LANCER
WORLDWIDE
A HOSHIZAKI Company

S8H Hi-Carb Superchiller

230V / 50Hz

Installation, Operation & Service Manual

GLOBAL & GREEN
THINK THE EARTH

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Hoshizaki Lancer reserve the right to change specifications without notice.
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Part No: 68000036
No. 111 – 4 Apr 22

1 Specifications and Features

1.1 Models

S8H23LAT	Lancer S8H Superchiller with 3 pumps, single Carbonator.
S8H95LAT	Lancer S8H Superchiller with 5 pumps, dual Carbonator.

1.2 Specifications

Power Supply	230 Volts / 50 Hz / 15 Amp		
Max Current Draw	S8H23LAT	S8H95LAT	
	11.8 Amps	13.4 Amps	
Standby Energy Consumption	8.9 kW-24h	10.7 kW-24h	
Ambient Temperature	2 - 40°C		
Refrigeration Capacity	2 x 1440 Watts @ -10C SST		
Heat Rejection	3600 Watts Nominal, 4400 Watts Max		
Dimensions	Width	Depth	Height
	1375 mm	737 mm	834 mm
			934 mm w/Castors
Weight	S8H23LAT	S8H95LAT	
Shipping	173 kg	185 kg	
Empty	161 kg	173 kg	
Operating	341 kg	353 kg	
Refrigerant	145 grams R290 x 2		
Ice bank Weight	75 kg		
Water Bath Capacity	180 litres		
Construction	Stainless Steel		
Compressor	Secop x 2		
Agitator Motor	12W, 208-230VAC 50/60HZ 1 Phase		
Condenser Motor	20W, 208-230VAC 50/60HZ 1 Phase		
Ice bank Control	Electronic		
Carbonation Level Control	Electronic		
Drink Capacity	Continuous 473ml (16 oz) @ 40C/32C/40C Ambient/Water/Syrup drinks below 4.4°C		
	4 x 16-oz (473ml) drinks/minute @ 3 oz/second		

1.3 Product Features

Energy Optimised R290 Compressor
Variable Speed BLDC Circulation Pumps
Variable Speed EC Agitator Motor
Variable Speed EC Fan Motor
Continuous Low Speed Fan Operation

1.4 Options

- Adjustable Legs (79232218) – height with legs approx 1000mm.

2 Superchiller Safety Information

2.1 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 WHS (Work Health & Safety) 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.

2.2 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.
	**Warning**	Risk of fire.

2.3 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.
	**Caution**	This appliance is intended to be used in commercial applications such as restaurants or similar.

2.4 Service & Maintenance

	**Caution**	Installation of Superchiller and service work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians. In Queensland a gas work licence (hydrocarbon refrigerant) is required to undertake gas work on the gas system of a gas device in Queensland that uses fuel gas as a refrigerant such as charging, discharging or breaking into a refrigeration system.

	**Warning**	Carbonator contains CO_2 gas and water under pressure. De-pressurise 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.**

2.5 Flammable Refrigerants (R290)

This is a compression type appliance with R290 (Propane) refrigerant which is CFC-Free, environmentally friendly, but it is flammable.

	**Warning**	Keep ventilation openings, in the enclosure, or built-in structure, clear of obstruction.

	**Warning**	Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer

	**Warning**	Do not damage the refrigeration circuit. In Queensland a gas work licence (hydrocarbon refrigerant) is required to undertake gas work on the gas system of a gas device in Queensland that uses fuel gas as a refrigerant such as charging, discharging or breaking into a refrigeration system.

	**Warning**	Use only genuine Hoshizaki Lancer replacement components or parts certified by Hoshizaki Lancer.

2.6 Carbon Dioxide (CO2)

	**Warning**	The Superchiller uses a CO_2 (Carbon Dioxide) supply. CO_2 is a heavier than air, colourless, non-combustible gas with a faintly pungent odour. Personnel exposed to high concentrations of CO_2 gas will experience tremors, which are followed rapidly by loss of consciousness and suffocation. If a CO_2 gas leak is suspected, **immediately** ventilate the contaminated area before attempting to repair the leak.

3 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 S8H Superchiller weight: 175kg)

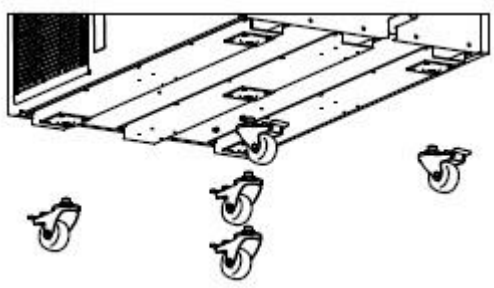
3.1 Receiving

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 lading and file a claim with the carrier.

3.2 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 horizontal position.

Carefully unpack the Lancer S8H Superchiller from the shipping carton, remove the wooden base.



To install the castors, lift the chiller with appropriate help and screw the castors into the mounting plates provided. DO NOT tilt the chiller more than 45 degrees or lay chiller on its side.

3.3 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. Superchilllers are not to be installed in a kitchen.

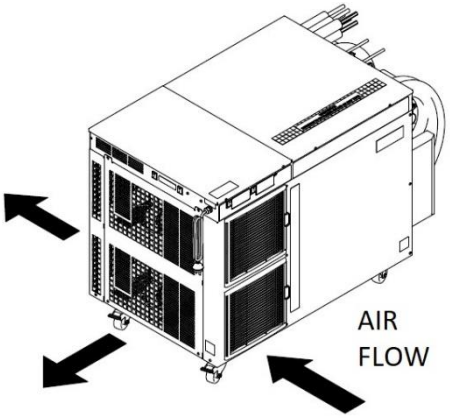
Warning	When positioning the appliance, ensure the supply cord is not trapped or damaged. Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.

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.

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

Warning	The Superchiller must not be confined to an area less than 18m^3 and without ventilation.

- The S8H 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.



Ensure sufficient clearance for air flow.
Do not block or obstruct airflow into the machine.

- Installation should only be performed by a qualified and competent technician.

Caution Superchiller operational weight is 355kg; ensure that all supporting structures are certified for this loading by a registered Mechanical Engineer. If using a rack or frame mount then it must be securely fixed to floors or walls.

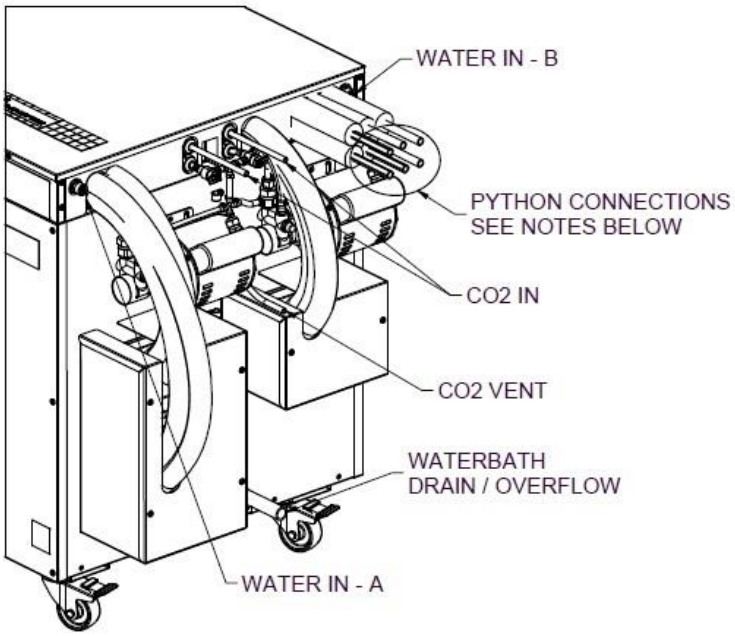
3.4 Connecting Python

Caution

NOTE: The S8H Superchiller is rated to operate with a maximum of 30m of python connected at 40°C, 45m at 32°C – per carbonation circuit.

Exceeding manufacturer's ratings may cause warm drink temperatures, erratic dispensing valve behaviour and void machine warranty.

Connect the Python to Chiller and Dispenser.



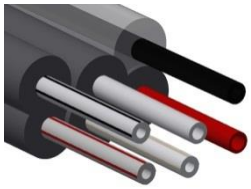
Tube Markings	**Colour Stripe**
Water Supply	Beige
Water Return	White
Soda Supply - A	Maroon
Soda Return - A	Black
Soda Supply – B	Maroon (Solid)
Soda Return – B	Black (Solid)

If Equipped With Syrup Coils:

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

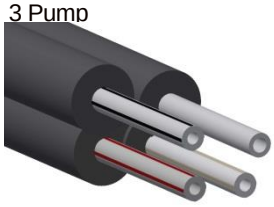
Superchiller can be supplied with 5 pumps, dual carbonator, or 3 pumps single carbonator; python should be connected to Chiller as follows:

5 Pump



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

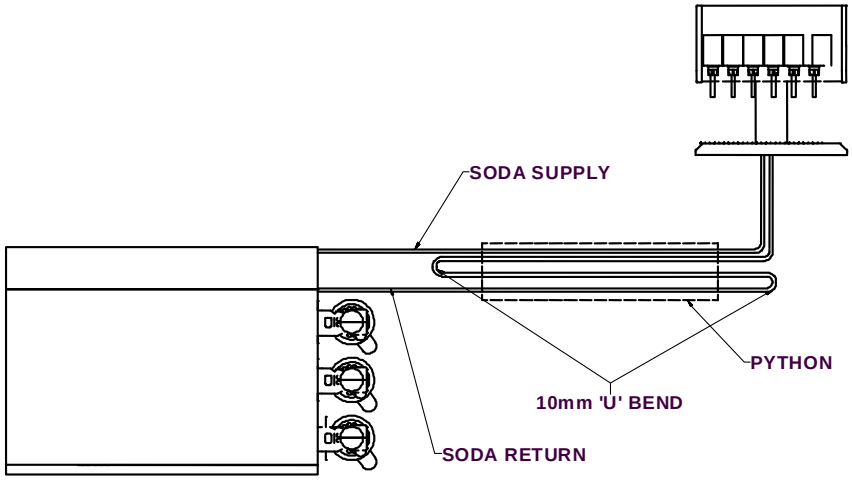
3 Pump



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).



3.5 Connecting to water supply

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.**

- Using appropriate tubing and fittings connect a minimum 10mm water supply line from Superchiller carbonator pump inlet to a filtered, regulated water supply. (See Postmix circuit diagram page 11-13). Installation in accordance with AS/NZS 3500.1 and AS/NZS 3500.2.
- Turn on water supply, check for leaks, adjust water regulator to 172-345kpa.
- Purge the carbonator of air by lifting the relief valve until water discharges from the CO2 exhaust port. For dual carbonators, repeat this operation for each carbonator.

Caution	**Maximum water supply pressure to be 345 kpa.** **Normal operating water temperature should be within 7°C to 32°C.**

3.6 Plumbing the drain and CO2 Exhaust.

The waterbath drain / overflow tube 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 tube labelled as CO2 EXHAUST should be plumbed to a well-ventilated safe outside area.

3.7 Connecting to CO2 supply

Warning	**As carbon dioxide (CO_2) displaces oxygen; prevention of CO_2 leaks is paramount. If a leak is suspected, immediately ventilate the contaminated area, before attempting repairs.**

- Connect CO2 supply line from regulator to each CO2 IN line on the chiller. There may be 2 lines to connect for 5 pump models.
- Adjust CO2 Regulator supplying Carbonator to 550 kpa.
- Turn on CO2 supply and check all connections for leaks. Repair any leaks before continuing.

3.8 Filling the waterbath

Warning	**Disconnect the power before opening the top cover for filling the water bath.** **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: Proper icebank control function depends on the conductivity of the water used. The Electrical Conductivity should be between 100 and 300 uS/cm. Below 100 uS/cm the compressor may not work properly, above 300 uS/cm the lines may freeze.

3.9 Electrical Connection

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.**

- It is recommended that the Superchiller is connected to a separate 230VAC 50Hz 15 Amp 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.

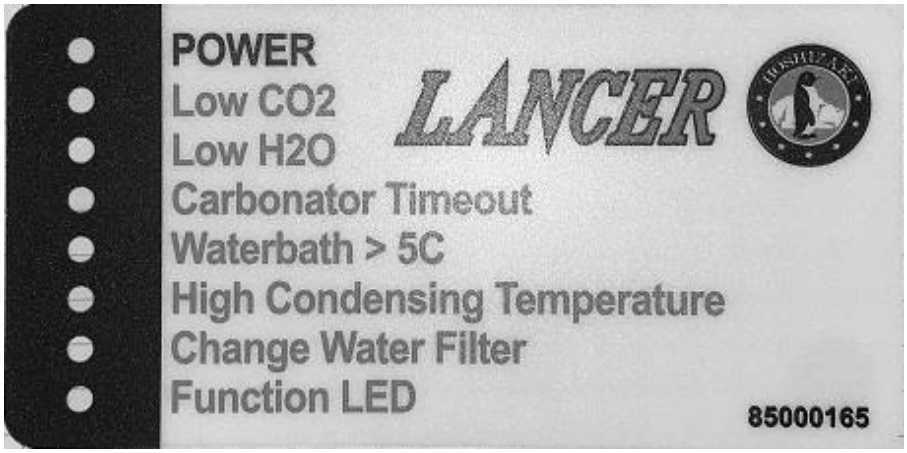
3.10 Commissioning

- Ensure the Pump Switches are in the OFF position.
- Connect Superchiller power supply lead to an appropriate 3 pin socket outlet and switch the main power on. The condenser fan and agitator motor should start immediately. There is a 3-minute delay from initial power on before the compressor starts.
- 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 60-90 minutes.
- When the ice bank is fully formed (approx. 4 -5 hours) the compressors will cycle off, but the agitator and fan will run continuously.
- After the Superchiller has cycled off, place the Pump Switches to the ON position to activate the carbonator and recirculation pumps.

3.11 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.

3.12 LED Display Panel



FUNCTION	DESCRIPTION
POWER	Indicates connection to mains utility. Is the only LED lit under normal operating conditions.
LOW CO2 (OPTIONAL)	If equipped indicates CO2 pressure has dropped below 415 kPa (60 psi) and in most cases indicates a depleted CO2 cylinder. Replace CO2 cylinder and check regulator set to 560 kPa (80 psi).
LOW H2O (OPTIONAL)	If equipped indicates incoming water pressure has dropped below 140 kPa (20 psi) for longer than 3 minutes and switched the pumps off. Check incoming water supply for closed cocks, pinched or blocked lines, dirty / clogged water filter etc.
CARBONATOR TIMEOUT	The carbonator has run past its timeout setting (default = 5 minutes). This may indicate a blockage, a water supply problem, broken pipe downstream or other related issue. Find and repair the problem. Cycle power at the wall to reset.
WATERBATH > 5C	Should remain off during normal operations. If illuminated then either there is an issue with the refrigeration, agitation or severe use over the capacity of the chiller. Investigate and resolve the issue.

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HIGH CONDENSING TEMPERATURE	If yellow then unit is operating at the high end of its design capacity. If red then is operating at its upper design limit. If flashing red then has exceeded its design limit and shut down the refrigeration system. Possible causes are a dirty/blocked condenser, failed condenser fan, or ambient temperatures exceeding the design limits. Find and resolve the issues. Cycle power at the wall / power on switch to reset.
CHANGE WATER FILTER	There is an onboard timer that notifies the operator when approximately 1 year has elapsed since the last filter change. Check status of water filters and correct as required. Reset is by momentarily pushing a hidden button on the lower right side of the display panel.
FUNCTION LED	Possible freeze-up. Ice has grown over the temperature probe near the icebank control. Cycle Power On switch to reset.

4 Scheduled Maintenance

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

4.1 Daily

Cleaning/Sanitising

Maintain good food hygiene practises: Wipe up spills, throw away empty boxes and other rubbish, ensure proper stock rotation, remove and wash all dispensing nozzles, ensure work areas are clean and tidy.

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 CO_2 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 CO_2 cylinder can cause serious personnel injury.

4.2 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 or as recommended by the filter supplier.

4.3 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.

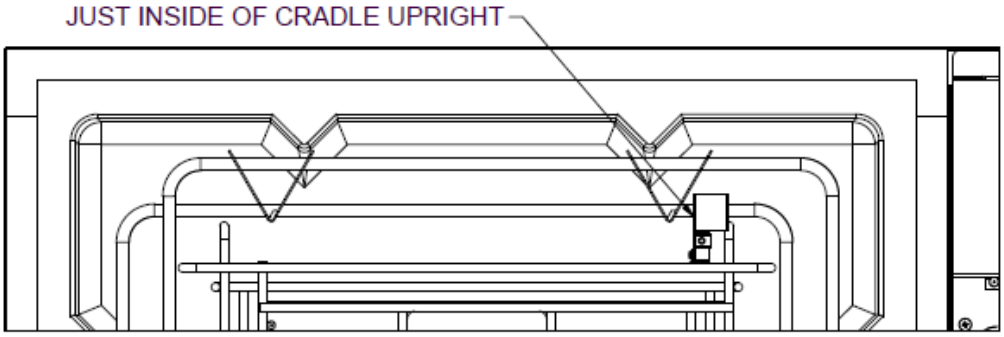
- Check that the water is level with the top of the overflow tube. Add water if necessary.

- Open carbonator relief valve to purge CO2 and check leakage, close relief valve after checking.

4.4 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 to level indicated on the 'FILL LEVEL' plaque.
- Check for build-up on and correct placement of Icebank Probe. Clean as required.



CORRECT PLACEMENT OF ICEBANK PROBE

- Commission and purge system as per Section 3 of this manual.

4.5 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.

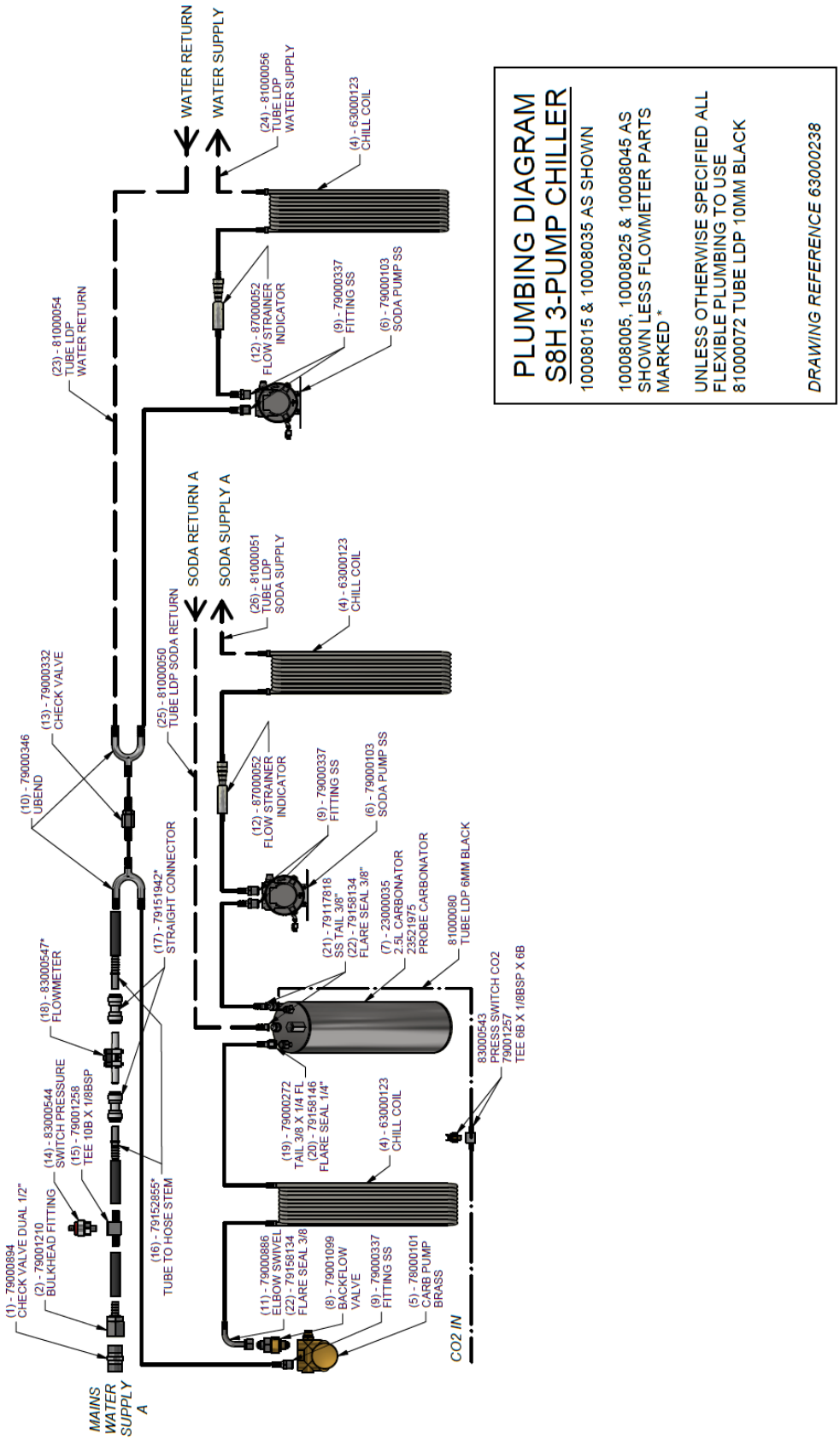
Do not use preparations with greater than 200ppm chlorine for greater than 30 minutes. Rinse thoroughly with clean potable water.

Sanitising BIB System

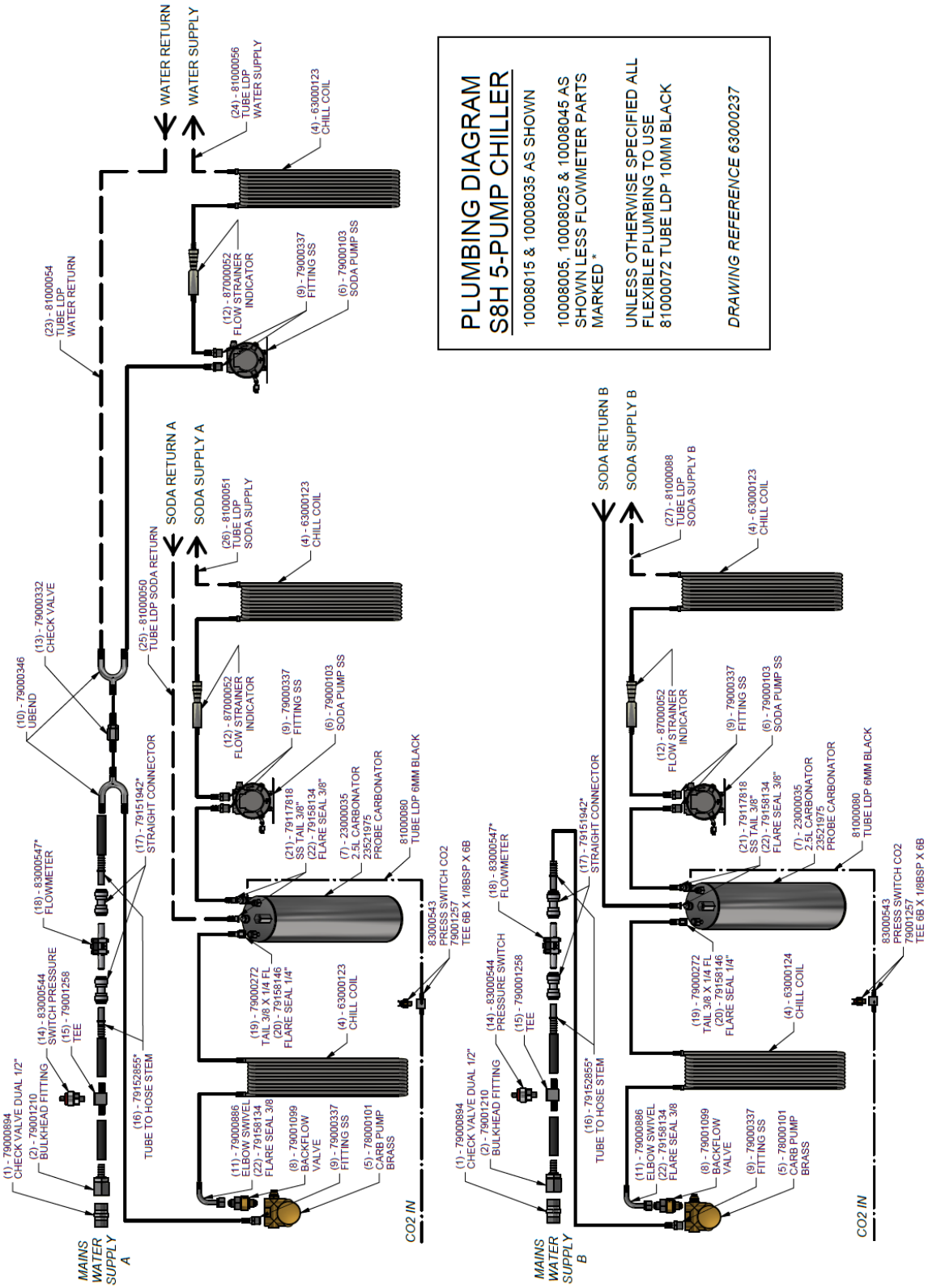
- Remove all disconnects from BIB containers.
- Immerse all disconnects in warm water and clean using a nylon bristle brush. Rinse with clean water.
- Prepare sanitising solution according to manufacturer's instructions.
- Attach sanitising fittings to BIB disconnects, if sanitising fittings are not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

5 Postmix Circuit Diagram

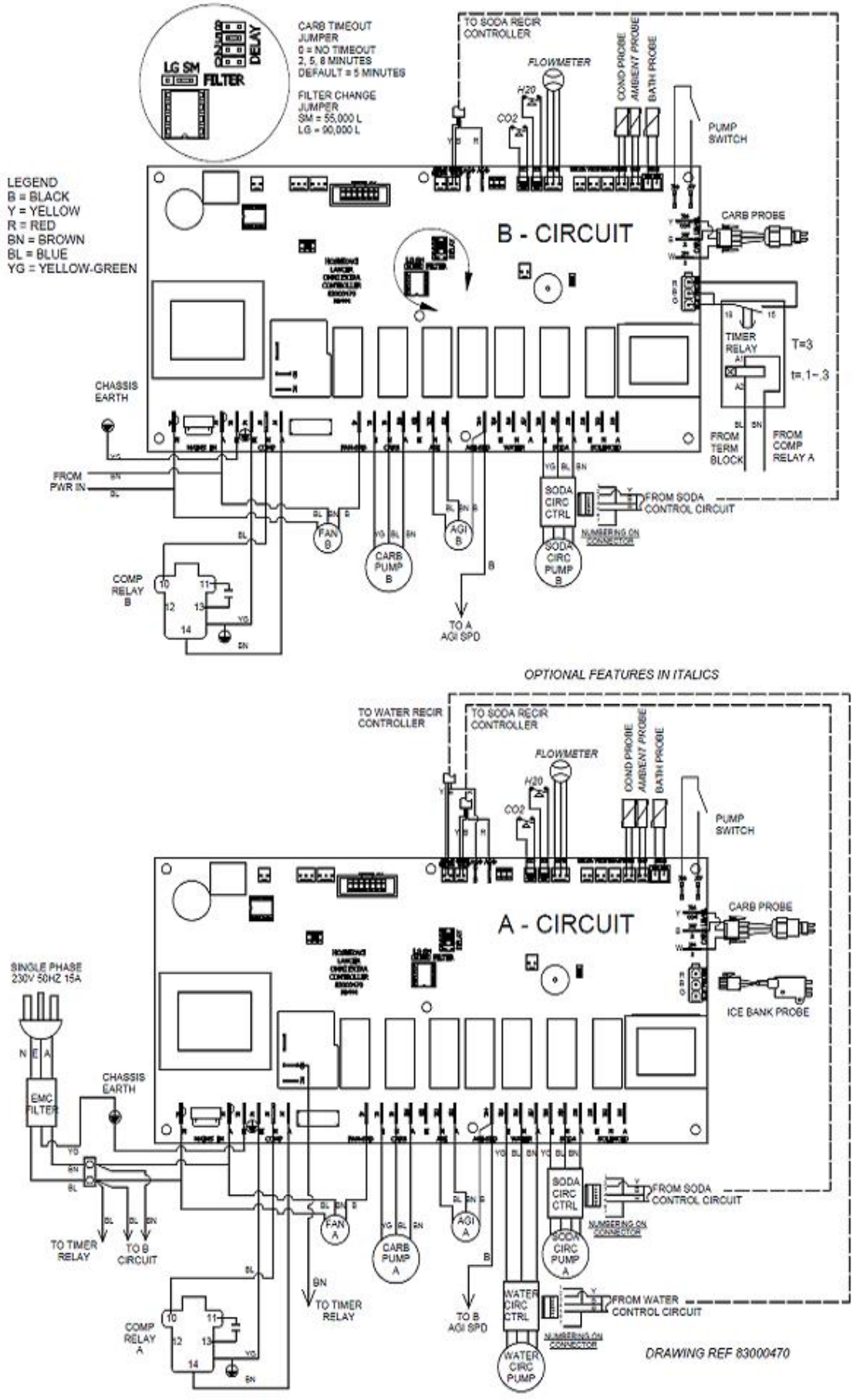
5.1 Single Carbonator Superchiller (3 pumps)



5.2 Twin Carbonator Superchiller (5 pumps)



6 Electrical Circuit Diagram



7 Trouble Shooting

7.1 Refrigeration

TROUBLE	CAUSE	REMEDY
Compressor will not start.	Power Failure.	Check for blown fuse, supply cord pulled out or supply outlet turned off.
	High condensing temperature (out on liquid line temp sensor)	Clean condenser/filter; clear obstructed airflow; check fan operation; ventilate room. Cycle power to reset.
	Ice bank control faulty contacts not closing.	Check Ice bank control using Procedure in Section 8. Replace if defective.
	Check start mechanism components.	If faulty, replace e.g. capacitors, start relays.
	Thermal overload faulty, open circuit, compressor seized.	Replace compressor, check condenser, check power supply, evacuate system and if necessary fit burnout drier to industry standards.
Compressor short cycling on thermal overload (frequent starting and stopping of the compressor while ice bank control contacts remain closed).	Liquid Line temperature probe failure.	Check probe location and connection. Replace if necessary.
	Dirty condenser.	Clean condenser of all lint and dirt.
	Restricted air flow over unit.	Check for air restriction to condenser.
	Low supply voltage.	Check with voltmeter.
	Defective thermal overload.	Replace compressor.
	Check wiring connections.	Tighten if loose.
	Fan motor defective.	Replace motor(s)
Product too warm	Ice bank control defective (permanently open circuit).	Check Ice bank control using procedure in Section 8. Replace control or probe if defective.
	Low refrigerant charge.	Leak check, repair leak, charge with correct amount of refrigerant.
	Check agitator motor, seized or fused.	Replace if not working.
	Location too hot.	Ventilate room or relocate chiller.
	Incoming water temperature too hot.	Find heat source and mitigate.
	Exceeds chiller capacity.	Consider upsizing or multiple chillers; reduce python length.
Compressor runs too long or doesn't cycle.	Location too hot.	Ventilate room or relocate chiller.
	Exceeds chiller capacity.	Consider upsizing or multiple chillers; reduce python length.
	Loss of refrigerant.	Leak check and repair.
	Condenser clogged.	Clean off dust, lint, grease, etc.
	Fan not operating.	Remove obstruction or replace motor.

7.2 Troubleshooting – Postmix

TROUBLE	CAUSE	REMEDY
Rusty appearance and/or metallic taste to water.	Poor water supply - contaminated.	Variable causes. Check with potable water filter specialist for remediation.
CO_2 gas or water escapes from pressure relief valve. (Observed from CO_2 exhaust)	CO_2 pressure too high.	Check CO_2 pressure relief valve. Bleed gas by opening and closing the relief valve - set CO_2 to 550 kpa.
	Pump motor will not stop.	Check carbonator control using procedure in Section 8. Replace control or probe if defective.
	Inadequate water supply. Lines too small or restricted.	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.
Carb Pump Times out. (LED on control panel illuminated)	Insufficient water supply.	Check filters, taps and supply tubing for blockages and rectify. Minimum water supply is 172 kPa flowing pressure.
	Higher than expected demand.	Move timeout jumper to next higher time interval. See electrical diagram.
	Tube burst / valve open downstream.	Check and rectify.
	Blocked vented backflow preventer.	Inspect, repair or replace as required.
	Coil freeze-up	Check prechill coil for ice accumulation. Defrost, inspect icebank probe.
	Worn / defective pump.	Replace pump.
	Failed carbonator probe circuit.	Check carbonator control using procedure in Section 8. Replace control or probe if defective.
Poor carbonation (low CO_2 volume).	Flooded carbonator.	Check carbonator control using procedure in Section 8. Replace control or probe if defective.
	Dirty water supply.	Check filters.
	CO_2 pressure too low.	Check CO_2 pressure at regulator. Should be set between 550 kpa. CO_2 inlet check valve stuck, shut or blocked, repair or replace.
	Poor quality paper cups.	Purchase better quality cups.
	Dirty or greasy glasses.	Wash all glasses.
	Improperly drawn drink.	Open faucet all the way and draw against side of glass or cup.
Pump leaks from shaft seal.	Worn pump seals.	Replace pump.
Pump will not run.	Power failure or low voltage.	Check fuses. Check power supply.
	Out on Low Water Pressure LED.	Check all incoming lines, filters, taps and regulators for blockages.

	Faulty low pressure switch (if fitted). Defective motor. Locked up pump. Motor has cut out on overload. Carbonator flooded – filled completely with water.	Ensure of adequate water supply. Switch should close above 140 kpa. Replace if defective. Replace motor. Replace pump. Excessive mains water pressure - must be at least 175 - 345 kpa max. (Install water pressure regulator if necessary) Empty CO2 cylinder. Replace and check reulator settings to 550 kPa
Faucet delivers CO2 gas continuously.	Low water supply. Excessive CO2 Pressure.	See: Pump(s) Will Not Run Check Carbonator CO_2 pressure regulator for creeping. It should be set at 550 kpa.

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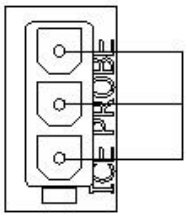
8 Icebank / Carbonator Probe Checks

⚠	**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.

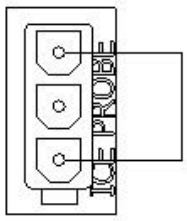


2. Jumper the three terminals as shown. Use a spare male connector with wiring if available. The compressor relay should close and refrigeration system start.

(Simulates water covering all probes)

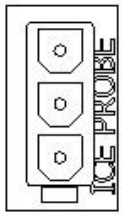
3. With refrigeration system operating (compressor relay energised) remove the jumper from the centre terminal. Refrigeration system should continue to operate.

(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.

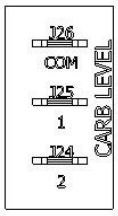
(Simulates ice growth over the probes)



8.1 Carbonator Probe Check

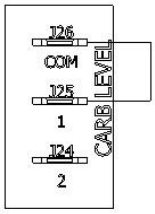
1. Remove the carbonator probe connections from terminals J24, J25 & J26. The carbonator pump relay should close.

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



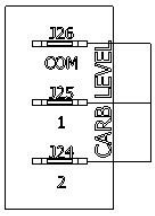
2. With carbonator pump operating connect alligator jumper from terminal J25 to terminal J26. Carbonator pump should continue to operate.

(Simulates water covering low level probe.)



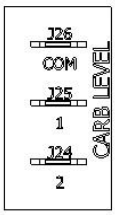
3. With carbonator pump operating, connect alligator lead to terminal J24. Carbonator pump should stop.

(Simulates water over low & high level probes)



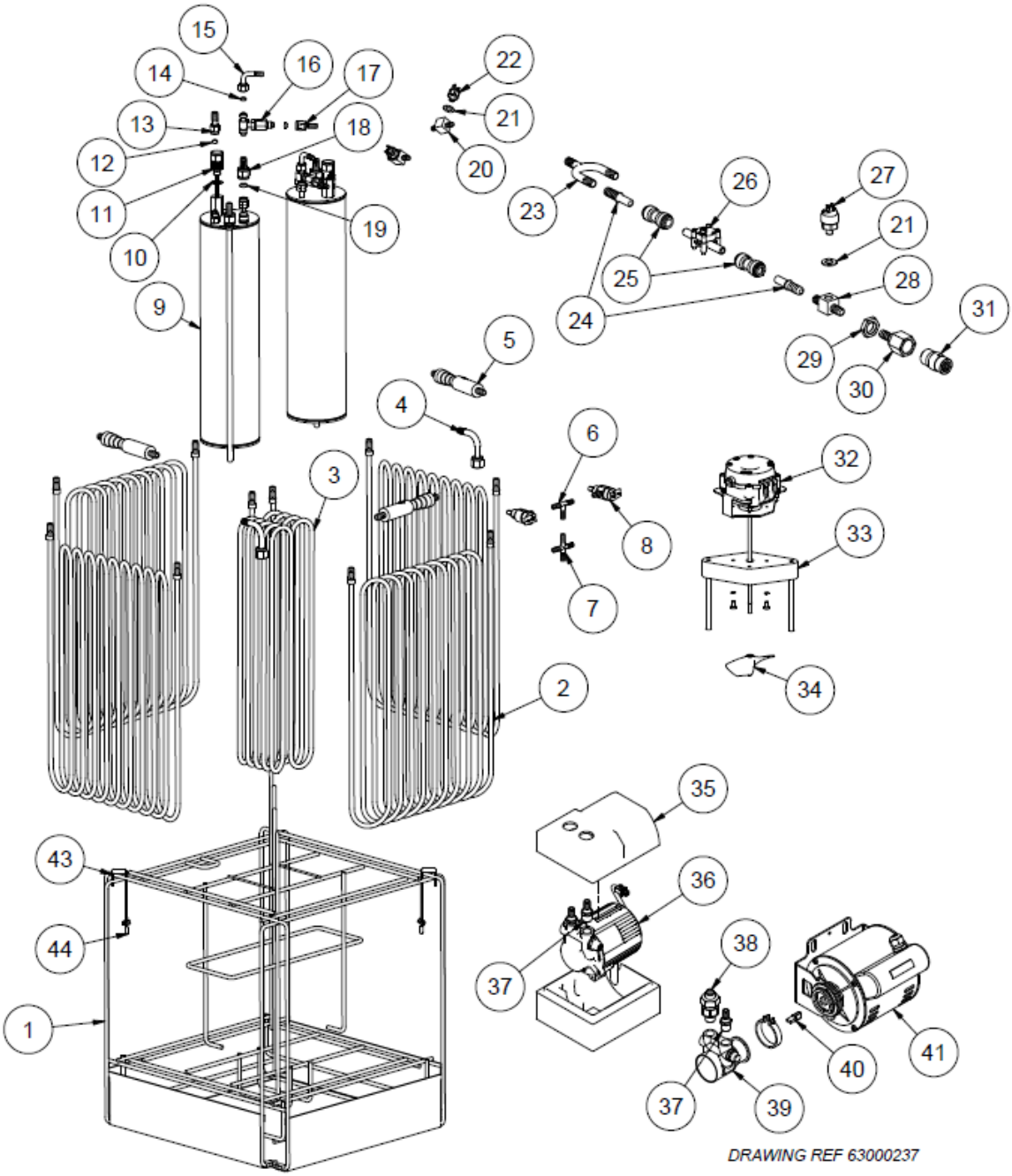
4. Carbonator pump will not restart until alligator clips are removed from J24 & J25.

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



9 Assembly Diagrams & Parts Lists

9.1 Postmix Assembly Diagram

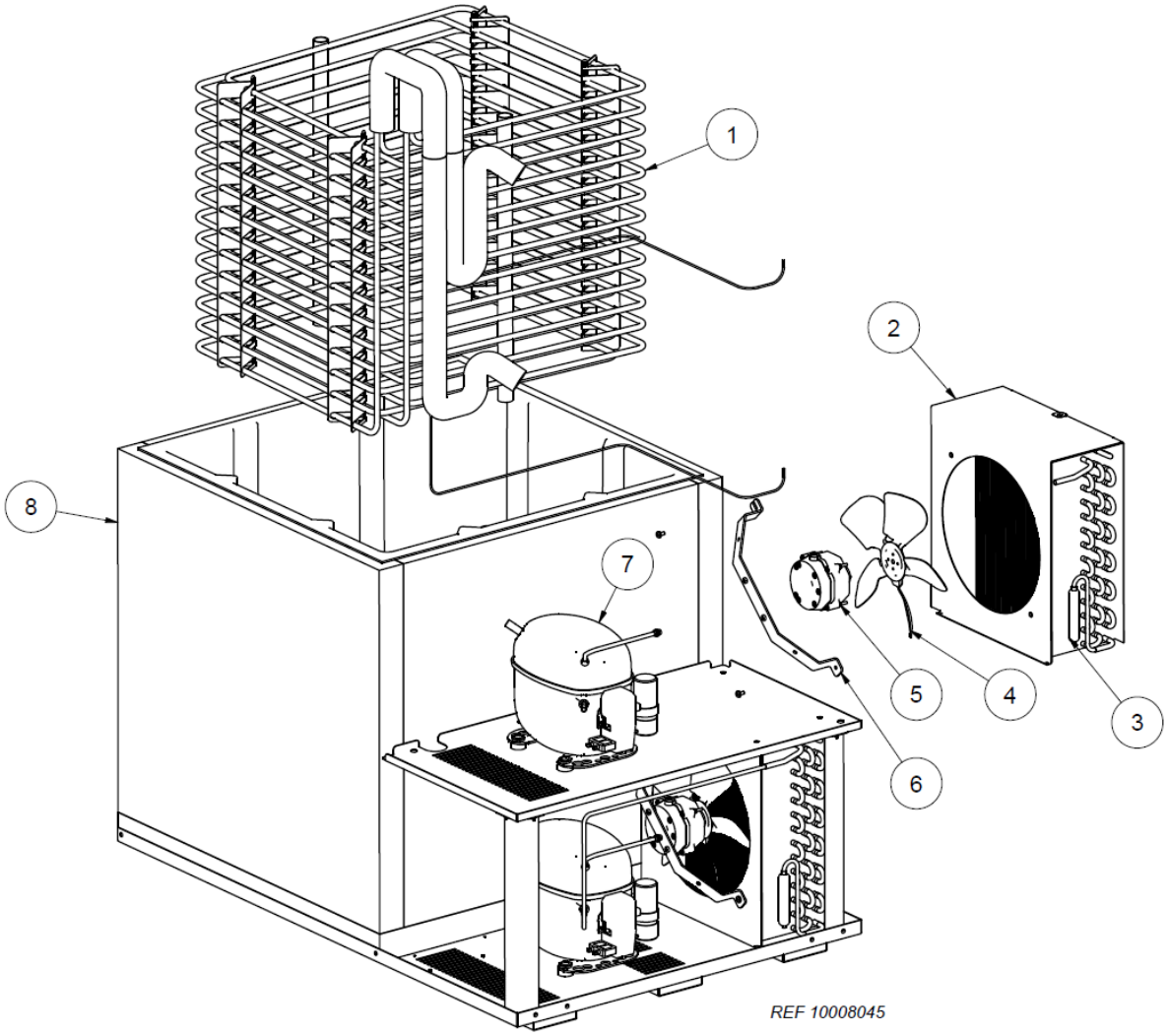


9.2 Postmix Parts List

Ref	Part No	Description
1	80000208	CRADLE S8H
2	63000123	CHILL COILS S8E
3	63000124	PRECHILL COIL #1
4	79000886	ELBOW SWIVEL 3/8FL X 10B 50MM
5	87000052	STRAINER FLOW INDICATOR

6	79000316	TEE SS 6MM BARB
7	79000239	CROSS BARB 6MM SS
8	08000002	CARBONATOR RELIEF VALVE
9	23000035	CARBONATOR 2.5L
10	23000022	PROBE WASHER
11	23521975	CARB PROBE
12	79158146	SEAL NYLON FLARE ¼
13	79000272	FITTING 10MM BARB 1/4FL SWL
14	79655294	FLARE SEAL MODIFIED ¼ YE
15	79000335	ELBOW SWIVEL 6MM X ¼ FL
16	16170469	FTG ASSY CO2 FLARE
17	87000071	TAIL SS 6MM BARB ¼ NUT
	79000205	NUT SWIVEL ¼ FL NICKEL
18	79117818	TAIL SS 10MM BARB 3/8 NUT
	79000206	NUT SWIVEL 3/8 FL NICKEL
19	79158134	SEAL NYLON FLARE 3/8
20	79001257	TEE SS 6 BARB X 1/8BSPF X 6 BARB
21	79001259	WASHER NYLON 10 X 19 X 1.5MM
22	83000543	SWITCH PRESSURE NO BRASS CO2 415 KPA
23	79000346	UBEND 10MM 1 X 10MM TAKEOFF
24	79152855	TUBE TO HOSE STEM 3/8 X 3/8 JG
25	79151942	EQUAL STRAIGHT CONNECTOR 3/8 JG
26	83000547	FLOWMETER ASSY 0.5 – 10 LPM
27	83000544	SWITCH PRESSURE NO SS H2O 140 KPA
28	79001258	TEE SS 10 BARB X 1/8BSPF X 10 BARB
29	79001211	NUT JAM SS 5/8-18 UNF
30	79001210	FTG BULKHEAD 1/2BSPF X 10 BARB
31	79000894	CHECK VALVE DUAL ½”
32	80000191	MOTOR AGITATOR EC 650/1200 RPM 12W
33	61600008	AGI BRACKET ASSY S8E
34	87000144	BLADE AGITATOR 36119 X ¼ BSW
35	79001212	INSULATOR ASSY TM/TSFR PUMP
	79001213	STRAP HOOK & LOOP 25MM X 600MM
36	78000103	PUMP BLDC VAR SP TSFR
	78000134	PUMP ONLY TSFR
	80000253	MOTOR ONLY TSFR
37	79000337	FITTING SS 10MM BARB X 3/8 NPT
38	79001099	BACKFLOW ABCO 3/8NPT X 3/8FL 38
39	78000101	PUMP FOT BRASS
40	78000020	BRASS DRIVE KEY
41	80000106	MOTOR PMIX FASCO KEY
43	61001319	PROBE HOLDER WATERBATH
44	83000091	PROBE NTC015HP00 CAREL

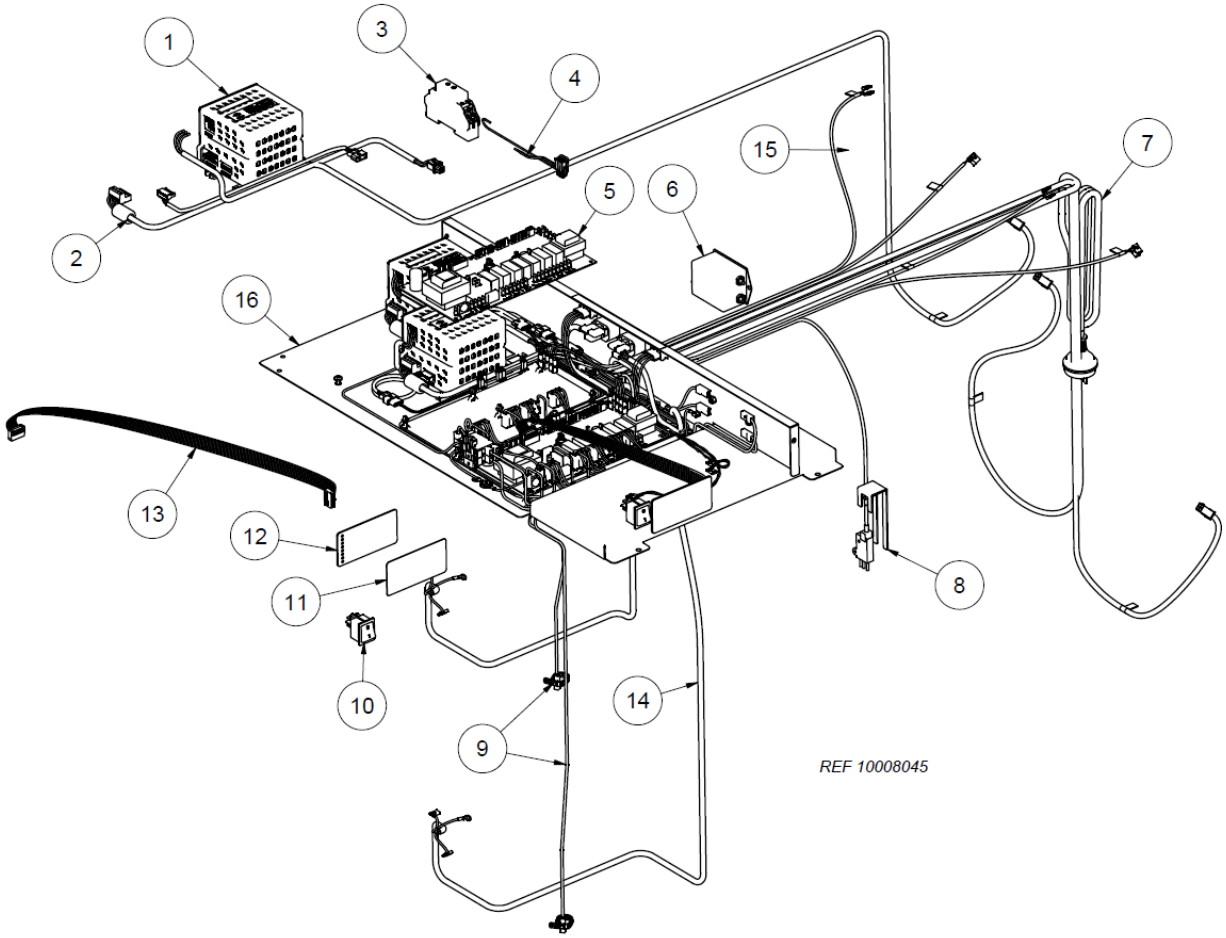
9.3 Refrigeration Assembly Diagram



9.4 Refrigeration Parts List

Ref	Part No	Description
1	62000230	EVAPORATOR ASSY S8H
2	84000034	CONDENSER 1.5KW R290
3	87000158	DRIER COPPER XH7/10G
4	87000094	FAN 200MM V22
5	80000192	FAN MOTOR 20W ECR1 650/1400 RPM
6	88000158	FAN BRACKET S2H
7	80000182	COMPRESSOR SCE18MNX
	80000186	CAPACITOR 80uF NLE11/SCE18
	80000188	START RELAY SCE18
8	85000169	TANK ASSY FOAMED S8H

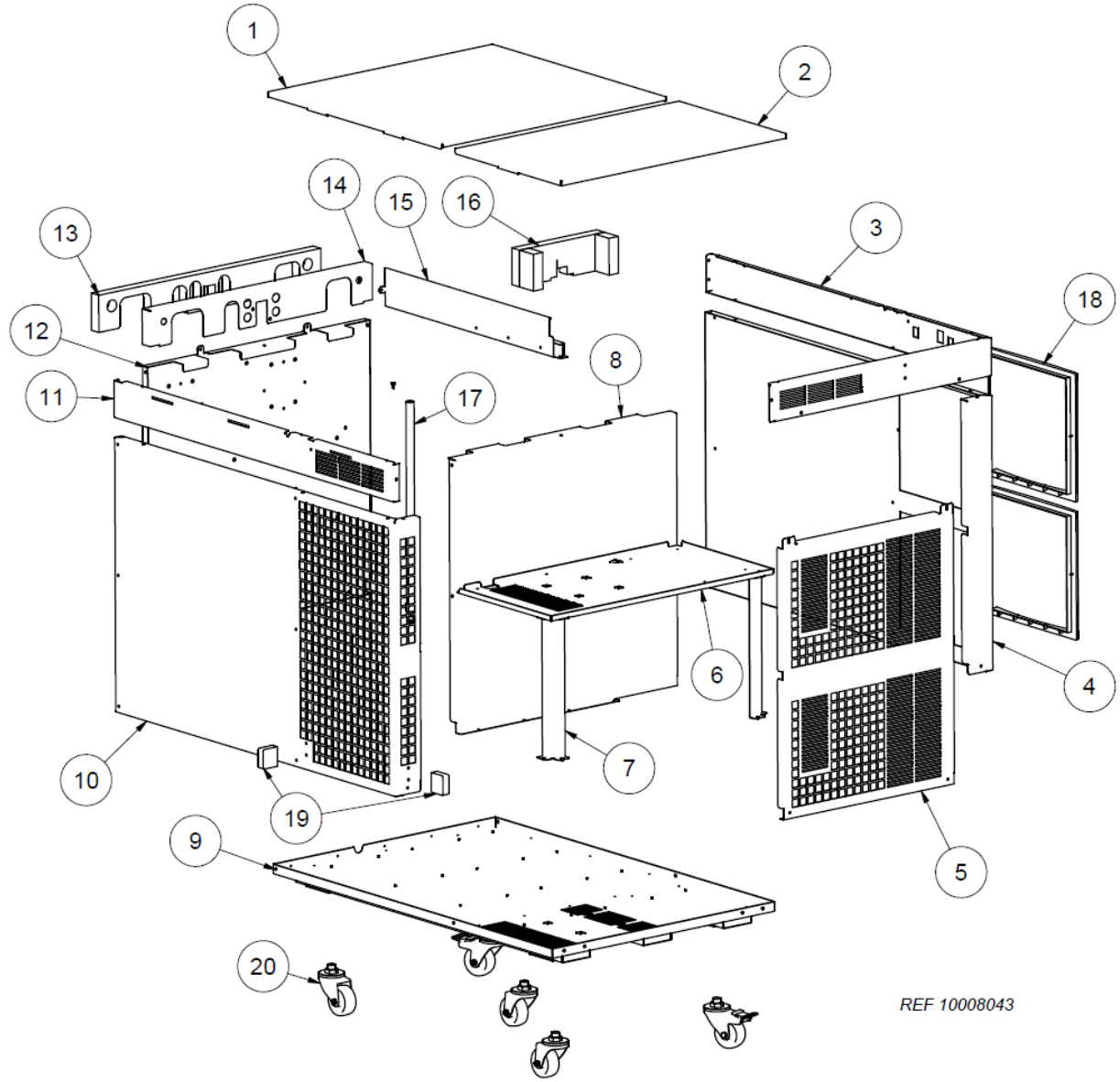
9.5 Electrical Assembly Diagram

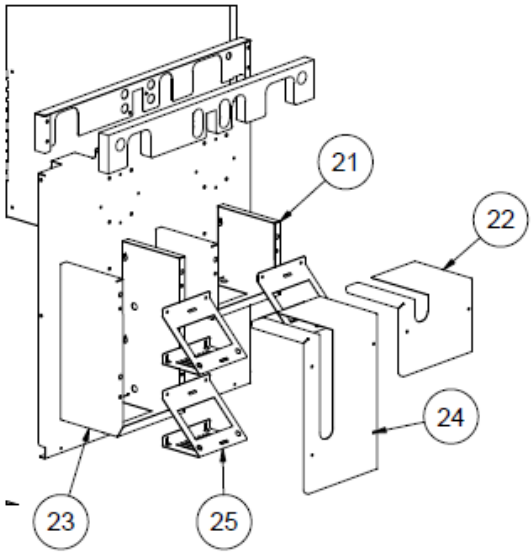


9.6 Electrical Assembly Parts List

Ref	Part No	Description
1	78000130	DRIVE BLDC VARSP TMFR/TSFR
2	83000656	HARNESS TSFR DRIVE 2M
3	83000562	TIMER RELAY ON-DELAY
4	83000670	HARNESS IB PROBE ON-DELAY
5	83000470	CONTROLLER OMNI EXTRA
6	83000948	EMI FILTER FN 2030A-20-08
7	83000671	LEAD POWER 15A X 3M S8H
8	64000013	ICE PROBE ASSY S8E
	16522334	ICE PROBE LANCER
9	83000561	PROBE STRAPON NTC 1.2M W/MOLEX
10	83000360	SWITCH ROCKER DPST
11	85000165	LED PANEL FASCIA CO2 H2O
12	83000471	DISPLAY PANEL OMNI EXTRA
13	83000661	CABLE RIBBON OE DISPLAY 500LG
14	83000945	HARNESS COMPRESSOR S8H
15	83000663	HARNESS PRESSURE SW 1M
16	61001302	ELEC BOX BASE ASSY S8H VARSP

9.7 Body Panels Spare Parts List





9.8 Body Panels Assembly Diagram

Ref	Part No	Description
1	61001293	LID WATERBATH S8H
2	61001288	LID ELECTRICAL BOX S8H
3	61001298	PANEL UPPER FRONT S8H
	61001313	PANEL UPPER FRONT 3PUMP
4	61001296	PANEL FRONT S8H
5	61001290	PANEL END GRILL S8H
6	61001285	REFRIGERATION DECK B S8H
7	61001291	PANEL REF DECK SUPPORT S8H
8	61001284	DIVIDER PANEL S8H
	61001297	BRACKET REF DECK S8H
9	61002163	PANEL BASE ASSY S8H
10	61001292	PANEL REAR S8H
11	61001299	PANEL UPPER REAR S8H
12	61001289	PANEL RH 5 PUMP S8H
13	81000516	INSULATOR TUBE HEADER S8H 5P
14	61001307	PANEL HEADER S8H 5P
15	61001295	CABLE CONDUIT S8H
16	79001949	BAFFLE COMPLIANCE S8H
17	87000010	OVERFLOW DRAINTUBE ASSY S8B000
18	95001088	LOUVRE ASSY IM-130NE
	95000479	FILTER AIR IM130
19	79000893	SPACER S4E V3
20	79001272	CASTOR 75MM MANTOVA
	79602411	CASTOR 75MM MANTOVA W/BRAKES
21	61001303	PUMP COVER BASE TSFR
22	61001309	PUMP COVER LID TSFR
23	61001305	PUMP COVER BASE TSFR 2-PUMP
24	61001304	PUMP COVER LID TSFR 2-PUMP
25	61001306	BRACKET TSFR ASSY S8H

10 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. Repair or replacement 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

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11 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 probes located on dryers are secure and not loose.
- ☐ Refrigeration system final check. Ensure evaporator fully frosts.
- ☐ Check all tube work for rubbing e.g. discharge line, liquid line, capillary tube.
- ☐ 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 pressure switches working correctly.
- ☐ 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 .....