

S4E V3 Hi-Carb Superchiller

240V / 50Hz

Installation, Operation & Service Manual



Table of contents

1.	Introduction.....	3
2.	The Company.....	3
3.	Our Products	3
4.	Product Details	4
4.1	Product Features	4
4.2	Specifications.....	4
4.3	Models	4
5.	Superchiller Safety Information.....	5
5.1	Safety Instructions	5
5.2	Recognise Safety Alert Symbols.....	5
5.3	Operating	5
5.4	Service & Maintenance	6
5.5	Carbon Dioxide (CO ₂).....	6
6.	Installation.....	6
6.1	Receiving	6
6.2	Unpacking.....	7
6.3	Selecting a Location	7
6.4	Mounting Superchiller.....	7
6.5	Connecting Python	8
6.6	Connecting to water supply	9
6.7	Plumbing the drain and CO ₂ exhaust.....	9
6.8	Connecting to CO ₂ supply	9
6.9	Filling unit with water	9
6.10	Electrical Connection.....	10
6.11	Commissioning	10
6.12	Purge System	10
7.	Scheduled Maintenance	11
8.	Postmix Circuit Diagram	13
9.	Electrical Circuit Diagram S4E V3.....	15
10.	Control Board Connections and Jumper Settings	16
11.	Airflow Diagram.....	17
12.	Trouble Shooting.....	18
13.	Omni Icebank Control Test	22
14.	Omni Carbonator Level Control Test.....	23
15.	Assembly Diagrams & Parts List	24
15.1.	Postmix Parts List.....	24
15.2.	Postmix Assembly Diagram	25
15.3.	Refrigeration Parts List.....	26
15.4.	Refrigeration Assembly Diagram	27
16.	Certificate of Warranty.....	28
17.	Manufacturer's Checklist	29

1. Introduction

Thank you for purchasing this quality Lancer product. All Lancer products are constructed using the highest quality materials and components. They are designed to the highest possible standards, therefore offering our customers endless hours of optimum performance.

2. The Company

Hoshizaki Lancer is a wholly owned subsidiary of Lancer Corporation, a world leader in the supply of Beverage Dispensing Equipment based in San Antonio, Texas. Lancer has manufacturing bases and distribution networks in 97 countries. Lancer is in turn ultimately owned by Hoshizaki Electric Co Ltd of Nagoya, Japan. Hoshizaki is a global leader in food service equipment.

Hoshizaki Lancer's head office and manufacturing base is located in Adelaide (SA), with branch offices and warehousing facilities in Sydney (NSW), Melbourne (VIC), Brisbane (QLD), Perth (WA) and Auckland (New Zealand).

3. Our Products

Lancer specialises in the design, engineering, manufacture, and marketing of beverage dispensing equipment in two core categories:

Soft Drink Equipment

Mechanically cooled and ice cooled soft drink dispensers, frozen beverage dispensers, dispensing valves, carbonators and an extensive line of beverage dispensing parts and accessories.

Beer Equipment

Lancer manufactures and markets beer dispensing and chilling equipment, and related accessories.

Products include founts, chillers, Chillerplates, drip trays, taps, handles, beer line cleaning equipment and an extensive line of beverage dispensing parts and accessories.

4. Product Details

4.1 Product Features

The Lancer Superchiller is an Australian design and manufactured remote refrigerated unit designed to refrigerate and distribute post-mix (soft drinks) as well as maintaining the product temperature through the python and dispenser.

4.2 Specifications

Voltage	240 Volts
Frequency	50 Hz
Max Current Draw	7.5 Amps (3 pumps) / 6.3 Amps (2 pumps)
Ambient Temperature	2 - 40°C
Heat Rejection	3200 watts
Dimensions	
Width	1050 mm
Depth	505 mm
Height	655 mm
Weight	
Shipping	110 kg
Empty	103 kg
Operating	175 kg
Refrigerant	600 Grams R134a
Ice bank Weight	30 kg
Water Bank Capacity	72 litres
Construction	Stainless Steel
Drink Capacity	275 x 355 ml (12oz) drinks below 4.4°C at 4 drinks per minute with 40°C ambient, syrup inlet temperature and 32°C water inlet temperature.

4.3 Models

S4E22LA V3 - Superchiller with carbonation and soda circulation pumps.

S4E22LAS V3 - Superchiller with carbonation and soda circulation pumps & syrup coils.

S4E23LA V3 - Superchiller with carbonation, soda, and water circulation pumps.

S4E23LAS V3 - Superchiller with carbonation, soda, and water circulation pumps & Syrup coils.

Options

Adjustable legs (79232218) Height with legs approx. 805mm

Casters (79602411) Height with casters 765mm

5. Superchiller Safety Information

5.1 Safety Instructions

For your personal safety, and that of others working around you please read, understand, and follow thoroughly all safety instructions included in this manual and on the Superchiller.

- Review all applicable OSH (Occupational Safety & Health) regulations.
- Review all applicable Beverage Dispensing Gas Standards
- Learn how to operate the Superchiller and use the controls properly.
- Do not allow untrained personnel to operate the machine.
- Ensure that the Superchiller is maintained according to service manual instructions.
- Do not allow any unauthorised modifications to the machine.

5.2 Recognise Safety Alert Symbols

The safety alert symbol precedes **Warning** and **Caution** notes throughout this manual. To prevent personal injury or damage to the machine these alerts must be strictly adhered too.



Warning

Alerts to a potentially hazardous situation that if not avoided **CAN** result in death, serious injury.



Caution

Alerts to a potentially hazardous situation that if not avoided **MAY** result in injury or equipment damage.

5.3 Operating



Warning

Superchillers are intended for indoor operation only; do not operate outside unless suitably protected by a weatherproof enclosure. This appliance is not suitable for installation in an area where a water jet could be used.



Caution

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

5.4 Service & Maintenance

**Caution**

Installation of Superchiller and service work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians.

**Warning**

Carbonator contains CO₂ gas and water under pressure. Depressurise before performing any work on the system.

**Warning**

ALL WIRING AND PLUMBING MUST CONFORM TO LOCAL AND NATIONAL CODES.

**Warning**

SUPERCHILLER MUST BE ISOLATED FROM ELECTRICAL SUPPLY BEFORE COMMENCING ANY SERVICE OR MAINTENANCE WORK.

5.5 Carbon Dioxide (CO₂)

**Warning**

The Superchiller uses a CO₂ (Carbon Dioxide) supply. CO₂ is a heavier than air, colourless, non-combustible gas with a faintly pungent odour.

Personnel exposed to high concentrations of CO₂ gas will experience tremors, which are followed rapidly by loss of consciousness and suffocation.

If a CO₂ gas leak is suspected, **immediately** ventilate the contaminated area before attempting to repair the leak.

6. Installation

**Warning**

To avoid personal injury or damage, do not attempt to lift a Superchiller without help. Use of a mechanical lift is recommended. (NOTE: Empty S4E Superchiller weight: 103kg)

6.1 Receiving

Each unit is completely tested under operating conditions and thoroughly inspected before shipment. At time of shipment, the carrier accepts the unit and any claim for damage(s) must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect shipping crate for visible indication(s) of damage. If damage exists, have carrier note damage on bill of landing and file a claim with the carrier.

6.2 Unpacking



Caution

The use of gloves is recommended to protect hands from potential injury from sharp edges. The Superchiller must always be handled in the horizontal position.

Carefully unpack the Lancer S4E Superchiller from the shipping carton, remove the wooden base. Inspect unit for concealed damage and if evident, notify delivering carrier and file a claim against the carrier.

6.3 Selecting a Location



Warning

Superchillers are intended for indoor operation only; do not operate outside unless suitably protected by a weatherproof enclosure.
This appliance is not suitable for installation in an area where a water jet could be used.
Superchillers are not intended to be placed on a kitchen floor.



Caution

The Superchiller is not suitable for use in subfreezing temperatures.
To prevent damage to the water supply line, turn off and drain unit when air temperature is below zero degrees centigrade.



Caution

The Superchiller is only to be installed in locations where its use and maintenance is restricted to trained personnel.

- The S4E Superchiller should be located in a well-ventilated, firm, level location close to water and electrical supplies, within 30m of the dispenser and with easy access for servicing.
- Ensure sufficient clearance around Superchiller to allow good fresh air circulation through the condenser – allow at least 200mm at rear and sides.
- Installation should only be performed by a qualified and competent technician.

6.4 Mounting Superchiller

- Place on a flat, level surface. Brakes are provided on the castors to keep in place.



Caution

Superchiller operational weight is 175kg; ensure that all supporting structures are certified for this loading by a registered Mechanical Engineer.
Supporting structure must be securely fixed to floors or walls.

6.5 Connecting Python

Connect Python to Chiller and Dispenser.



Caution

NOTE: The S4E Superchiller is rated to operate with a maximum of 30m of python connected.

Exceeding manufacturer's ratings may cause damage to the Superchiller and void warranty.

Python Details

Recirculation Lines

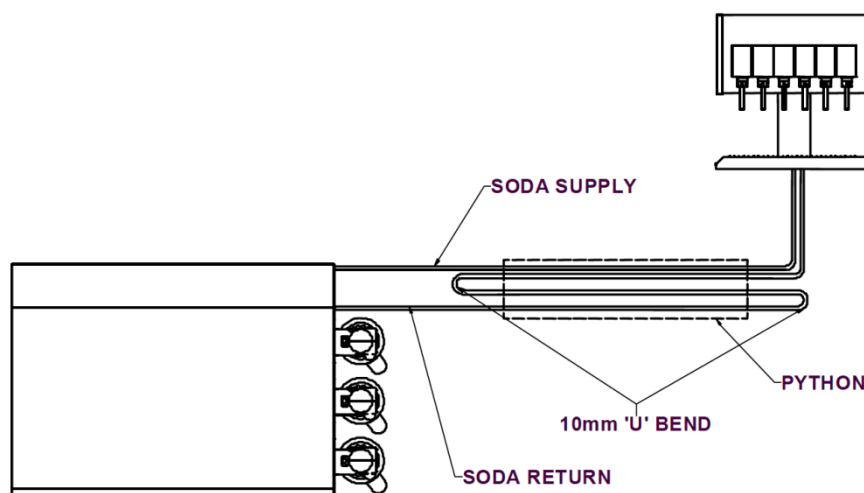
Recommended Product	Tube Markings	Colour Configuration
Water Supply	Water Supply	Beige
Water Return	Water Return	White
Soda Supply	Soda Supply	Maroon
Soda Return	Soda Return	Black

Product Lines - Syrup Coils (Optional):

Tube Markings	Colour Configuration
1---1---1	Blue
2---2---2	Violet
3---3---3	Green
4---4---4	Yellow
5---5---5	Grey
6---6---6	Orange
7---7---7	Brown
8---8---8	Red

Ensure lines are insulated from python to Superchiller connections to prevent condensation.

Note: For additional Soda reserve on short python lengths used in high volume accounts, it may be necessary to extend the soda circuit by connecting the 2 spare lines in the python onto the soda return line (i.e. double pass of soda circuit out and back from dispense point to soda return).



6.6 Connecting to water supply

- The appliance is intended to be permanently connected to a regulated water supply using appropriate tubing (10mm internal diameter minimum) and fittings connected to the Superchiller water supply inlet.
- A licensed plumber may be required to ensure the installation is in accordance with the local codes and regulations.
- Turn on the water supply, adjust water regulator to 275kPa (40psi) and check for leaks.
- Open the carbonator relief valve until water flows from CO₂ exhaust tube; then close the relief valve.



Warning

The connections to the mains water supply must be made in accordance with the Plumbing Code of Australia and in accordance with AS / NZS 3500.1 and AS / NZS 3500.2. The dual check valve (backflow prevention) supplied with this unit must be connected between the main supply outlet and water inlet of appliance.



Caution

Recommended maximum water supply pressure 0.275MPa (40psi)
Normal operating water temperature should be within 7°C to 35°C.

6.7 Plumbing the drain and CO₂ exhaust

The 13mm overflow drain tube exiting from the RH Pump Panel of the unit should be plumbed to a suitable drain, installation in accordance with the Plumbing Code of Australia and AS/NZS 3500.1 and AS/NZS 3500.2.

The 6mm barb labelled as CO₂ EXHAUST should be plumbed to a well-ventilated safe outside area.

6.8 Connecting to CO₂ supply



Warning

As carbon dioxide (CO₂) displaces oxygen; prevention of CO₂ leaks is paramount. If a leak is suspected, immediately ventilate the contaminated area, before attempting repairs.

- Connect CO₂ supply line from regulator to gas inlet on carbonator. (See Postmix circuit diagram page 14 for details)
- Adjust CO₂ Regulator supplying Carbonator to 550kPa.
- Turn on CO₂ supply and check connections for leaks.

6.9 Filling unit with water



Warning

When filling the water tank, care must be taken to not splash water onto the electrical components

- Check that the Superchiller is unplugged from the mains electrical supply
- Remove the top panel.
- Fill the water tank with water up to the 'FILL LEVEL' marked on the inside of the tank.
- Refit the top panel

NOTE: Do not use water supplied from newly installed carbon filter as ice bank control operation will be adversely affected.

6.10 Electrical Connection

- It is recommended that the Superchiller is connected to a separate 230VAC 50Hz electrical supply, protected by an appropriate circuit breaker and Residual Current Device. Check the nameplate on the Superchiller for the electrical supply requirements.
- The service of a licensed electrician may be required to ensure the installation is in accordance with the local codes and regulations.



Warning

To prevent possible electrical shock or extensive damage to the unit, the appliance must be connected with the flexible cord supplied with the appliance to an appropriate electrical outlet socket installed in accordance with local codes and regulations i.e. AS/NZS 3000.



Warning

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons with a replacement cord available from Hoshizaki Parts/Service Centres.

6.11 Commissioning

- Ensure the Pump Switch is in the OFF position.
- Connect Superchiller power supply lead to an appropriate 3 pin socket outlet and switch on. The compressor, condenser fan and agitator motor should all operate.
- The Power On and Waterbath > 5°C LED's on the front panel should be illuminated.
- The Waterbath > 5°C LED should go out approximately after 90 minutes. When the ice bank is fully formed (approx. 4 hours) the compressor and condenser fan will cycle off, but the agitator will run continuously.
- After the Superchiller has cycled off, place the Pump Switch to the ON position to activate the carbonator and recirculation pumps.

6.12 Purge System

Progressively activate each dispensing valve or Bargun connected to the Superchiller systems until an uninterrupted flow of soda, water (where applicable), and syrup pours from each dispenser.

7. Scheduled Maintenance



Warning The Superchiller must not be cleaned by a water jet.

The following Superchiller routine maintenance should be performed at the intervals listed.

Daily

Cleaning/Sanitising

The Superchiller supplies soda water to the dispensing valves/barguns. To ensure optimum drink quality and system performance at all times please follow cleaning and sanitising procedures for the dispensing valves/barguns recommended by the valve/bargun manufacturer.

Checking CO₂ Supply

Ensure that the contents gauge on the CO₂ Regulator reads higher than 1400kPa on the dial. If it does not, then the CO₂ cylinder is empty and must be changed using safe working practices.



Warning

To avoid personal injury and/or property damage, always secure the CO₂ cylinder with a safety chain to prevent it from falling over; and use appropriate protective equipment (as defined in Clause 3.3.2 of AS 5034) to handle cylinders. Should the valve become accidentally damaged or broken off, a CO₂ cylinder can cause serious personnel injury.

Quarterly

The Superchiller should be connected to a filtered water supply. To ensure optimum drink quality and system performance, water filters should be replaced every 3 months.

Half Yearly

- Remove & Clean the condenser filter on the Superchiller. Clean condenser with low pressure compressed air. When using compressed air always direct air from the fan side through condenser. Remove all dust and foreign particles from refrigeration deck. Replace filter.



Caution When using compressed air always wear safety glasses.

- Check that the water is level with the bottom of the overflow tube and the tube is not obstructed.
- Open carbonator relief valve to purge CO₂ and check leakage, close relief valve after checking.

Yearly

Water bath and recirculation pump inspection.

- Isolate Superchiller from power supply by switching off at socket.
- Thaw the bank of ice formed in the tank. Empty the water from the tank with a suction pump or drainage pipe.
- Inspect coils and agitator in water bath for algae or slime accumulation. Clean as necessary using a soft brush, rinse with clean water.
- Check recirculation pump strainers, if fitted, for accumulation and clean/replace if necessary.
- Fill tank with clean water until water to level indicated on the 'FILL LEVEL' plaque.
- Commission and purge system as per section 6.11 and 6.12 of this manual.

Sanitisation of Beverage System

To maintain optimum quality of dispensed product each Superchiller and its associated beverage system components must be thoroughly cleaned and sanitised annually.

Prepare sanitising solution

Prepare sanitising solution in accordance with the manufacturer's written recommendations and safety guidelines.

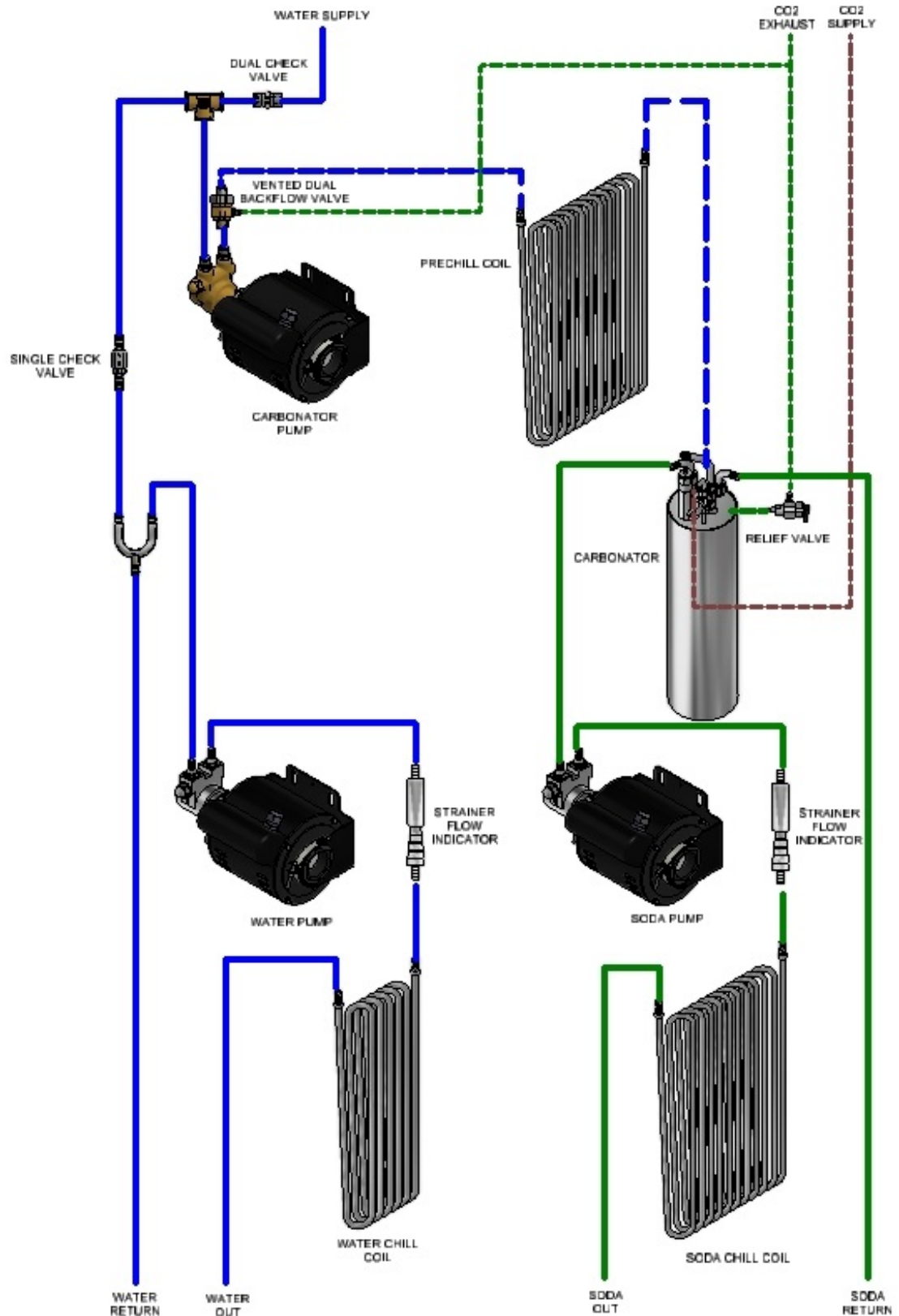
Do not use preparations with more than 200 ppm chlorine for longer than 30 minutes. Rinse thoroughly.

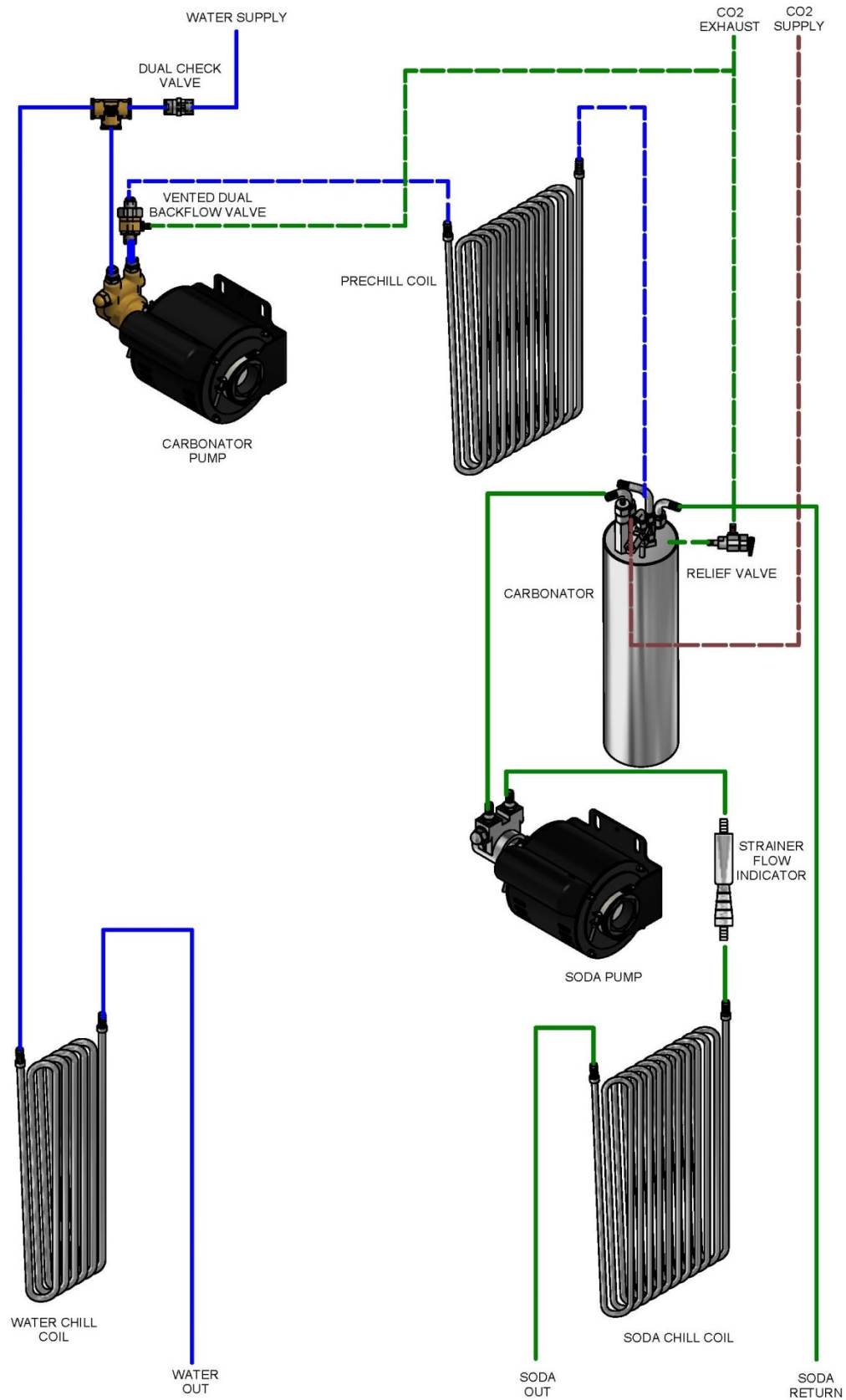
Sanitising BIB System

- Remove all disconnects from BIB containers.
- Immerse all disconnects in warm water and clean using a nylon bristle brush. Rinse with clean water.
- Prepare sanitising solution according to manufacturer's instructions.
- Attach sanitising fittings to BIB disconnects, if sanitising fittings are not available cut fittings from empty BIB bags.
- Immerse all sanitising fittings with attached BIB disconnects in bucket of sanitising solution. Operate all dispensing valves until the sanitising solution flows from the valve. Allow sanitiser to remain in lines for fifteen (15) minutes.
- Immerse all sanitising fittings with attached BIB disconnects in bucket of clean water. Operate all dispensing valves until all sanitiser has been flushed from the system.
- Remove sanitising fittings from BIB disconnects and re-connect disconnects to appropriate BIB's. Operate dispensing valves until syrup flows freely.

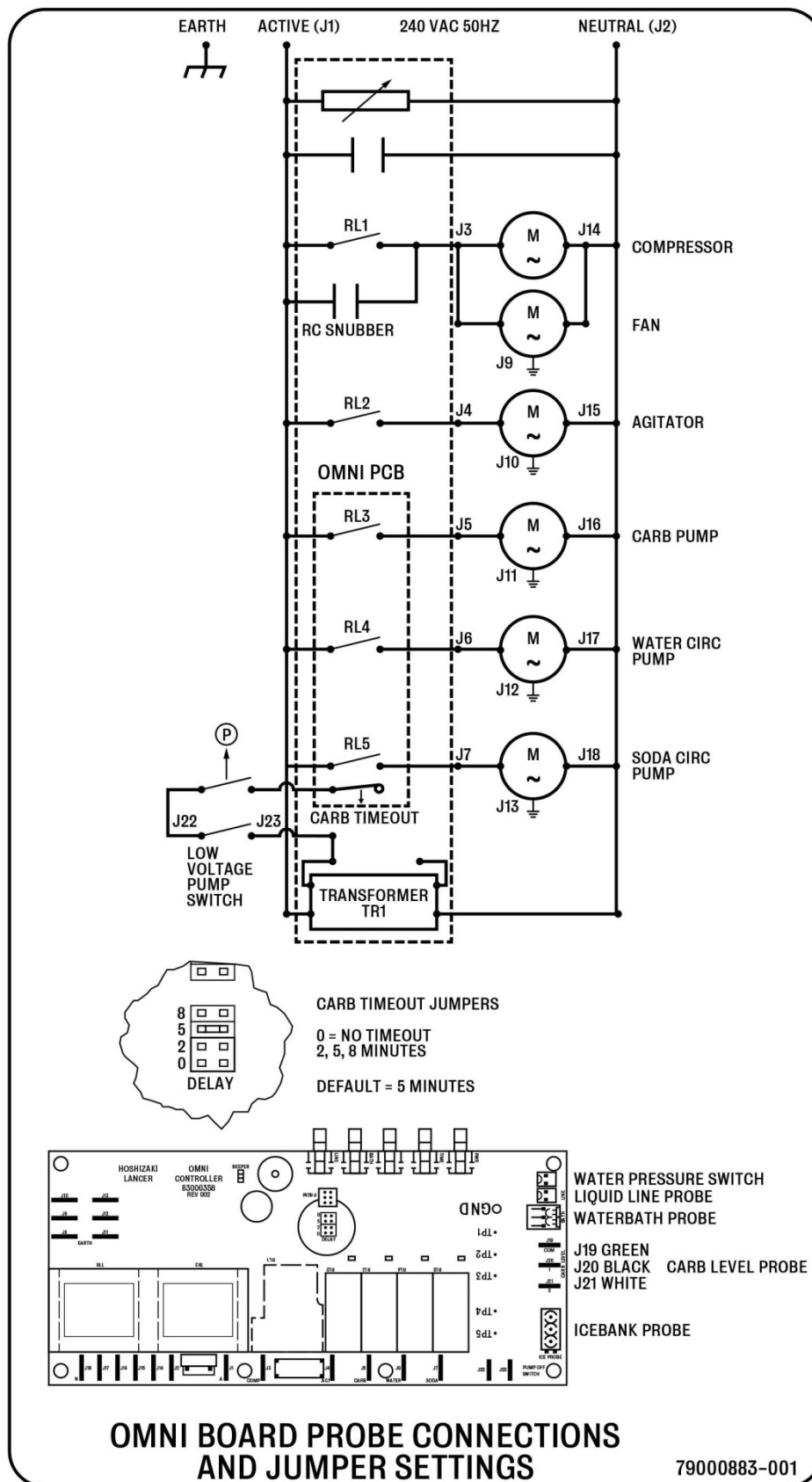
8. Postmix Circuit Diagram

8.1. 3 PUMP UNIT

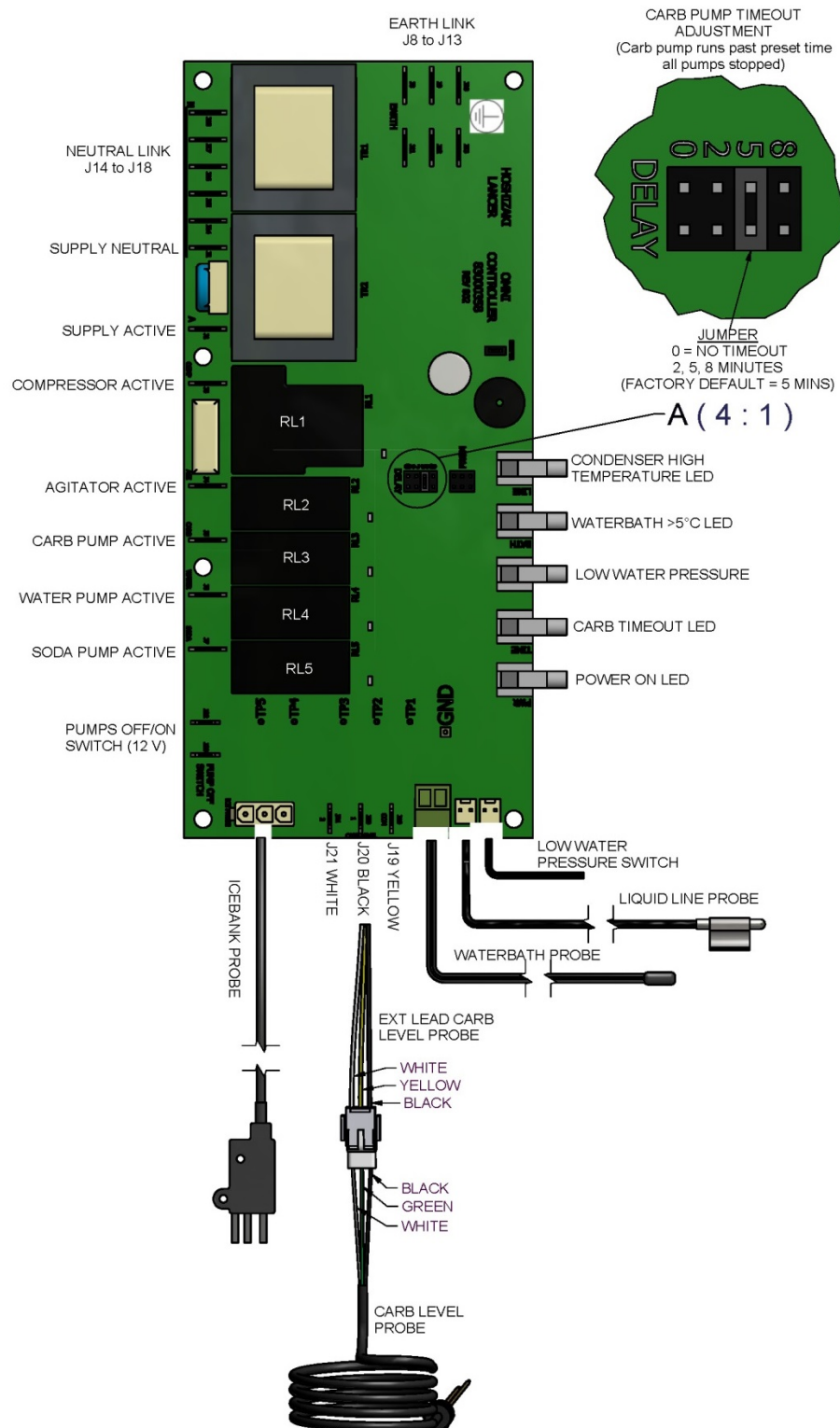


8.2. 2 PUMP UNIT

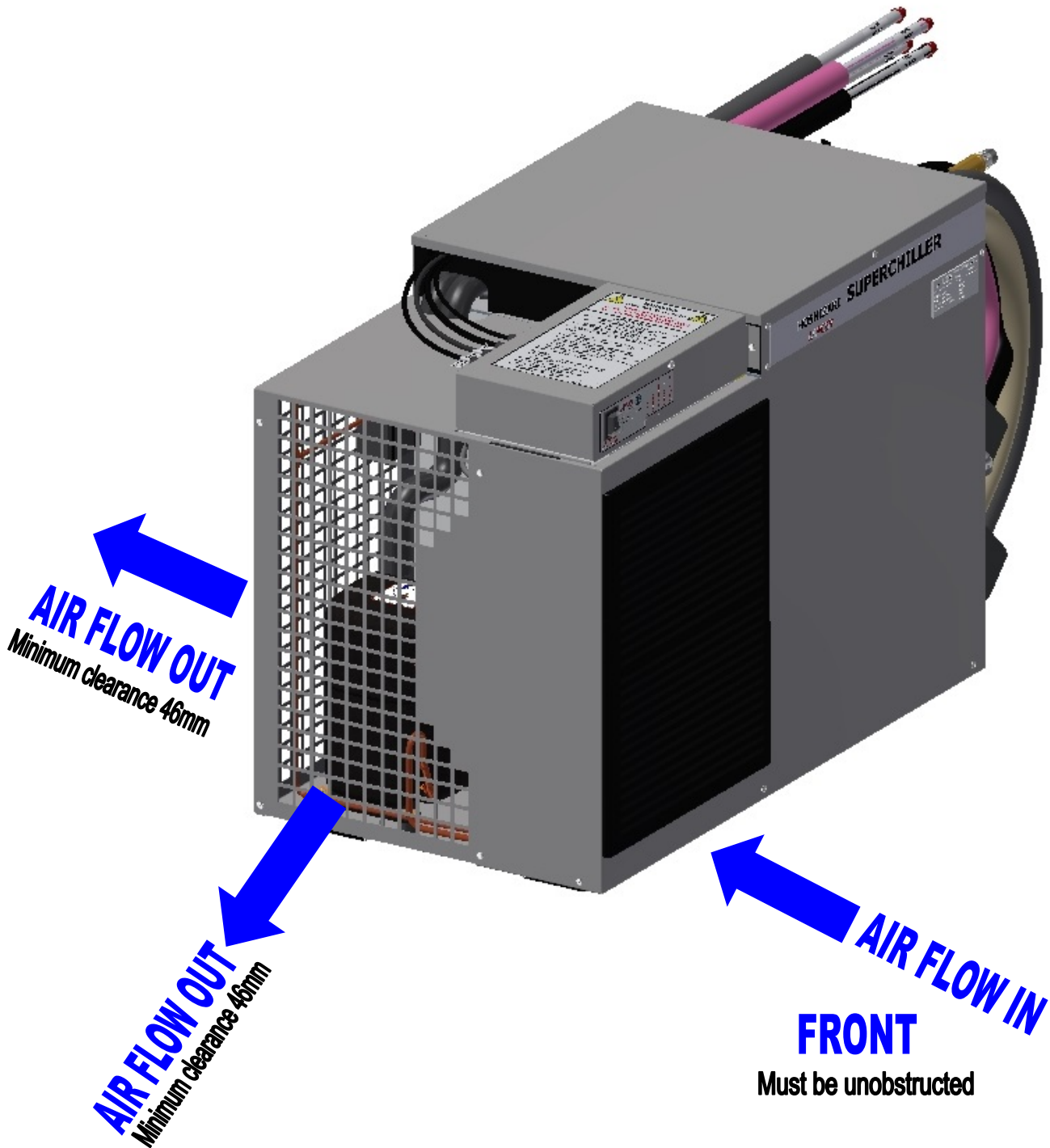
9. Electrical Circuit Diagram S4E V3



10. Control Board Connections and Jumper Settings

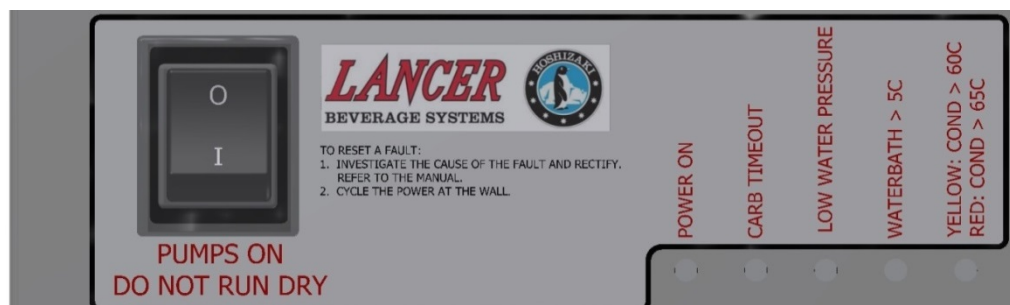


11. Airflow Diagram



12. Trouble Shooting

Indicator Panel



INDICATOR	ACTION
POWER ON	Cycles all LEDs and beeps during start up then steady green.
CARB TIMEOUT	Pump Saver. Red LED with beeper when carb pump runs past the pre-set timeout. All pumps stopped. Check water supply, blockage in system, and broken tubing downstream. Check control board using the procedure on page 21. If all ok then try setting the timeout to the next highest setting eg: 8 minutes between off cycles as opposed to 5. Cycle power at wall to reset.
LOW WATER PRESSURE	Constant red: Mains water supply pressure is less than 35Kpa(5psi). Pumps stopped. Check water supply, water filter blockage and broken tubing upstream. Pumps will automatically restart and low water pressure LED will go out once water supply pressure exceeds 172Kpa (25psi).
WATERBATH > 5°C	Constant Red: Passive notifier. Allows technician to know when the system is cold enough to set brix during installation. May indicate other faults such as a broken agitator, failed refrigeration or system undersized. Flashing Red: Probe missing or damaged.
YELLOW: COND > 60°C RED: COND > 65°C	Liquid Line Temperature. Yellow LED indicates that the refrigeration system is condensing at greater than 60°C. This may indicate a dirty / blocked condenser or a room temperature greater than 40°C or both. Flashing red LED indicates the system is condensing at greater than 65°C and steps should be taken to rectify airflow / room temperature immediately. Steady red LED with beeper and refrigeration shut down indicates condensing temperatures have exceeded 70°C. Most likely due to fan failure or extreme airflow blockage. It is highly recommended that the condenser/filter is cleaned, airflow is unobstructed and if necessary the room is ventilated. Cycle power at the wall to reset. Flashing Yellow/Red LED: Probe missing or damaged.
RELAY INDICATOR LEDS (ON PC BOARD)	Diagnostic tool. LED lights up when contact closed on adjacent relay.

Refrigeration

TROUBLE	CAUSE	REMEDY
Compressor will not start.	<p>Power Failure.</p> <p>High condensing temperatures (out on liquid line temp sensor).</p> <p>Ice bank control faulty/ contacts not closing.</p> <p>Check compressor start mechanism components.</p> <p>Internal overload faulty/ open circuit / compressor seized.</p>	<p>Check for blown fuse, supply cord pulled out or supply outlet turned off.</p> <p>Clean condenser/filter, air flow unobstructed, ventilate room if necessary. Check fan. Cycle power at the wall to reset.</p> <p>Check Ice bank control using Procedure on page 20. Replace control or probe if defective.</p> <p>If faulty, replace e.g. capacitors, start relays.</p> <p>Replace compressor, check condenser, check power supply, evacuate system and if necessary fit burnout drier to industry standards.</p>
Compressor short cycling on internal overload (frequent starting and stopping of the compressor while ice bank control contacts remain closed).	<p>Liquid line temperature probe failure.</p> <p>Dirty condenser.</p> <p>Restricted air flow over unit.</p> <p>Low supply voltage.</p> <p>Defective internal overload.</p> <p>Check wiring connections.</p> <p>Fan motor bearings tight or seized.</p>	<p>Check probe location and connection. Replace if necessary.</p> <p>Clean condenser of all lint and dirt.</p> <p>Check for air restriction to condenser.</p> <p>Check with voltmeter.</p> <p>Replace compressor.</p> <p>Tighten if loose.</p> <p>Replace motor(s)</p>
Product too warm	<p>Ice bank control defective (permanently open circuit).</p> <p>Low refrigerant charge.</p> <p>Check agitator motor, seized or fused.</p>	<p>Check Ice bank control using procedure on page 20. Replace control or probe if defective.</p> <p>Leak check, repair leak, charge with correct amount of refrigerant.</p> <p>Replace if not working.</p>
Compressor runs too long or doesn't cycle.	<p>Location too hot.</p> <p>Superchiller overloaded.</p> <p>Defective ice bank control.</p>	<p>Relocate or improve ventilation.</p> <p>Use larger model, or reduce python length.</p> <p>Check Ice bank control using procedure on page 20. Replace control or probe if defective.</p>

Troubleshooting – Postmix

TROUBLE	CAUSE	REMEDY
Rusty appearance and/or metallic taste to water.	Poor water supply - contaminated.	Carbon filter required.
CO₂ gas or water escapes from pressure relief valve. (Observed from CO ₂ exhaust)	CO ₂ pressure too high. Failed carbonator probes – carb pump motor will not stop.	Check CO ₂ pressure relief valve. Bleed gas by opening and closing the relief valve - set to 550 kPa. Check carbonator control using procedure on page 21. Replace control or probe if defective.
Carb pump times out. (LED on control panel illuminated).	Insufficient water supply. Higher than expected demand. Coil Freeze-up. Worn / defective pump. Failed carbonator / probe circuit.	Check filters, taps and supply tubing for blockages and rectify. Minimum water supply is 172 kPa flowing pressure. Move timeout jumper to next higher time interval. Defrost. Check Icebank controls and coil positions. Replace pump. Check carbonator control using procedure on page 21. Replace control or probe if defective.
Poor carbonation (low CO₂ volume).	Flooded carbonator. Dirty water supply. CO ₂ pressure too low. CO ₂ inlet check valve stuck, shut or blocked. Poor quality paper cups. Dirty or greasy glasses. Improperly drawn drink.	Check carbonator control using procedure on page 21. Replace control or probe if defective. Check filters. Check CO ₂ pressure at regulator. Should be set to 550 kPa., Repair or replace. Purchase better quality cups. Wash all glasses. Open faucet all the way and draw against side of glass or cup.
Pump leaks from shaft seal.	Worn pump seals.	Replace pump.

Pump(s) will not run.	<p>Power failure or low voltage.</p> <p>Loose terminal connections.</p> <p>Defective relays.</p> <p>Defective motor.</p> <p>Locked up pump. Motor has cut out on overload.</p> <p>Faulty low pressure switch (if fitted).</p> <p>Carbonator flooded – filled completely with water.</p> <p>Carbonator empty - faulty Carbonator probe or control.</p> <p>Low water supply pressure.</p> <p>Excessive CO₂ Pressure.</p>	<p>Check fuses. Check power supply.</p> <p>Check and secure.</p> <p>Check relays. Replace board if defective.</p> <p>Replace motor.</p> <p>Replace pump.</p> <p>Ensure of adequate water supply. Switch should close above 172 kPa. Replace if defective.</p> <p>Check mains water pressure - must be at least 135 kPa lower than CO₂ (adjust water pressure regulator if necessary)</p> <p>Check CO₂ regulator. Check carbonator control using procedure on page 21. Replace control or probe if defective.</p> <p>Check carbonator control Using procedure on page 21. Replace control or probe if defective.</p> <p>A minimum of 172 kPa water supply pressure is required</p> <p>Check function & setting of CO₂ regulator.</p>
Faucet delivers CO₂ gas continuously.	<p>Insufficient water supply.</p> <p>Excessive carbonator CO₂ pressure.</p>	<p>Check water supply and pumps for correct settings and operation.</p> <p>Check Carbonator CO₂ pressure regulator for creeping. It should be set at 550 kPa.</p>

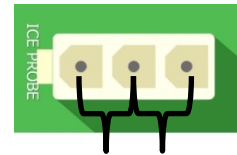
13. Omni Icebank Control Test

This is a test to simulate the building and erosion of the icebank; to determine if the icebank control is operating correctly. The test assumes that all other components in the refrigeration system (e.g. high pressure cut-out reset) are in an operational condition.

**Warning****230VAC is present on PC Board.****Work should only be performed by fully trained & certified Electrical, Plumbing & Refrigeration Technicians.**

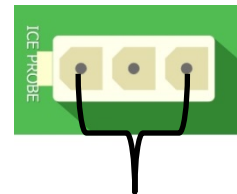
1. Remove the ice bank probe at the PC Board.
2. Jumper the three terminals as shown. Use a spare male connector with wiring if available. The compressor relay should close and refrigeration system start.

(Simulates water covering all probes)



3. With refrigeration system operating (compressor relay energised) remove the jumper from the centre terminal. Refrigeration system should continue to operate.

(Simulates ice growth over green probe. Water still contacting red and black probes)



4. Remove the remaining jumper. The compressor relay should open and the refrigeration system should stop.

(Simulates ice growth over the probes)



14. Omni Carbonator Level Control Test

This is a test to simulate water filling/emptying in the carbonator to determine if the carbonator control is operating correctly. The test assumes that all other components in the water/soda system (e.g. low water pressure control) are in an operational condition.



Warning

230VAC is present on PC Board.

Work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians.

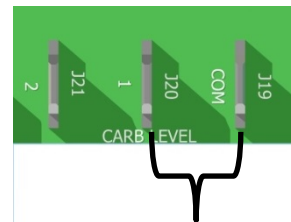
1. Remove the carbonator probe connections from terminals J19, J20 & J21. The carbonator pump relay should close.

(Simulates no water between ground (carbonator tank) and low level probe)



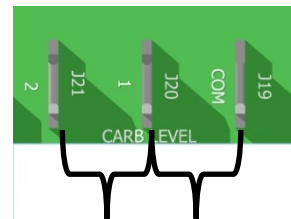
2. With carbonator pump operating connect alligator jumper from terminal J19 to terminal J20. Carbonator pump should continue to operate.

(Simulates water covering low level probe.)



3. With carbonator pump operating, connect alligator lead to terminal J21. Carbonator pump should stop.

(Simulates water over low & high level probes)



4. Carbonator pump will not restart until alligator clips are removed from J20 & J21.

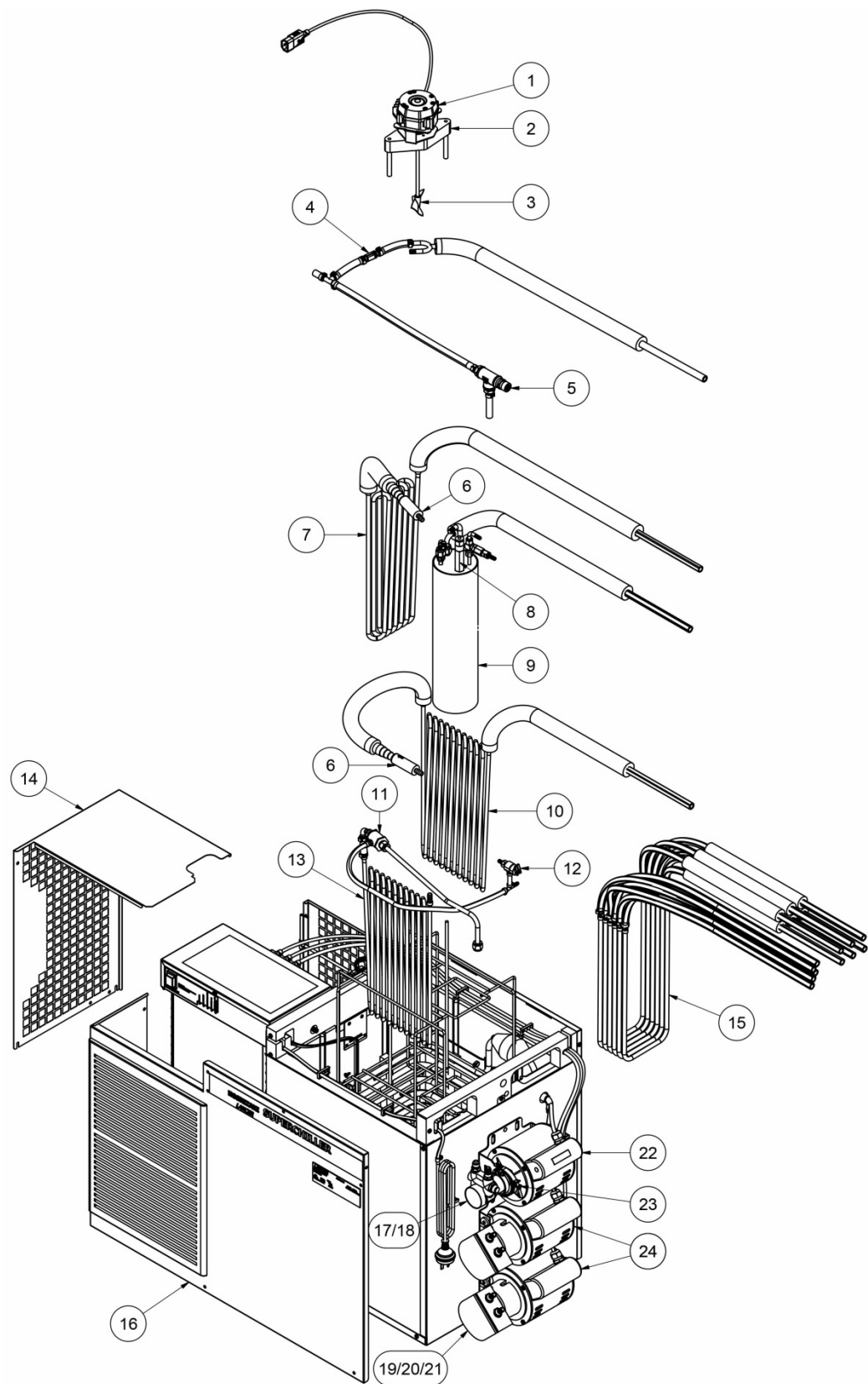
(i.e. Water level drops below low level probe)



15. Assembly Diagrams & Parts List

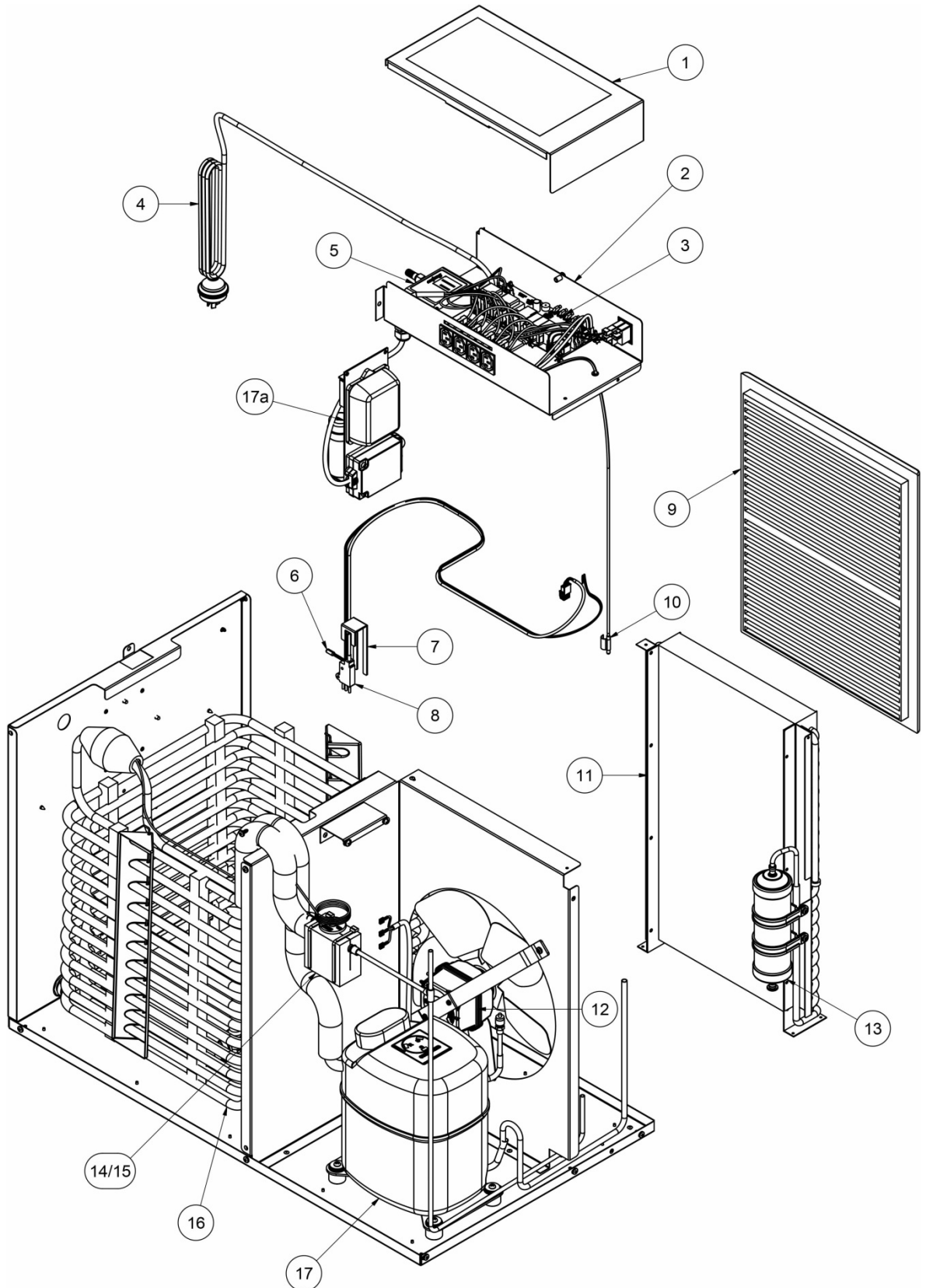
15.1. Postmix Assembly Parts List

Ref.	Parts No.	Description
1	80000092	AGI MOTOR 240V / 50Hz
2	61600007	AGITATOR BRACKET
3	87000004	AGITATOR BLADE
4	79000332	CHECK VALVE
5	79000894	CHECK VALVE DUAL ½"
6	87000052	STRAINER FLOW INDICATOR
7	63000152	WATER COIL ASSY
	63000108	WATER CIRC COIL
8	23521975	CARBONATOR PROBE
	23000022	PROBE WASHER
9	23822336	LANCER CARBONATOR ASSY
10	63000197	SODA COIL ASSY
	63000110	SODA/PRECHILL COIL
11	79000683	BACKFLOW PREVENTOR – WATTS
12	08000002	CARB RELIEF VALVE
13	63000153	PRECHILL COIL ASSY
	63000110	SODA/PRECHILL COIL
14	61000689	PANEL END GRILL
15	63000114	SYRUP COIL ASSY
16	61000696	PANEL FRONT
17	78000101	BRASS PUMP WITH CLAMP
18	78000019	PLASTIC DRIVE KEY
19	78000112	INSULATOR MAG PUMP
20	78000110	DRIVE MAGNET
21	78000100	PUMP SS MAG WITH CLAMP
22	80000106	POSTMIX MOTOR KEY IEC PLUG
23	78000018	'V' BAND CLAMP
24	800000105	POSTMIX MOTOR MAG IEC PLUG

15.2. Postmix Assembly Diagram

15.3. Refrigeration Parts List

Ref.	Parts No.	Description
1	61000686	ELECTRICAL BOX LID S4E V3
2	61000687	ELECTRICAL BOX BASE S4E V3
3	83000358	OMNI CONTROL BOARD
4	83000220	LEAD POWER SUPPLY
5	83287311	LOW PRESSURE CONTROL KP1
6	83000091	PROBE NTC015HP00 CAREL
7	61000258	ICEBANK PROBE BRACKET
8	16522334	ICEBANK PROBE
9	95000642	LOUVRE KMD-0201AA
	95000641	FILTER KMD-0201AA
10	83000369	PROBE NTC RUGGEDIZED W/CLIP
11	80000125	CONDENSER ASSY W/ RECEIVER/DRIER
12	80000124	FAN ASSY 300MM COMPLETE
	80000123	MOTOR FAN 300MM
	87000128	FAN BLADE 300MM V22
13	87000102	RECEIVER/DRIER
14	87000141	TX VALVE TLEX 00233
15	78000117	INSULATION TX VALVE
16	62000200	EVAPORATOR ASSEMBLY COMPLETE S4E V3
17	80000073	COMPRESSOR DANFOSS GS34MFX
17a	83000282	COMPRESSOR START RELAY & CAPACITORS

15.4. Refrigeration Assembly Diagram

16. Certificate of Warranty

It is the policy of Hoshizaki to provide to its current customers, warranty for all equipment supplied and installation work performed within a specified period.

Parts and Equipment

Lancer provides a warranty period of twelve (12) months from the date of original invoice for all manufactured parts and the associated labour. Repair or replace of defective parts will be at the sole discretion of Lancer.

Changeover parts will be invoiced to the customer at the customers normal purchase cost and upon return of the warranty item and validation of the claim, the invoice will be credited.

Installations

Lancer provides a warranty period of twelve (12) months from the date of final invoice for workmanship after the completion of any installation work, provided the parts and labour are completed by Lancer or its subcontractor.

Labour

Lancer will not normally cover any labour costs associated with a warranty claim. Subject to the approval of the Divisional Sales Manager, Lancer may choose to reimburse the customer for some or all labour costs associated with a warranty claim. Any claim for labour costs must be authorized by Lancer prior to the work being undertaken.

Exclusions

Lancer will not accept any liability or cost associated with any consequential losses (such as loss of syrup or beer), loss of profit or damage to property as a result of faulty product.

Warranty shall not apply:

- a) If in the opinion of Lancer, the equipment has been used in a situation the equipment has not been designed for;
- b) If in the opinion of Lancer, the equipment has been subject to abuse, negligence or accident;
- c) If connected to improper, inadequate or faulty power, water or drainage service or operated using incorrect, insufficient or contaminated lubricants, coolants, refrigerants or additives;
- d) Where the product is installed, maintained or operated otherwise than in accordance with the instructions supplied by Lancer;
- e) Where the product has been damaged by foreign objects;
- f) Where the product has been serviced, repaired, altered or moved otherwise than by Lancer or its nominees or using other than Lancer approved replacement parts.

To obtain full details of your warranty and approved service agency, please contact your dealer/supplier, or the nearest Hoshizaki Office.

Hoshizaki Lancer TEL: +61 8 8268 1388 FAX: +61 8 8268 1978

17. Manufacturer's Checklist

Checked by Date

Postmix Tested by

Gas Charge Icebank Probe fitted

Electrically tested by Refrigeration tested by

TAG No.....

- ☐ High temperature probe located on liquid line between coil and receiver / dryer
- ☐ Compressor wiring connections label affixed, wiring checked and label signed
- ☐ Refrigeration system final check. Ensure evaporator fully frosts.
- ☐ Check all tube work for rubbing e.g. discharge line, liquid line, TX capillary.
- ☐ Condenser not touching divider panel or grille.
- ☐ Agitator blades tight and not touching coils cradle.
- ☐ Overflow pipe correct height and positioned straight.
- ☐ All motors and pumps secured and mounted correctly.
- ☐ All pumps run quietly and carbonator pump switched O.K.
- ☐ Check icebank probe position and tightness.
- ☐ Carbonator and plumbing pressure tested. Check for leaks on pumps, clamps, welds, strainers, carbonator fittings and all joints.
- ☐ Coils in cradle correctly and spaced.
- ☐ Postmix tubes not rubbing.
- ☐ Plumbing strapped correctly and not touching the agitator.
- ☐ Tube labels on correct tube.
- ☐ Superchiller sticker correctly positioned and straight.
- ☐ Attention sticker fitted and correctly positioned.
- ☐ Clean exterior of unit including power cords.
- ☐ Condenser filters and alignment strips fitted.
- ☐ Warning sticker applied
- ☐ L.P. control operates.
- ☐ Spreader pin pointing towards tank.
- ☐ Check body for sharp edges.
- ☐ Check lid for cleanliness and rough edges. Fit and secure.
- ☐ Carbonator relief valve fitted and correct.
- ☐ Copy checklist & file, put manual/checklist and pump insulator kit in plastic bag & place in the tank area.
- ☐ Customer asset No.

W/O

Affix label here