

S8E V2.5 Hi-Carb Superchiller

230V / 50Hz

Installation, Operation & Service Manual



This page is intentionally left blank

Table of contents

1.	Introduction.....	5
2.	The Company.....	5
3.	Our Products	5
4.	Product Details	5
4.1	Product Features	5
4.2	Specifications.....	6
4.3	Models	6
4.4	Options.....	6
5.	Superchiller Safety Information.....	7
5.1	Safety Instructions	7
5.2	Recognise Safety Alert Symbols.....	7
5.3	Operating	7
5.4	Service & Maintenance	8
5.5	Carbon Dioxide (CO ₂).....	8
6.	Installation.....	9
6.1	Receiving	9
6.2	Unpacking.....	9
6.3	Selecting a Location	9
6.4	Mounting Superchiller.....	10
6.5	Connecting Python	10
6.6	Connecting to water supply	11
6.7	Connecting to CO ₂ supply	11
6.8	Filling unit with water	11
6.9	Electrical Connection.....	11
6.10	Plumbing the drain and CO ₂ exhaust.....	12
6.11	Commissioning	12
6.12	Purge System	12
6.13	Sanitise System.....	12
7.	Scheduled Maintenance	13
7.1.	Daily	13
7.2.	Quarterly	13
7.3.	Half Yearly	13
7.4.	Yearly.....	14
7.5.	Sanitisation of Beverage System	14
8.	Postmix Circuit Diagram	15
8.1.	Single Carbonator Superchiller (3 pumps).....	15
8.2.	Twin Carbonator Superchiller (4 pumps)	16
8.3.	Twin Carbonator Superchiller (5 pumps)	17
9.	Electrical Circuit Diagram	18
9.1.	Refrigeration Wiring Diagram	18
9.2.	Postmix Wiring Diagram.....	19
10.	Airflow Diagram.....	20
11.	Trouble Shooting.....	21
11.1	Refrigeration	21

11.2	Troubleshooting – Postmix.....	22
12.	Hydra Icebank Control Go/No Go Test.....	24
13.	Hydra Carbonator Level Control Test.....	25
14.	Assembly Diagrams & Parts List	26
14.1.	Postmix Spare Parts List	26
14.2.	Postmix Assembly Diagram	27
14.3.	Refrigeration Spare Parts List	28
14.4.	Refrigeration Assembly Diagram	29
15.	Certificate of Warranty.....	30
16.	Manufacturer’s Checklist	31

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 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 designed 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	230 Volts		
Frequency	50 Hz		
Max Current Draw	Refrig 15 Amps / Postmix 10 Amps		
Ambient Temperature	2 - 40°C		
Heat Rejection	6346 Watts		
Dimensions			
Width	1300 mm		
Depth	685 mm		
Height	815 mm		
Weight	3 pump	4 pump	5 pump
Shipping	210 kg	221kg	232kg
Empty	190 kg	201kg	212kg
Operating	372 kg	383kg	394kg
Refrigerant	1000 grams R134a x 2		
Ice bank Weight	75 kg		
Water Bath Capacity	180 litres		
Construction	Stainless Steel		
Compressor	Danfoss x 2		
Agitator Motor	12W, 230 VAC 1 Phase		
Condenser Motor	20W, 230 VAC 1 Phase		
Ice bank Control	Electronic		
Carbonation Level Control	Electronic		
Drink Capacity	Continuous 473ml (16 oz) 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

S8E22LA V2.5	Lancer S8E Superchiller with 2 pumps, single Carbonator.
S8E23LA V2.5	Lancer S8E Superchiller with 3 pumps, single Carbonator.
S8E94LA V2.5	Lancer S8E Superchiller with 4 pumps, dual Carbonator.
S8E95LA V2.5	Lancer S8E Superchiller with 5 pumps, dual Carbonator.

4.4 Options

- Adjustable Legs (79232218) – height with legs approx 960mm.
- Casters (79602411) – height with casters approx. 921mm.

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 S8E Superchiller weight: 212kg)

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 a vertical position.

Carefully unpack the Lancer S8E Superchiller from the shipping carton, remove the wooden base. If appropriate, assemble legs to unit by carefully tilting (tilt should not be more than 45°). 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.



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.

- The S8E Superchiller should be located in a well-ventilated, firm, level location close to dispenser, water and electrical supplies, 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

- Install on a flat, level surface using adjustable legs or casters (Optional).
- Fix to supporting structure using 4 x ¾" BSW bolts screwed into base supports.



Caution

Superchiller operational weight is 394kg; 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

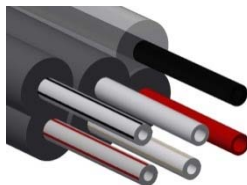
NOTE: The S8E Superchiller is rated to operate with a maximum of 90m of python connected at 32°C. Exceeding manufacturer's ratings may cause damage to the Superchiller and void warranty.

Connect the Python to Chiller and Dispenser.

Refer to Python and Dispenser specifications for connection data.

Superchiller can be supplied with 4 or 5 pumps, dual carbonator, or 3 pumps single carbonator; python should be connected to Chiller as follows:

5 Pump



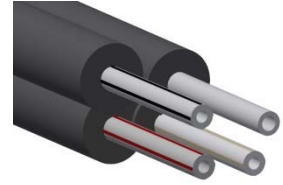
SODA RETURN A	WATER RETURN	SODA RETURN B
SODA SUPPLY A	WATER SUPPLY	SODA SUPPLY B

4 Pump



SODA RETURN A	SODA RETURN B
SODA SUPPLY A	SODA SUPPLY B

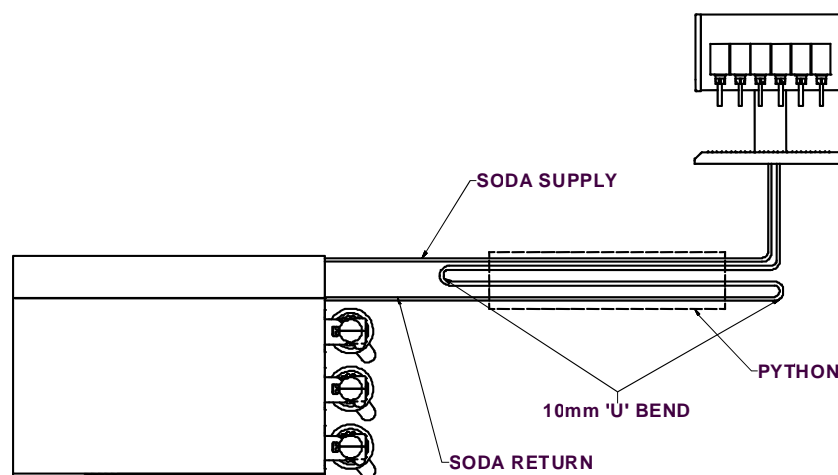
3 Pump



SODA RETURN A	WATER RETURN
SODA SUPPLY A	WATER SUPPLY

Important: Ensure lines from python to Superchiller connections are insulated 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

- Using appropriate tubing and fittings connect a 10mm water supply line from Superchiller carbonator pump inlet to a filtered, regulated water supply. (See Postmix circuit diagram page 13-15). Installation in accordance with AS/NZS 3500.1 and AS/NZS 3500.2.
- Turn on water supply, check for leaks, adjust water regulator to 172-275kpa.
- Open the bypass ball valve on the carbonator relief and bypass assembly until water flows from CO₂ exhaust tube; then close the bypass ball valve. For dual carbonators, repeat this operation for each carbonator.

**Caution**

Maximum water supply pressure to be 275 kpa.
Normal operating water temperature should be within 7°C to 32°C.

6.7 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 13 – 15 for details)
- Adjust CO₂ Regulator supplying Carbonator to 550 kpa.
- Turn on CO₂ supply.

6.8 Filling unit with water

Remove Superchiller lid and fill water bath until water flows out overflow tube.

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

6.9 Electrical Connection

- This unit requires a separate 10 amp (Postmix) and a 15amp (Refrigeration) power supplies.
- Check the name plate on the machine for electrical supply requirements. Use only the power supply specified on the name plate.

**Warning**

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

**Warning**

To avoid possible fatal electric shock or serious injury the Superchiller must be electrically grounded. Electrical Connection Must Be Made In Accordance With The Appropriate Local Codes And Regulations. Use of an RCD is recommended.

6.10 Plumbing the drain and CO₂ exhaust

The 19mm overflow drain tube exiting from the base of the tank should be plumbed to a suitable drain, installation in accordance with AS/NZS 3500.1 and AS/NZS 3500.2.

The 6mm barb labelled as CO₂ EXHAUST should be plumbed to an outside safe area.

6.11 Commissioning

- Unplug carbonator and recirculation pumps power supply leads from electrical box located under lid.
- Connect Superchiller power supply lead to an appropriate 3 pin socket outlet and switch on. Compressors, condenser fans and agitator motors should all operate.
- When Superchiller ice bank is fully formed (approx. 4 hours) the compressors and condenser fans will cycle off, but agitator will run continuously (unit has cycled off).
- After Superchiller has cycled off, reconnect 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.

6.13 Sanitise System

Prepare sanitising solution:

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

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.

7. Scheduled Maintenance

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

7.1. 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.

7.2. Quarterly

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

7.3. Half Yearly

- Remove & Clean condenser filters on the Superchiller. When the environment is dirty and dusty, the interval between cleaning the filters may need to be reduced. 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.



Caution

When using compressed air always wear safety glasses.

- Check that the water is level with the top of the overflow tube. Add water if necessary.
- Open carbonator relief valve to purge CO₂ and check leakage, close relief valve after checking.

7.4. 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 for accumulation, replace if necessary.
- Fill tank with clean water until water flows out the overflow tube.
- Switch on power supply and check ball position in flow indicator section of strainer. If ball indicates flow is less than 5 litres per minute, replace pump.
- Commission and purge system as per clause 6.11 and 6.12.

7.5. 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

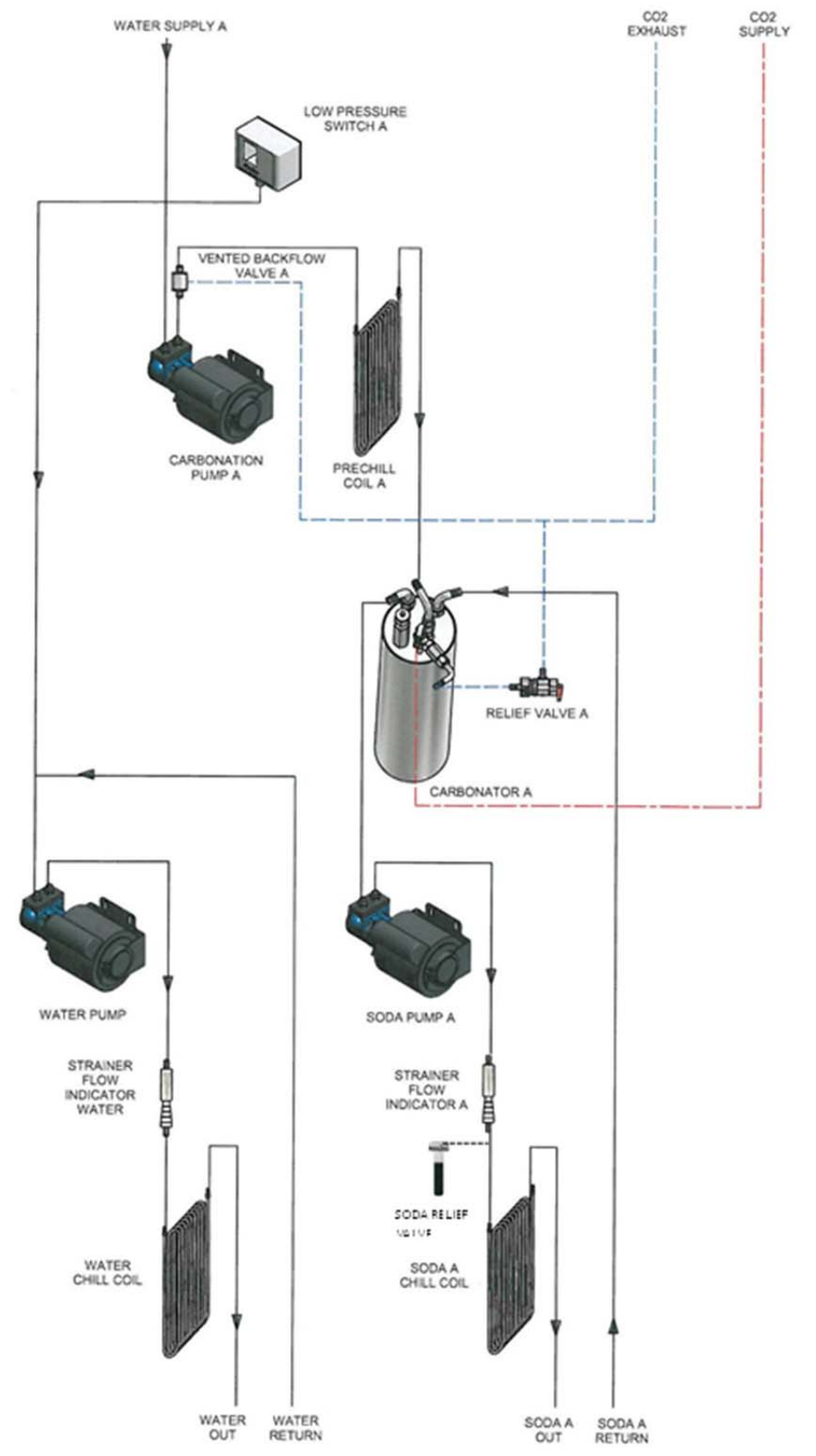
Prepare sanitising solution in accordance with the manufacturer's written recommendations and safety guidelines.

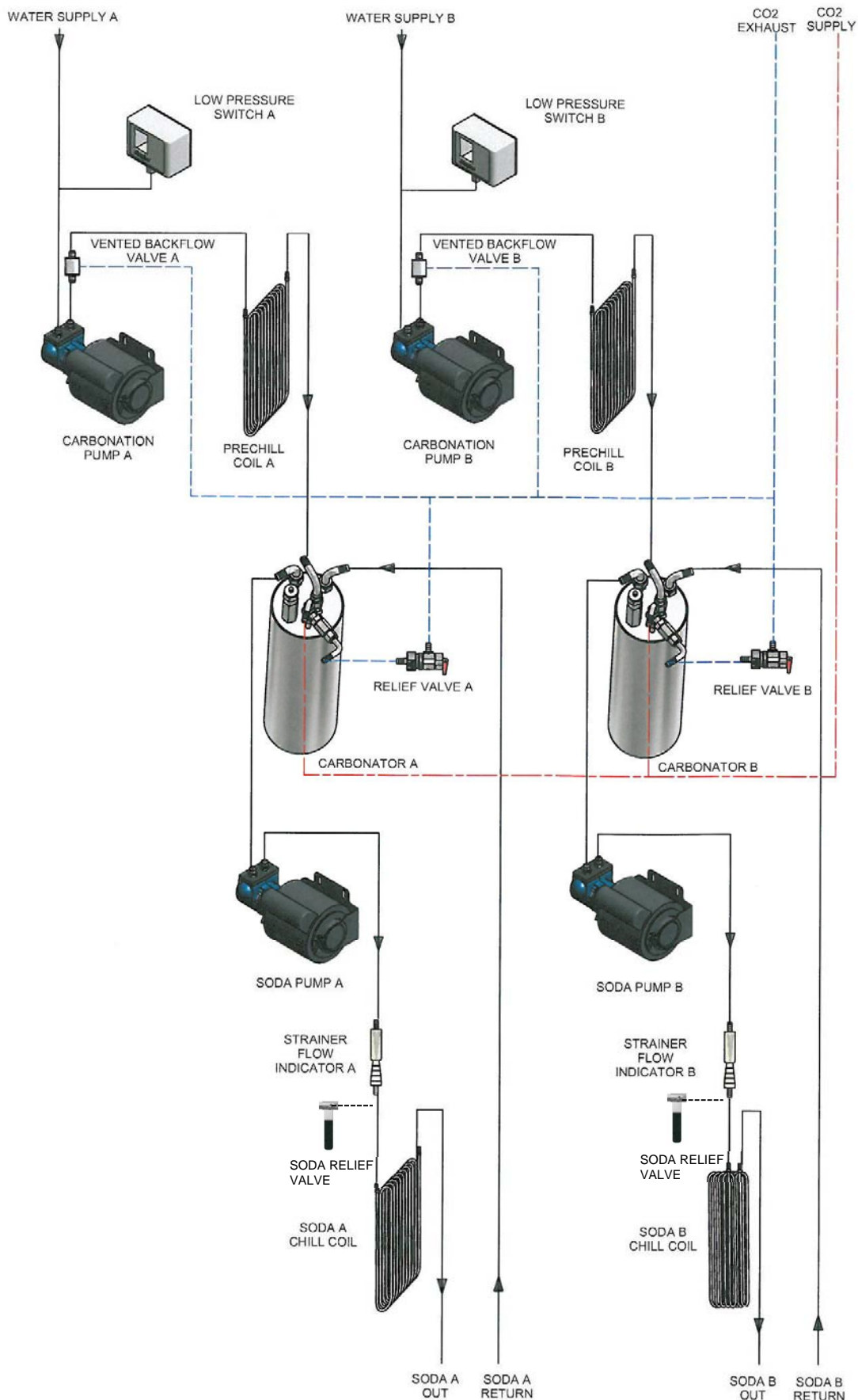
Sanitising BIB System

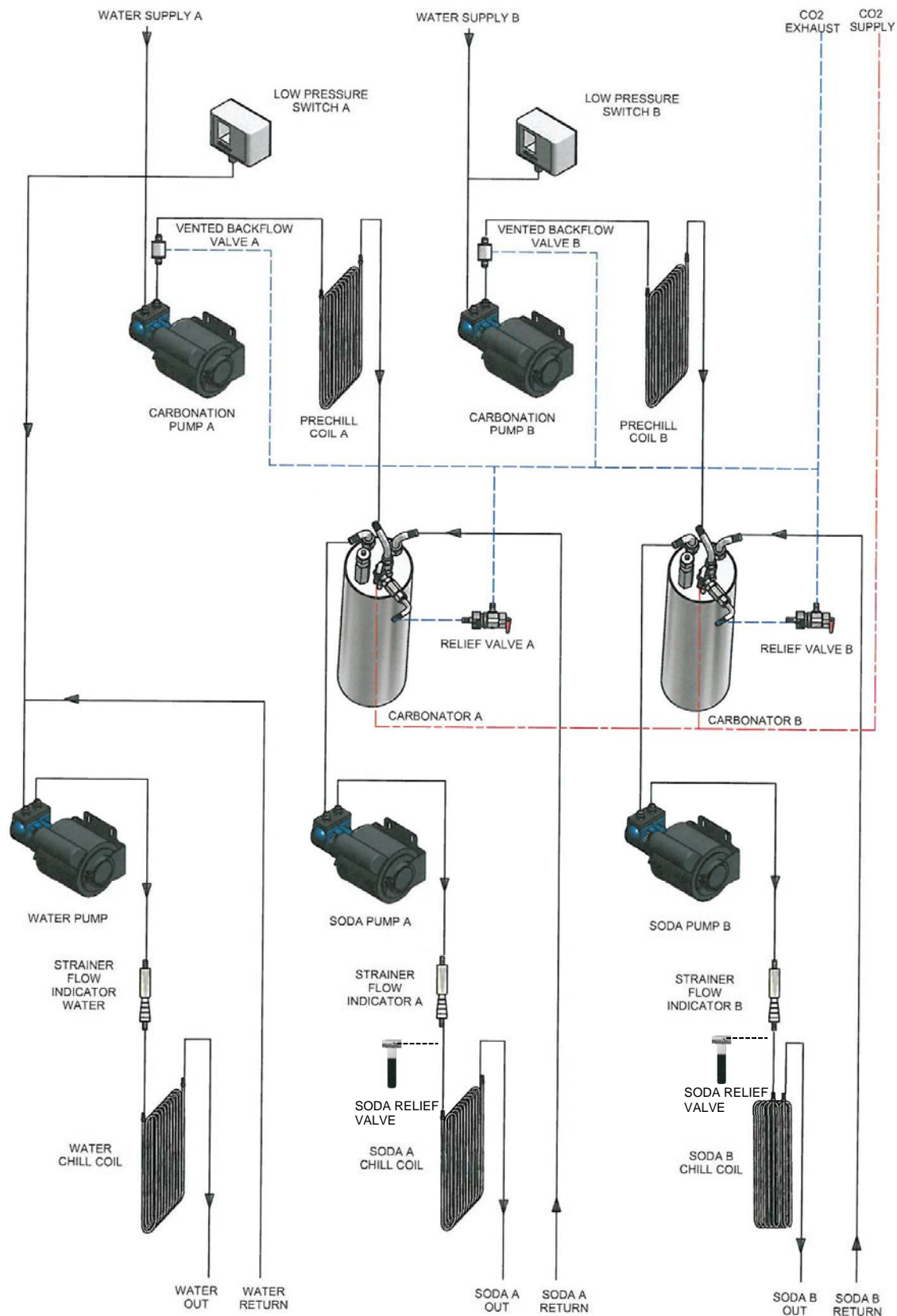
- Remove all disconnects from BIB containers.
- Immerse all disconnects in warm water and clean using a nylon bristle brush. Rinse with clean water.
- Prepare sanitising solution according to manufacturer's instructions.
- Attach sanitising fittings to BIB disconnects, if sanitising fittings are not 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. Single Carbonator Superchiller (3 pumps)

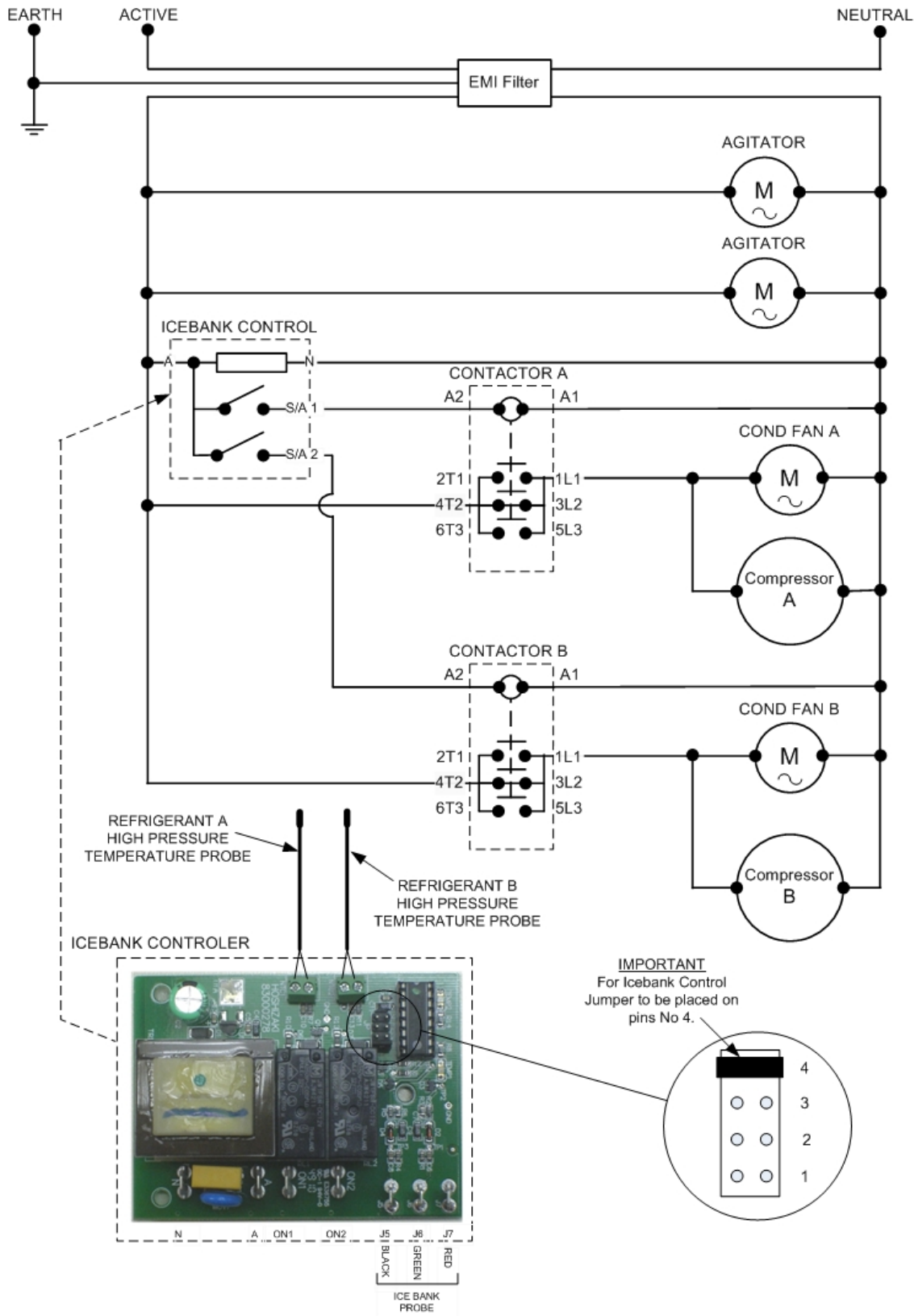


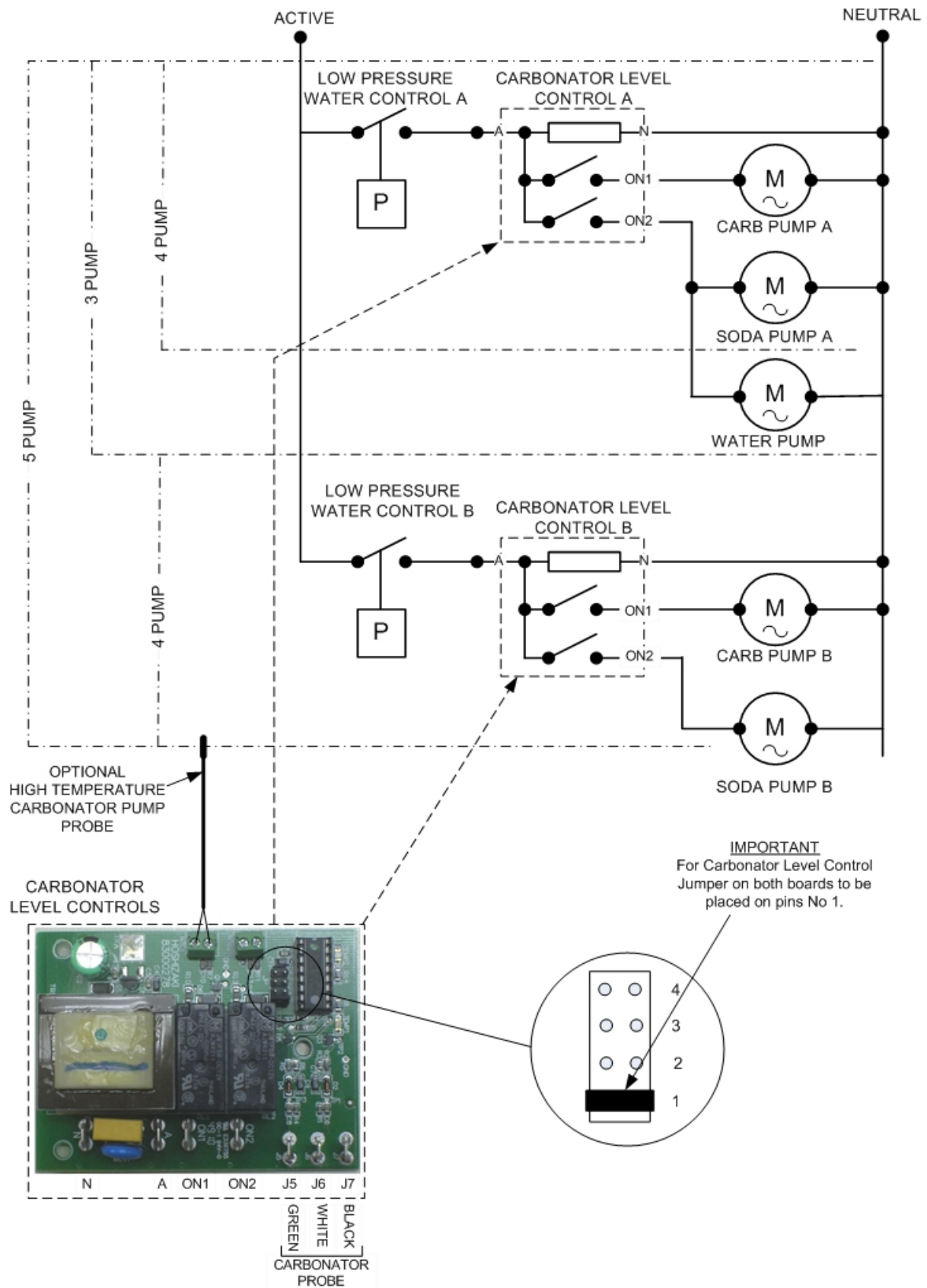
8.2. Twin Carbonator Superchiller (4 pumps)

8.3 Twin Carbonator Superchiller (5 pumps)

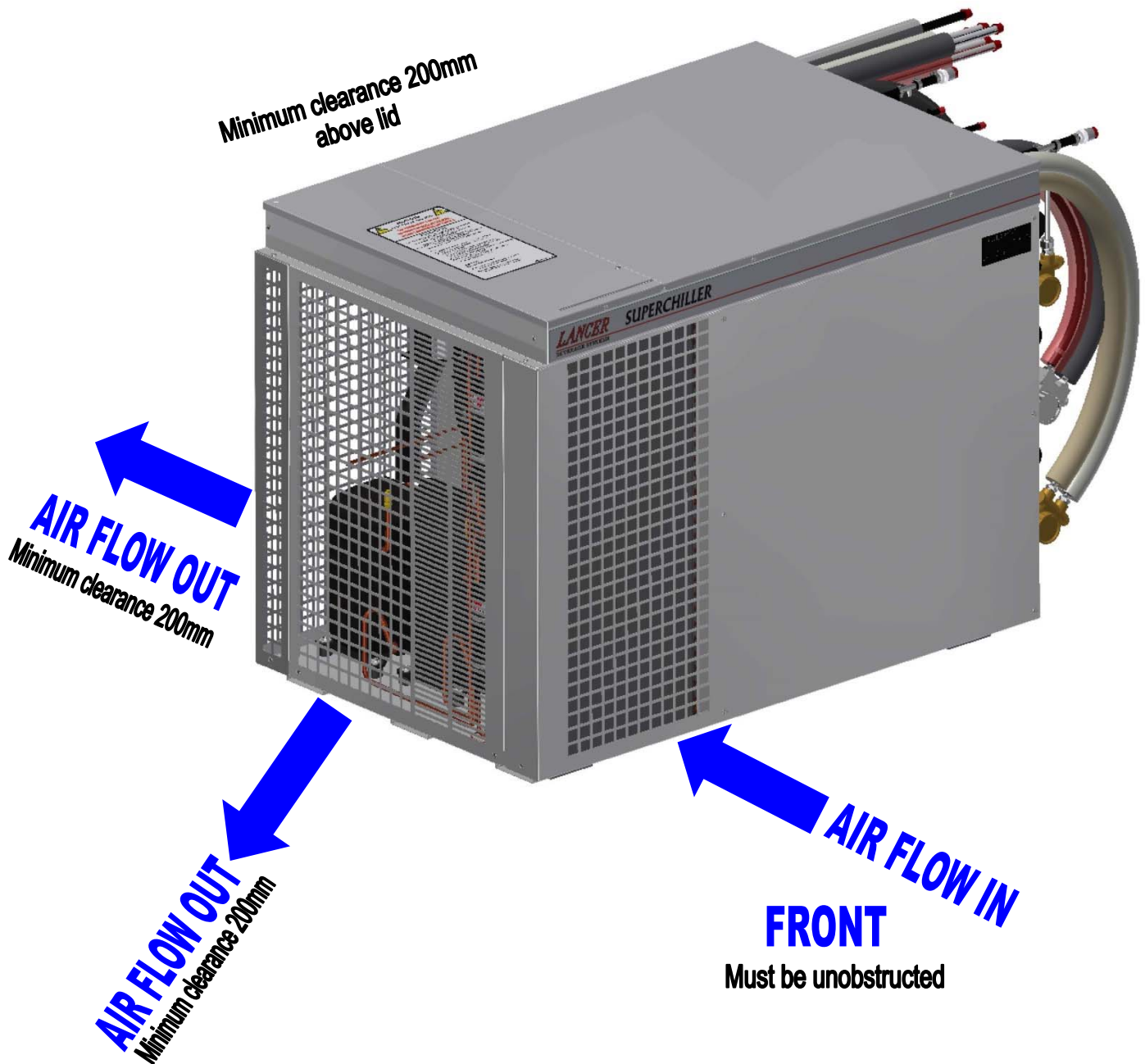
9. Electrical Circuit Diagram

9.1. Refrigeration Wiring Diagram



9.2. Postmix Wiring Diagram

10. Airflow Diagram



11. Trouble Shooting

11.1 Refrigeration

TROUBLE	CAUSE	REMEDY
Compressor will not start.	<p>Power Failure.</p> <p>High Pressure/temperature switch activated. LED on Ice Bank Control board illuminated.</p> <p>Ice bank control faulty contacts not closing.</p> <p>Check start mechanism components.</p> <p>Thermal overload faulty, open circuit, compressor seized.</p>	<p>Check for blown fuse, supply cord pulled out or supply outlet turned off.</p> <p>Turn chiller "off" at supply socket then "on" again to reset controller.</p> <p>Check Ice bank control using Procedure on page 24. Replace 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 thermal overload (frequent starting and stopping of the compressor while ice bank control contacts remain closed).	<p>Dirty condenser.</p> <p>Restricted air flow over unit.</p> <p>Low supply voltage.</p> <p>Defective thermal overload.</p> <p>Check wiring connections.</p> <p>Fan motor bearings tight or seized.</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 24. 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>Loss of refrigerant.</p> <p>Condenser clogged.</p> <p>Fan not operating.</p>	<p>Relocate or improve ventilation.</p> <p>Use larger model, or reduce python length.</p> <p>Leak check and repair.</p> <p>Clean off dust, lint, grease, etc.</p> <p>Remove obstruction or replace motor.</p>

11.2 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. Pump motor will not stop. Inadequate water supply. Lines too small or restricted.	Check CO ₂ pressure relief valve. Bleed gas by opening and closing the relief valve - set CO ₂ to 550 kpa. Check carbonator control using procedure on page 25. Replace control or probe if defective. If strainer and filter are clear and line valves are fully open, noisy pump operation indicates insufficient water supply. Minimum water supply is 172 kpa flowing pressure.
Poor carbonation (low CO₂ volume).	Flooded carbonator. Dirty water supply. CO ₂ pressure too low. Poor quality paper cups. Dirty or greasy glasses. Improperly drawn drink.	Check carbonator control using procedure on page 25. Replace control or probe if defective. Check filters. Check CO ₂ pressure at regulator. Should be set between 550 kpa. CO ₂ inlet check valve stuck, shut or blocked, 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. Misaligned or damaged motor and pump facings.	Replace pump. Realign or file flat.
Pump will not run.	Power failure or low voltage. Carb pump hi temp LED on icebank control board illuminated. Faulty low pressure switch (if fitted). Defective motor. Locked up pump. Motor has cut out on overload.	Check fuses. Check power supply. Check for icebank growth into product coils, defrost and turn off chiller at supply socket and turn on again to reset. Ensure of adequate water supply. Switch should close above 172 kpa. Replace if defective. Replace motor. Replace pump. Check mains water pressure - must be at least 135 kpa lower than CO ₂ (install water pressure regulator if necessary)

	<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 CO₂ regulator. Check carbonator control using procedure on page 25. Replace control or probe if defective.</p> <p>Check carbonator control Using procedure on page 25. 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>Carbonator pump will not run due to power failure or low voltage.</p> <p>Pump water supply restricted.</p> <p>Carbonator pump will not run due to excessive carbonator CO₂ pressure.</p> <p>Faulty low pressure switch.</p> <p>Defective Carbonator motor.</p> <p>Locked up pump. Motor has cut out on overload.</p> <p>Carbonator empty – faulty control board or level probe.</p> <p>Carb pump hi temp LED on icebank control board illuminated.</p>	<p>Check fuses. Check power supply.</p> <p>Ensure clean mains water supply tap is open, or replace filters.</p> <p>Check Carbonator CO₂ pressure regulator for creeping. It should be set at 550 kpa.</p> <p>Ensure adequate water supply (minimum pressure 172 kpa flowing pressure). Pressure switch is set to open below 35 kpa and reset at 172 kpa.</p> <p>Check operation by plugging into circulation pump socket momentarily. Replace motor if necessary.</p> <p>Replace pump.</p> <p>Check carbonator control using procedure on page 25. Replace control or probe if defective.</p> <p>Check for icebank growth into product coils, defrost and turn off chiller at supply socket and turn on again to reset.</p>

12. Hydra Icebank Control Go/No Go 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 terminals N, A, ON 1, ON 2 terminals. Work should only be performed by fully trained & certified Electrical, Plumbing & Refrigeration Technicians.

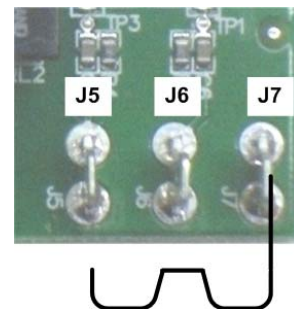
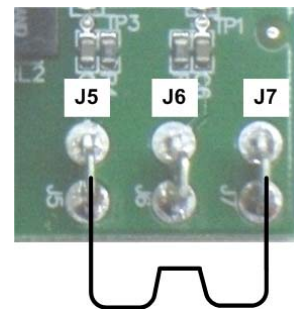
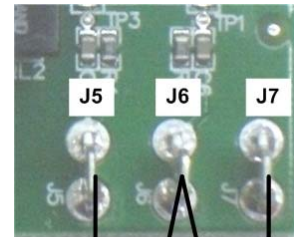
1. Remove the ice bank probe connections from terminals J5, J6, J7.
2. Connect alligator jumper to terminals J5, J6, J7. Ice bank control relay should close and refrigeration system start.

(Simulates water covering all probes)

3. With refrigeration system operating (ice bank control relay energised) remove alligator jumper from terminal J6. Refrigeration system should continue to operate.

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

4. With refrigeration system operating, remove alligator lead from terminal J5. Refrigeration system should stop. (Simulates ice growth over black probe only)



13. Hydra 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.

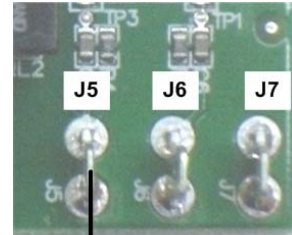


Warning

**230VAC is present on terminals N, A, ON 1, ON 2.
Work should only be performed by fully trained & certified
Electrical, Plumbing, & Refrigeration Technicians.**

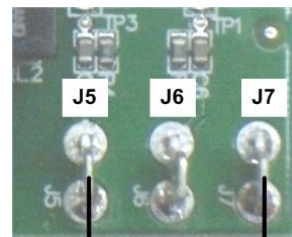
1. Remove the carbonator probe connections from terminals J5, J6 & J7. The carbonator pump should operate.

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



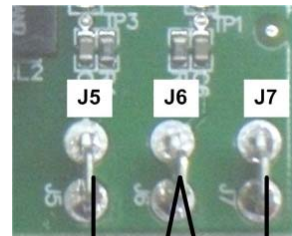
2. With carbonator pump operating connect alligator jumper from terminal J5 to terminal J7. Carbonator pump should continue to operate.

(Simulates water covering low level probe.)



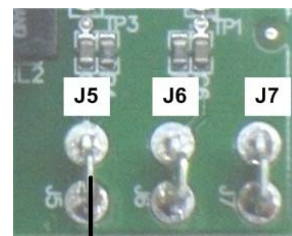
3. With carbonator pump operating, connect alligator lead to terminal J6. Carbonator pump should stop.

(Simulates water over low & high level probes)



4. Carbonator pump will not restart until alligator clips are removed from J6 & J7.

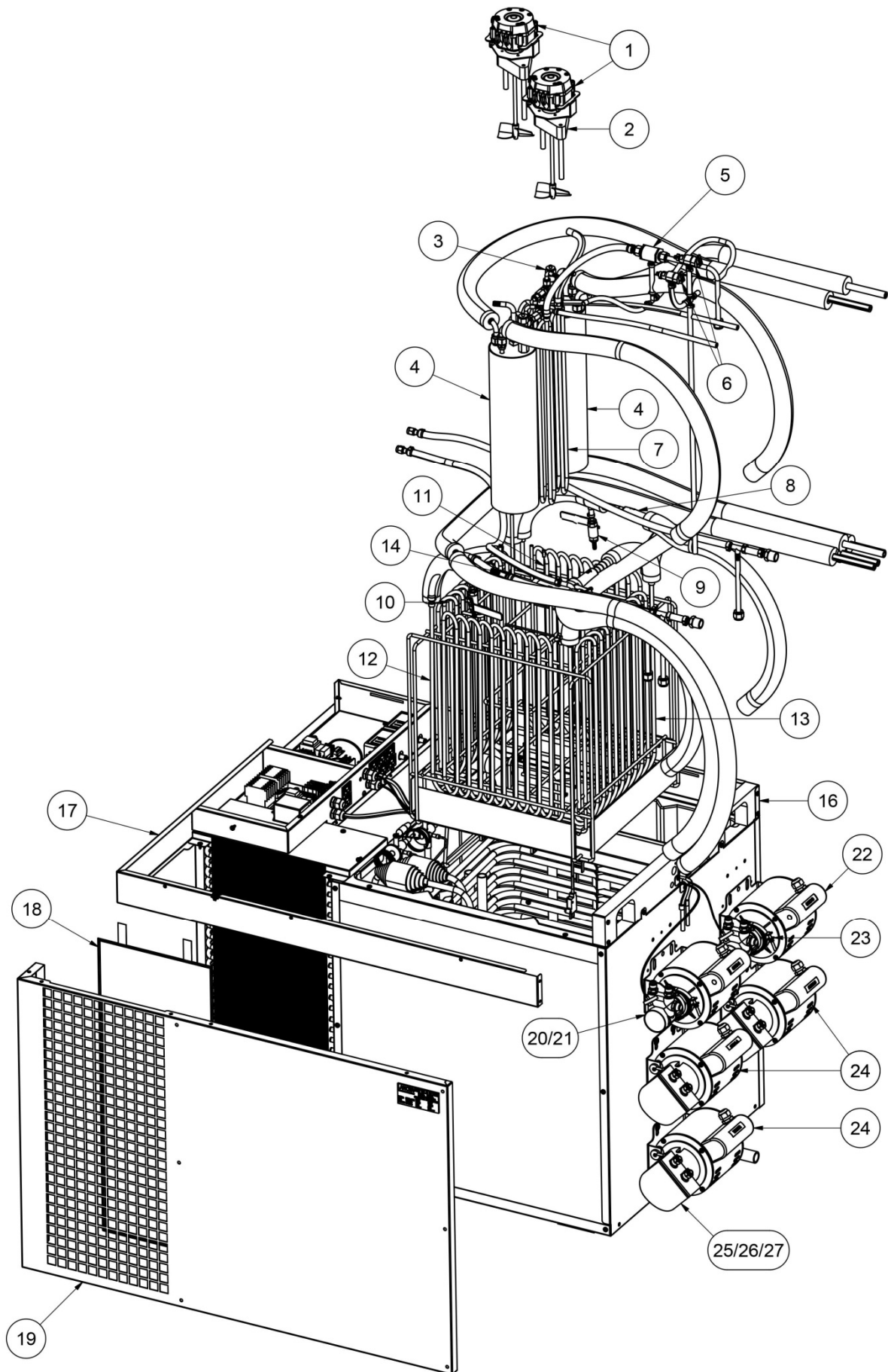
(i.e. Water level drops below low level)



14. Assembly Diagrams & Parts List

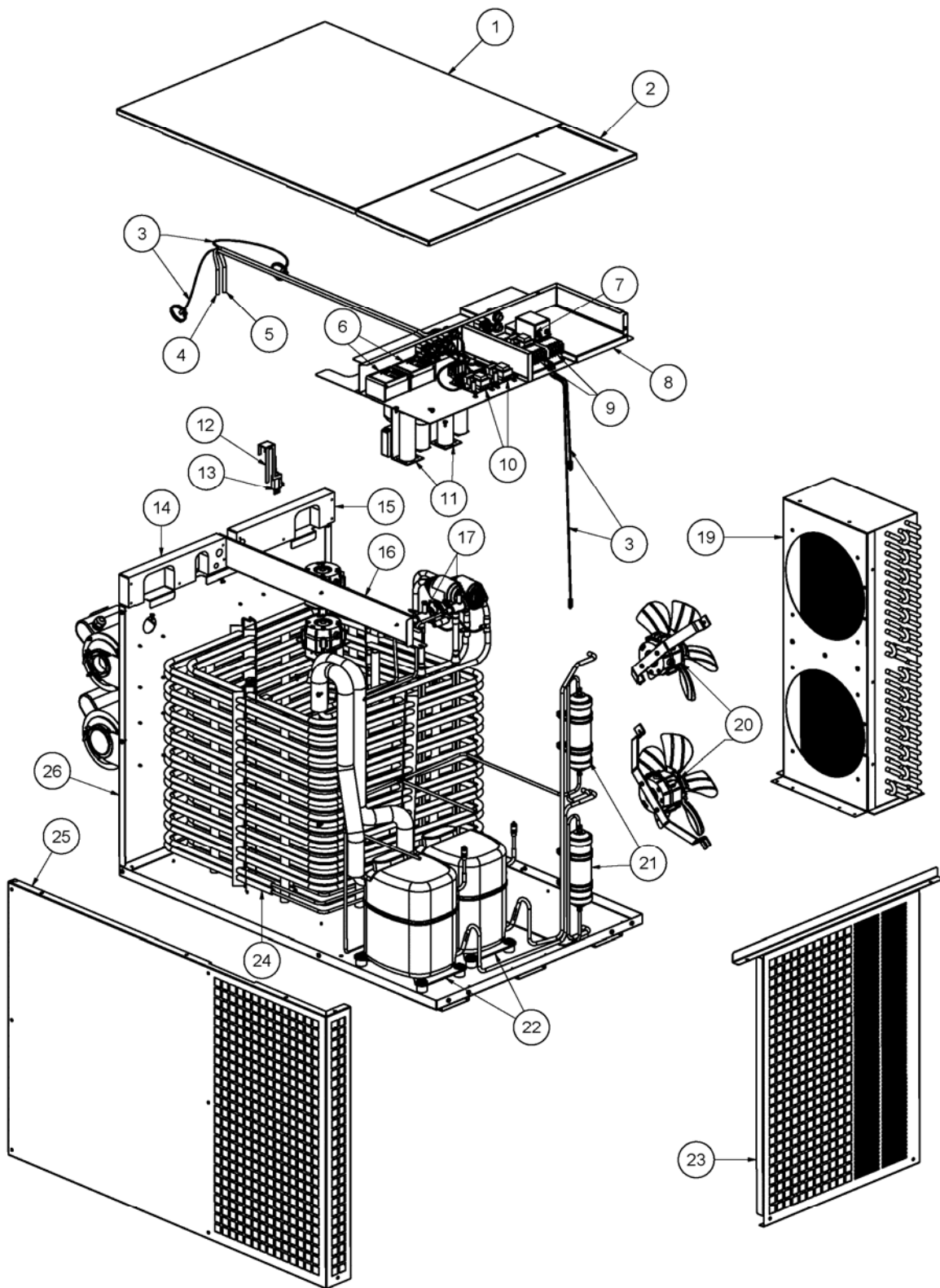
14.1. Postmix Spare Parts List

Ref	Part No	Description
1	80000092	AGI MOTOR 240V/50Hz
2	61600008	AGI BRACKET ASSY S8E
3a	23521975	CARB PROBE
3b	23000022	PROBE WASHER
4	23822336	LANCER CARBONATOR ASSY
5	79000683	BACKFLOW PREV WATTS 9DB (AUS)
6	08000002	CARBONATOR RELIEF VALVE
7	63000163	COIL ASSY PRECHILL B
8	87000052	STRAINER FLOW INDICATOR
9	79000739	BALL VALVE S/S WATERMARKED
10	63000164	COIL ASSY SODA A
11	63000165	COIL ASSY SODA B
12	62000162	COIL ASSY PRECHILL A
13	63000170	WATER COIL ASSY
14	79000332	CHECK VALVE S/S 10MM BARB
16	61000493	PANEL UPPER REAR S8E V2
17	61000491	PANEL UPPER FRONT S8E V2
18	79600009	FILTER CONDENSOR S8
19	61000488	PANEL FRONT S8E V2
20	78000101	PUMP FOT BRASS
21	78000019	PLASTIC DRIVE KEY
22	80000106	MOTOR PMIX FASCO KEY
23	78000018	V' BAND CLAMP
24	80000105	POSTMIX MOTOR MAG IEC PLUG
25	78000112	INSULATOR MAG PUMP
26	78000110	DRIVE MAGNET
27	78000100	PUMP SS MAG WITH CLAMP

14.2. Postmix Assembly Diagram

14.3. Refrigeration Spare Parts List

Ref	Part No	Description
1	61000494	MAIN LID S8E V2
2	61000495	LID ELECT BOX S8E V2
3	83000209	PROBE NTC STRAP ON 3.0M CAREL
4	83000220	LEAD POWER SUPPLY (10 AMP SUPPLY)
5	83000081	LEAD POWER S8000 (15 AMP SUPPLY)
6	83287311	LOW PRESSURE CONTROL KP1
7	83000342	EMI FILTER
8	83000324	ELECTRICAL BOX ASSY 4P/5P S8E V2
	83000325	ELECTRICAL BOX ASSY 3P S8E V2
9	83600811	MINI CONTACTOR C15-9 DANFOSS
10	83000278	CONTROL LEVEL I/B HYDRA R2
11	83000282	COMPRESSOR START RELAY AND CAPACITORS
12	61616653	ICE PROBE BRACKET ASSY S8
13	16522334	ICE BANK PROBE
14	79000556	CLAMP B TUBE S8E
15	79000555	CLAMP A TUBE S8E
16	61000449	CONDUIT CABLE S8E V2
17	83000114	TX VALVE DANFOSS TUBE 03
19	80000093	CONDENSER S8E THAN AIREFRIG
20	80000119	CONDENSOR FAN ASSY ECR1
20a	80000115	MOTOR ASSY CONDENSOR ECR1
20b	87000094	FAN BLADE EBM 22 DEG
20c	88000113	BRACKET FAN MOTOR ECR1
21	87000102	RECEIVER DRIER
22	80000073	COMPRESSOR 230V/50Hz
23	61000427	PANEL END GRILL S8E V2
24	62000090	EVAP ASSY S8E 2ROW
25	61000490	PANEL REAR S8E V2
26	61000487	PANEL RH 5 PUMP

14.4. Refrigeration Assembly Diagram

15. 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 your local Hoshizaki Lancer office.

Hoshizaki Lancer – Head Office

Tel: +61 8 8268 1388

Fax: +61 8 8268 1978

16. Manufacturer's Checklist

Checked by Date

Postmix Tested by

Gas Charge Icebank Probe fitted

Electrically tested by (P/MIX) (REF) Refrigeration tested by

TAG No. (P/MIX) (REF)

- ☐ 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.
- ☐ Condenser fans operating and not contacting shroud
- ☐ Agitator blades tight and not touching coils cradle.
- ☐ Overflow pipe correct height and positioned straight.
- ☐ All motors and pumps secured and mounted correctly in correct locations.
- ☐ All pumps run quietly and carbonator pump switched ON/OFF.
- ☐ Check icebank probe position and tightness and correct wiring of harness.
- ☐ Carbonator and plumbing pressure tested. Check for leaks on pumps, clamps, welds, strainers, carbonator fittings and all joints.
- ☐ Check check valve and strainer indicator correct flow direction
- ☐ Check correct flow direction
- ☐ Coils in cradle correctly and spaced.
- ☐ Postmix tubes not rubbing.
- ☐ Plumbing strapped correctly and not touching the agitator.
- ☐ Tube labels on correct tube.
- ☐ Electrical box labels correctly positioned and Superchiller sticker correctly positioned and straight.
- ☐ Attention sticker fitted and correctly positioned.
- ☐ Clean exterior of unit including power cords.
- ☐ Condenser filter fitted.
- ☐ Warning sticker applied
- ☐ Verify L.P. control operation
- ☐ 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.

Affix label here

W/O