi is recommended.

INLET C02 PRESSURE TO CARBONATION SYSTEM SHOULD NOT EXCEED 100 PSI

LOW-PRESSURE C02 REGULATOR

The low-pressure C02 regulator setting can and will vary dramatically from one installation to the next. Variables such as distance from syrup containers to point of serving, horizontal or vertical runs, baume of product, to whether B.I.B. or transfer tanks are used will influence where the low-pressure regulator is adjusted.

A good starting point as an adjustment is:

40 psi for B.I.B.

and

30 psi for transfer tanks.

NOTE: After primary adjustment on low-pressure regulator always go to farthest serving station from syrup storage area and adjust heaviest baume syrup (normally ORANGE). If adjustment can be made proceed with all other flavors.

DIET SYRUP TANK C02 REGULATOR S-121

The diet C02 regulator is normally used only on transfer tank installations and should be set from 6 to 10 psi depending on length of run. In some cases where a vertical run is encountered pressure may be set as high as 15 psi. Excessive C02 pressure may cause diet syrup to carbonate resulting in foam.

BRIX INSTRUCTIONS

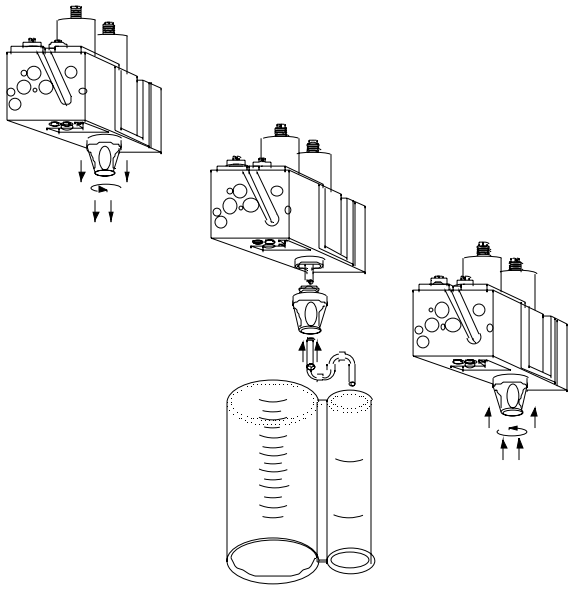
1. Make sure carbonator/water flow is in an operating condition, i.e., high-pressure regulators set, water and power on and refrigeration in a ready to go mode. In the case of juice systems make sure water flow is un-restricted. It is also recommended that a water pressure regulator be utilized on all 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 ¼” 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.



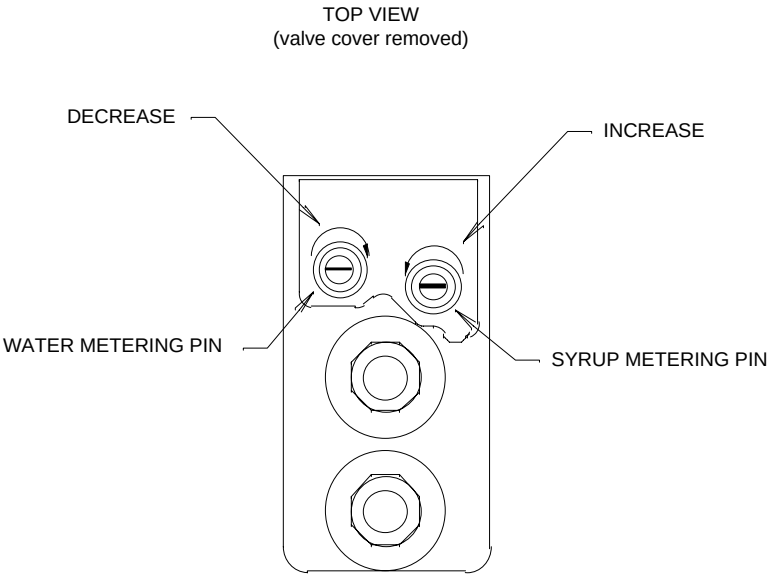
Brix Instructions Continued

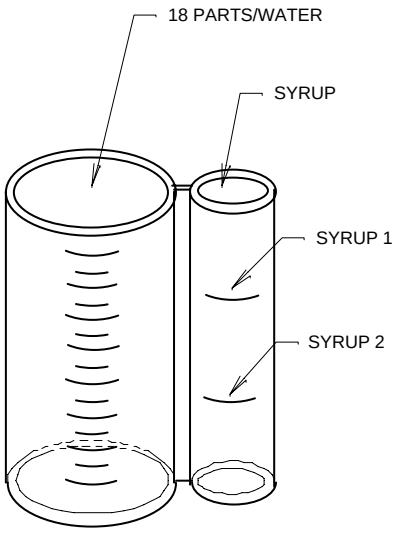
BRIXING PFC-II VALVE

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.





18 to 1 Brix Cup

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 clothe 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 SIMUTAINEOUSLY, BOTH SYRUPS SHOULD BE CLEANED, (DETERGENT SOLUTION), SIMUTAINEOUSLY, BOTH SYRUPS SHOULD BE FLUSHED UNTIL FREE OF DETERGENT SIMUTAINEOUSLY AND BOTH SYRUPS SHOULD BE SANITIZED SIMUTAINEOUSLY.

TROUBLE SHOOTING

IMPORTANT: Only qualified personnel should service the CONCEPT 6000 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
Water pump motor will not operate	1. 2. 3. 4. 5.	Inoperable water pump/ motor. Overheated motor (cut off by thermal overload protector). Electrode inside carbonator tank defective. L.L.C. assembly Inoperable. Loose electrical connection and/or open electrical circuit. Defective pump protector, S-103	1. 2. 3. 4. 5.	Replace water pump/ motor. Check for proper line voltage. Allow motor time to cool. Replace carbonator tank electrode. Replace L.L.C. assembly. Tighten connection and/or repair open circuit. Check line voltage. Replace pump protector
Water pump motor will not shut off	1. 2. 3. 4. 5.	Defective water pump. Electrode inside carbonator tank defective. L.L.C. assembly inoperable. Loose electrical connection and or open electrical circuit. Carbonated water leak.	1. 2. 3. 4. 5.	Replace water pump. Replace carbonator tank electrode. Replace L.L.C. assembly. Tighten connection and or repair open ground circuit. Find and repair leak.
Water Pump motor will not shut off and pressure relief engaged	1. 2.	Electrode inside carbonator does not sense ground. L.L.C. assembly inoperable.	1. 2.	Replace defective electrode or check and tighten ground connection at control box. Replace L.L.C. assembly.
Short cycling of water pump motor	1. 2. 3.	Ground connection loose or disconnected. Electrode inside carbonator tank defective. Carbonated water leak in system. L.L.C. assembly inoperable.	1. 2. 3.	Attach or tighten ground connection. Replace carbonator tank electrode. Repair carbonated water leak. Replace L.L.C. control assembly.
Water pump capacity to low	1. 2. 3. 4.	Inlet water volume supply to low. Water motor/pump worn out. Kinked or restricted water supply line. Foreign object in water pump or restriction to water pump.	1. 2. 3. 4.	Increase diameter of supply line, install holding tank. Replace water pump. Clear or replace restricted water supply line. Clear restrictions and check pump strainer for debris.
Water pump operates but water pump does not pump	1. 2. 3. 4.	Water supply to low or turned off. Inoperative water pump. Water supply filter clogged. Water pump strainer clogged.	1. 2. 3. 4.	Inlet water supply must be a minimum of 3/8". Replace water Pump. Replace filter. Clean water pump strainer.

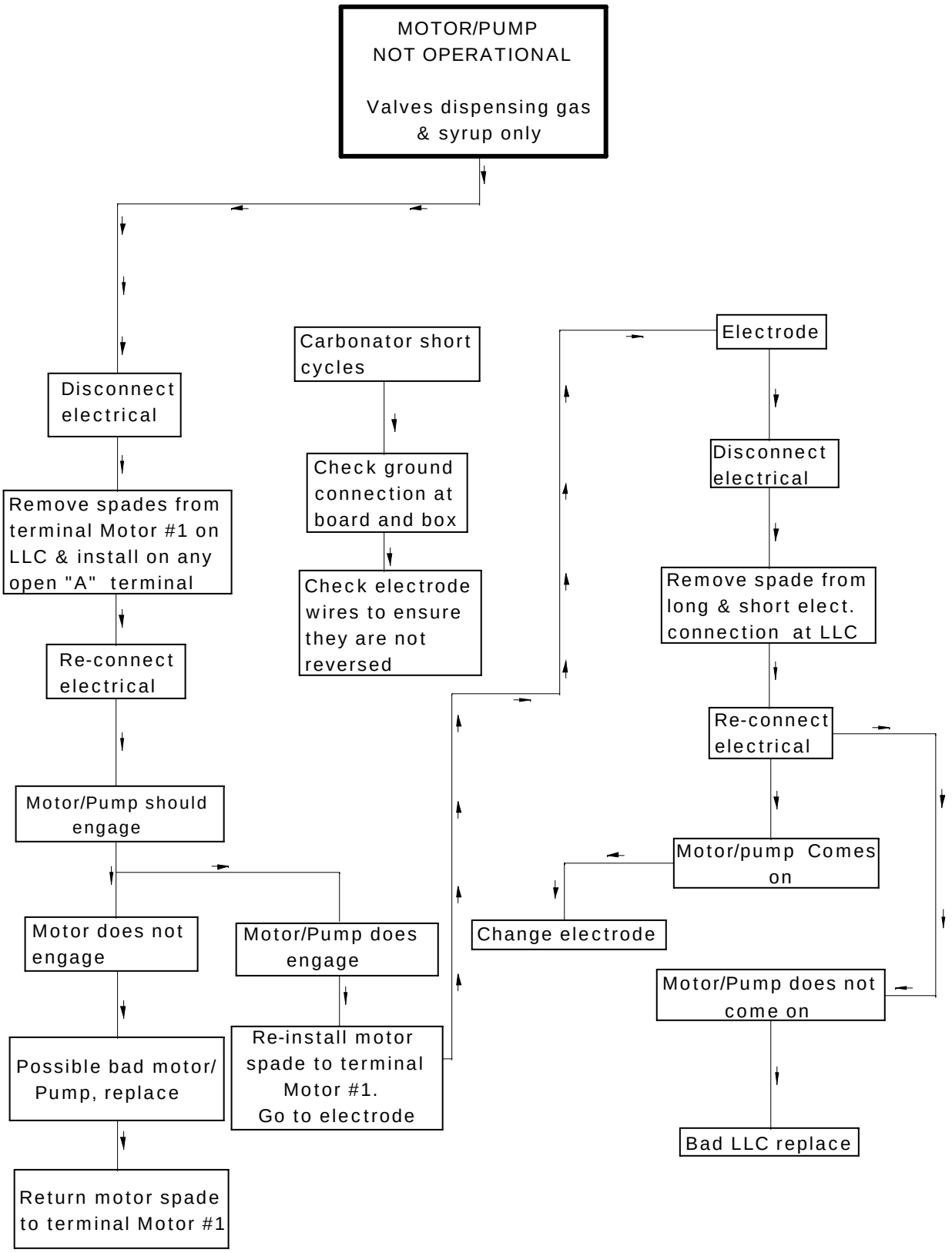
Frozen water bath	1. 2. 3. 4.	Bad ice bank control. Refrigerant leak causing undercharge. Defective agitator motor. Dirty water bath.	1. 2. 3. 4.	Replace bad ice bank control. Repair leak, evacuate and re-charge. Replace defective agitator. Melt ice, empty & clean bath. Replenish w/fresh water.
Cooling or condensing unit non-operational	1. 2. 3. 4. 5. 6. 7. 8.	No electrical power. Defective ice bank control. Dirty condenser unit. Improper voltage/amperage Loss of refrigerant. Bad overload and relay. Compressor bad. Restriction (pinched or crimped line).	1. 2. 3. 4. 5. 6. 7. 8.	Plug power cord into electrical box. Check on/off switch. Replace ice bank control. Clean condenser unit w/vacuum cleaner. Check for proper voltage/amperage. Repair leak and replenish refrigerant. Replace overload and relay Replace compressor. Repair, straighten or replace defective line.
Agitator motor not operating	1. 2. 3. 4.	Agitator propeller obstructed or lost. Low voltage. Loose, unplugged, or broken wiring. Bad agitator motor.	1. 2. 3. 4.	Remove obstruction or re-Attach propeller. Voltage must be at least 110 volt at terminals. Tighten connection or replace broken wiring. Replace agitator motor.
Compressor does not operate	1. 2. 3. 4. 5. 6. 7. 8.	No power source. Electrical power to cooling unit turned off. Low voltage. Loose, disconnected, or broken wire. Inoperative ice bank control. Inoperative overload protector or start relay. Inoperative compressor. Full ice bank.	1. 2. 3. 4. 5. 6. 7. 8.	Plug power cord to electrical box. Check line voltage. Turn on power switch to unit. Voltage must be at least 110 V at compressor terminals at start. Tighten connection or replace broken wiring. Replace ice bank control. Replace defective part. Replace compressor. Refrigeration not called for.
Compressor works continuously but does not form sufficient ice bank	1. 2. 3. 4.	Cooling capacity is exceeded by over drawing. Cooling unit located in excessively hot area. Air circulation through condenser coil is restricted Loss of refrigerant or in-sufficient charge.	1. 2. 3. 4.	Reduce amount of drinks taken per given time of install higher volume unit. Relocate cooling unit. Check and if necessary, clean condenser coil. Repair leak and/or recharge with sufficient refrigerant.

Note: Ice bank freezes from bottom of evaporator upward. A refrigerant leak or insufficient charge might show ice at bottom and not at top of evaporator.				
Compressor will not stop after sufficient ice bank is produced	1. 2.	Ice bank control capillary tube kinked or broken. Ice bank control stuck in closed position.	1. 2.	Replace ice bank control. Replace ice bank control.
Note: During overload protector shut off condenser fan motor will continue to work. Otherwise, troubleshooting condenser fan motor problems is the same as “Compressor does not operate”, paragraph in addition to the following.				
Condenser fan motor not operating	1. 2. 3.	Electrical cord loose or disconnected from condenser fan motor or compressor terminals. Fan blade obstructed. Inoperative condenser fan motor.	1. 2. 3.	Tighten connections or replace cord. Remove obstruction. Replace condenser fan motor.
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.	Plug power cord into electrical box. Check line voltage. See “Frozen water bath”. Repair defective line. Replace defective switch. Replace defective transformer. Attach disconnected wire.

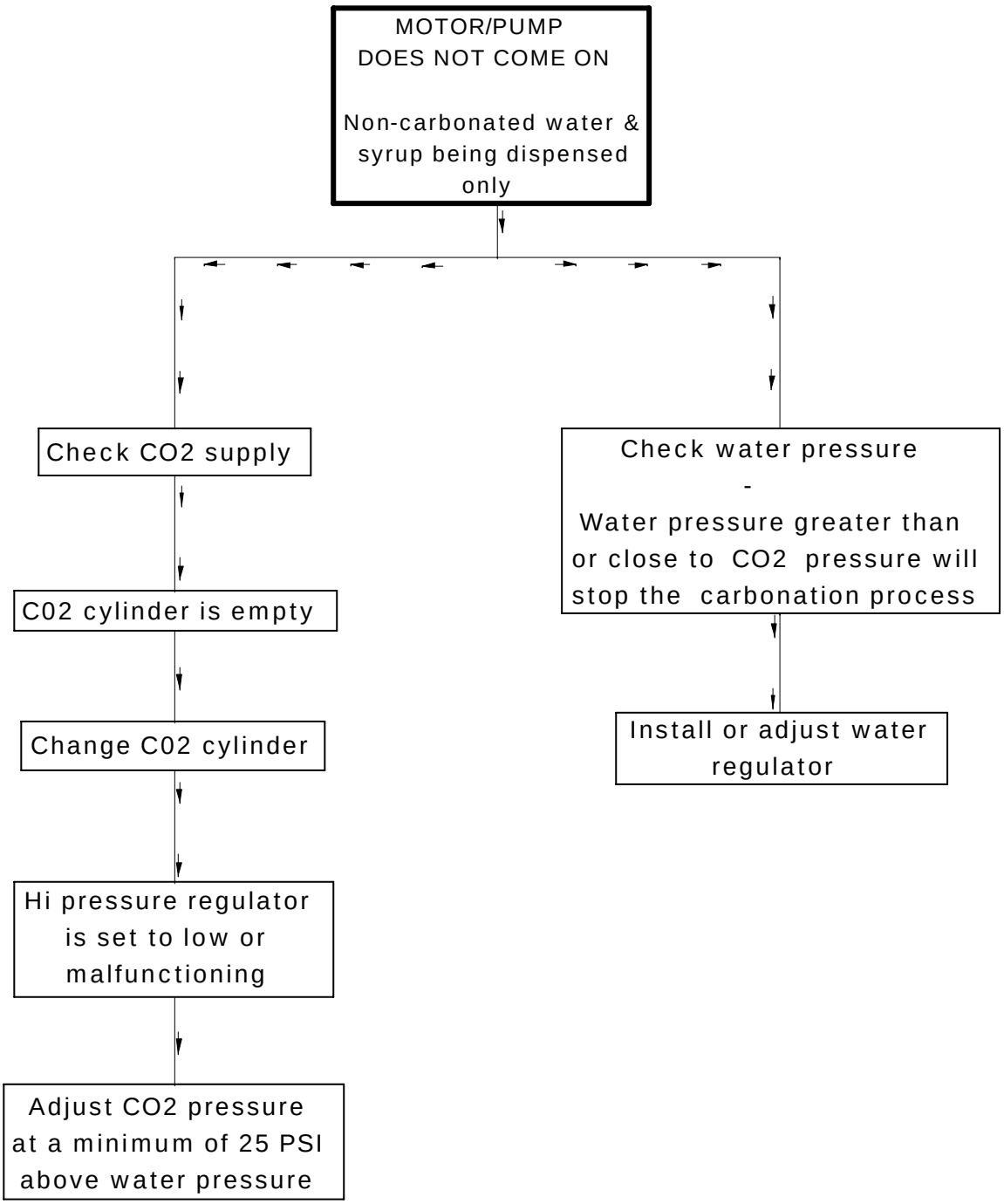
No syrup being dispensed	1. 2. 3. 4. 5. 6. 7. 8.	Syrup container empty. Syrup lines crimped. CO2 cylinder empty. QCD of syrup installed in-correctly. Low-pressure regulator defective or plugged. Syrup disconnect not attached correctly. Loose electrical connection of syrup solenoid and or open electrical connection. Frozen water bath.	1. 2. 3. 4. 5. 6. 7. 8.	Replenish syrup supply. Straighten syrup lines. Change CO2 cylinder. Re-install QCD correctly. Repair or replace low-pressure regulator. Lubricate and attach. Tighten connection and/or repair open circuit. Check proper voltage. See “Frozen Water Bath”.
No water being dispensed	1. 2. 3. 4. 5. 6. 7.	Plain water inlet supply shutoff closed. Water filter fouled/clogged. Pinched or crimped line. Loose electrical connection, 24 volt. Water pump motor worn out or damaged. Water pump worn out or damaged. Frozen water bath.	1. 2. 3. 4. 5. 6. 7.	Open plain water inlet supply line shut off valve. Replace filter or cartridge. Repair defective line. Tighten connection and or repair open circuit. Replace motor. Replace water pump. See “Frozen water bath”.
Volumes of CO2 to low in finished product	1. 2. 3. 4.	High-pressure regulator out of adjustment. CO2 cylinder empty. Water, oil, or dirt in C02 supply. Temperature above quality limits.	1. 2. 3. 4.	Adjust high-pressure regulator as instructed. Replace CO2 cylinder. Clean contaminated CO2 system, (lines, regulator, etc.) and sanitize as instructed. See refrigeration/machine specifications vs. volume requirements.
Dispensed product makes foam as it leaves dispensing valve	1. 2. 3. 4.	Pressure of CO2 to high. Syrup over-carbonated with CO2. Dirty nozzle and valve cavity. Temperature above quality limits.	1. 2. 3. 4.	Adjust high-pressure regulator as instructed. Remove syrup tank quick disconnects. Relieve pressure; shake tank vigorously, as necessary to remove over-carbonation. Clean contaminated nozzle and sanitize as instructed. See refrigeration/machine specifications vs volume requirements.
Dispensed product comes out clear but foams in cup or class	1. 2.	Oil film or soap scum in cup or glass. Ice used for finished drink is subcooled.	1. 2.	Use clean cups and glasses. 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	1. 2. 3.	Syrup flow regulator not properly adjusted. CO2 gas pressure in syrup tanks insufficient. Syrup tubing I.D. insufficient.	1. 2. 3.	Adjust water-to-syrup ratio (see dispensing station installation instructions. Adjust low-pressure regulator as instructed. Increase syrup tubing I.D. Note: see “Brix instructions”
Adjustment of syrup metering pin does not produce desired water-to-syrup ratio	1. 2. 3. 4. 5. 6.	No syrup supply. Syrup tank quick disconnects not secure. Low-pressure CO2 reg-ulator 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.	1. 2. 3. 4. 5. 6.	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”.

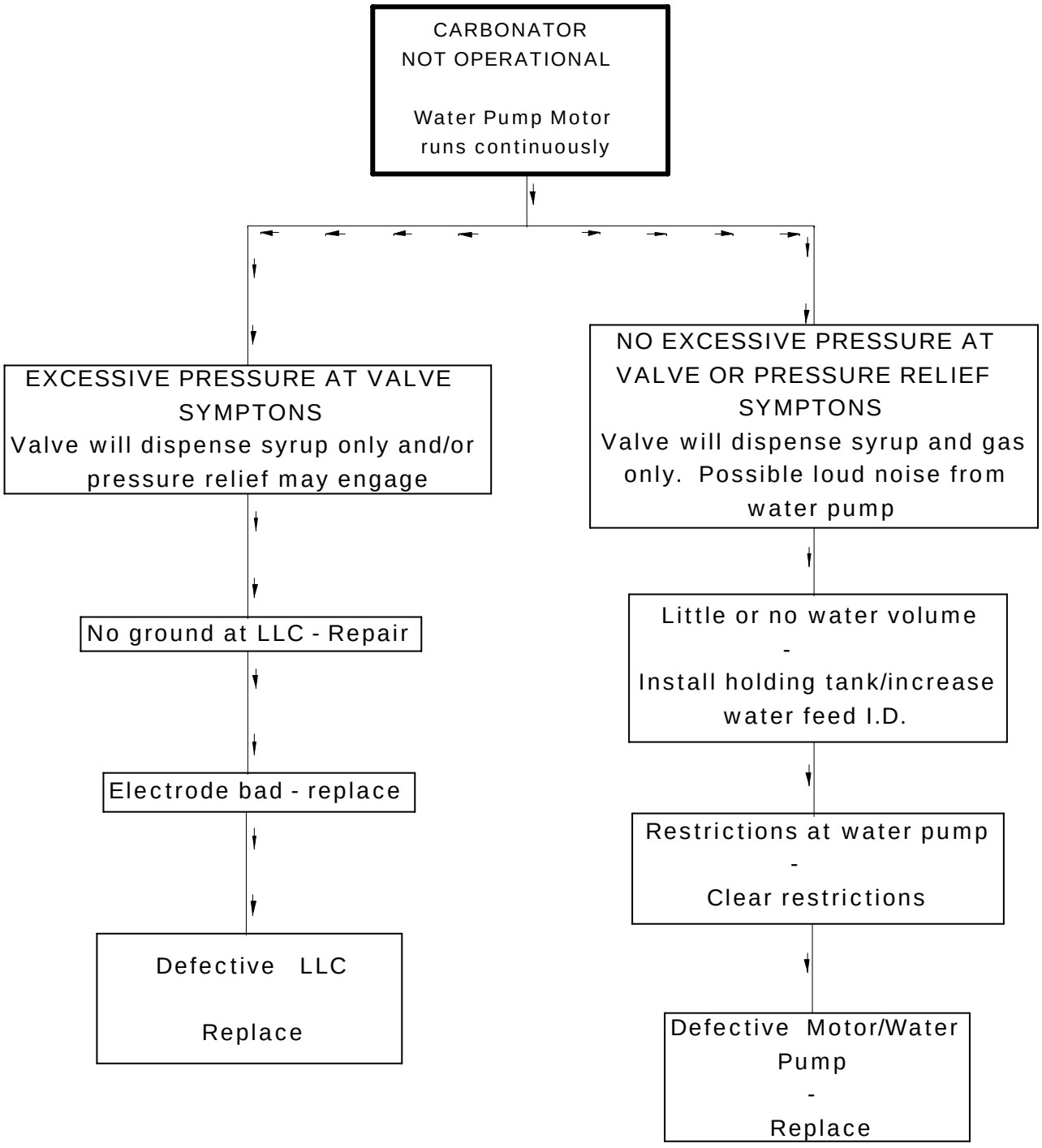
CARBONATION TROUBLE SHOOTING FLOW CHART #1



CARBONATION TROUBLE SHOOTING FLOW CHART #2



CARBONATION TROUBLE SHOOTING FLOW CHART #3



NOTE SECTION

Frequently Called Numbers:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

CO2 SETTINGS:

High Pressure _____ PSI
Low Pressure _____ PSI

Product Setup:

#1	#2
_____	_____

11/05