

Draftstream[®] 90 Chiller 240V / 50Hz

Installation, Operation & Service Manual





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www.lancerbeverage.com

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1. Specifications and Specifications

1.1 Model

50000231 Chiller Draftstream 90

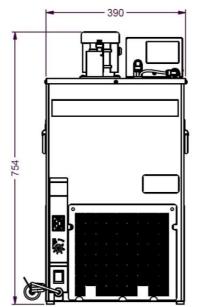
1.2 Product Features

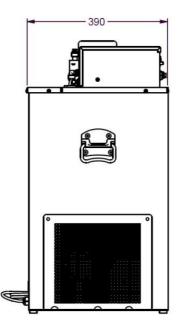
The Lancer Draftstream 90 chiller is an Australian engineered and assembled refrigerated icebank chiller utilizing proprietary Draftstream membrane carbonation technology to produce a wide range of sparkling drinks from Bag-In-Box (BiB), Key Keg® or other still packaging source.

1.3 Specifications

Voltage - Refrigeration	240 Volts
Frequency	50 Hz
Max Current Draw	2.7 Amps
Voltage – Control Box	12 VDC / 1.0 Amps
Ambient Temperature	2 - 40°C
Heat Rejection	1200 watts
Dimensions	
Width	390 mm
Depth	390 mm
Height	754 mm
Weight	
Shipping	38 kg
Empty	35 kg
Operating	71 kg
Refrigerant	245 Grams R404a
Ice bank Weight	14 kg
Water Bank Capacity	36 litres
Construction	Stainless Steel
Drink Capacity	Up to 1.0 L/Min for wine and 2.0 L/Min for ciders, cocktails, etc.

1.4 Dimensions





2. Safety Information

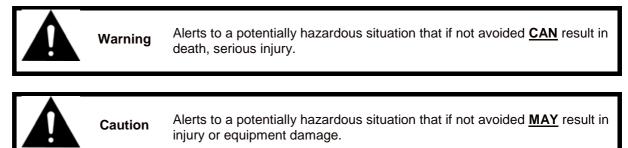
2.1 Safety Instructions

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 Draftstream 90.

- Review all applicable WHS (Work Health Safety) regulations.
- Review all applicable Beverage Dispensing Gas Standards.
- Learn how to operate the Draftstream 90 and use the controls properly.
- Do not allow untrained personnel to operate the machine.
- Ensure that the Draftstream 90 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.



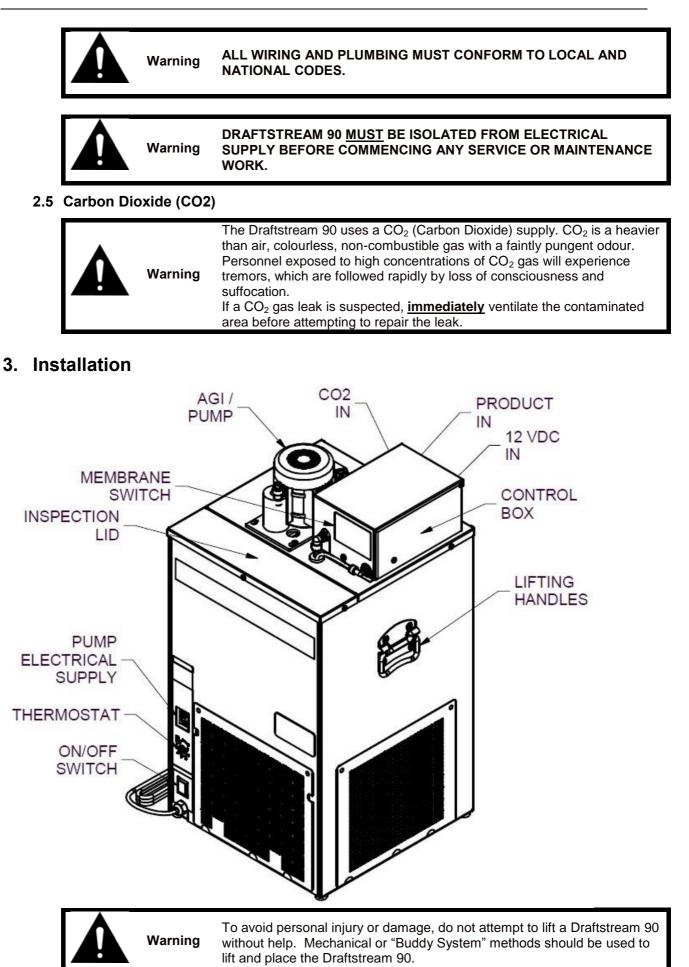
2.3 Operating

	Warning	Draftstream 90s 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.

2.4 Service & Maintenance

Caution	Installation of Draftstream 90 and service work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians.
Warning	Carbonator contains CO2 gas and water under pressure. De-pressurise before performing any work on the system.





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 landing and file a claim with the carrier.

3.2 Unpacking

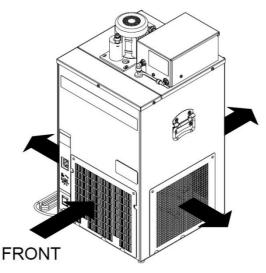
Carefully unpack the Lancer Draftstream 90 from the shipping carton. Inspect unit for concealed damage and if evident, notify delivering carrier and file a claim against the carrier.

3.3 Selecting a Location

Warning	Draftstream 90s 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. Draftstream 90s are not intended to be placed on a kitchen floor.
Caution	The Draftstream 90 is not suitable for use in subfreezing temperatures.
Caution	The Draftstream 90 is only to be installed in locations where its use and maintenance is restricted to trained personnel.

3.4 Installing the Draftstream 90

- The Draftstream 90 should be located in a well-ventilated, firm, level location close to electrical supplies, within 3 4m of the dispenser and with easy access for servicing.
- Ensure sufficient clearance around the Draftstream 90 to allow good fresh air circulation through the condenser allow at least 200mm at rear and sides.



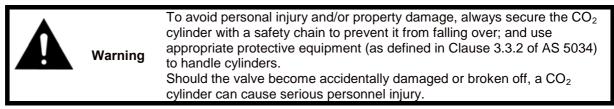
- Install the dispensing tap on bar.
 - For WINE and COCKTAIL dispensing at 1 litre/minute the tap should have a 2.5m long x 2.5mm ID restrictor tube.
 - For CIDER and BEER dispensing at 2 litres/minute the tap should have a 1.3m long x 3.2mm ID restrictor tube.

- Connect the dispensing tap to the product out tube on the chiller. A length of 8mm OD x 5mm ID tube may be used to join the chiller to the restrictor if the restrictor is not long enough. DO NOT ALTER THE RESTRICTOR LENGTH.
- Connect the recirculation tubing to the pump out and return through the open hole in the pump mount. THE RISER LINE TO THE DISPENSING TAP AND RESTRICTOR TUBE MUST BE INSULATED WITH THE RECIRCULATION TUBING.
- The 13mm overflow on the front of the chiller 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. For export models, check the local plumbing codes for compliance.

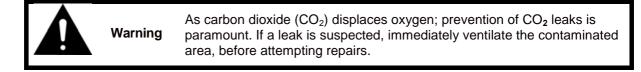
3.5 Product Connection

- Setup the Bag-In-Box / Key Keg® preferably within 6 meters to the chiller.
- Connect the product out line to the Product In port.

3.6 Connecting to Food Grade CO2 Supply

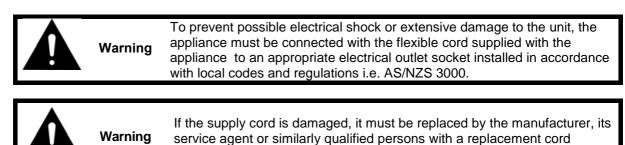


- A twin CO2 regulator is required. Connect 1 regulator to the CO2 IN port on the chiller. Connect the other regulator to the BIB pump / Key Keg® coupler.
- Vent the BIB Gas Out port to a suitable open, well ventilated space.
- Turn on CO2 gas and set the regulators as follows:
 - CO2 IN: 30-35 psi (210-240 kPa)
 - PRODUCT IN: 40-45 psi (275-310 kPa)
- Perform a thorough leak check before continuing



3.7 Electrical Connection

- It is recommended that the Draftstream 90 is connected to a separate 230VAC 50Hz electrical supply, protected by an appropriate circuit breaker and Residual Current Device. Check the nameplate on the Draftstream 90 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.
- Do not use extension cords.

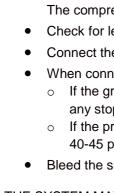


available from Hoshizaki Parts/Service Centres.



3.8 Commissioning

- Ensure the Chiller Switch on the front panel is in the OFF position.
- Connect the agitator / pump cord to the receptacle located on the front of the chiller.
- Remove the Inspection Cover and fill the waterbath to just cover the evaporator coil with water.



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

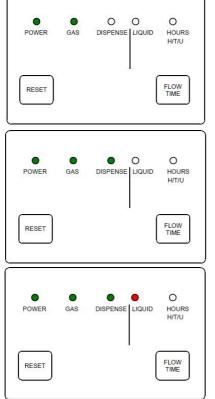
- Connect Draftstream 90 power supply lead to an appropriate 3 pin socket outlet and switch on. The compressor, condenser fan and agitator motor should all operate.
- Check for leaks and flow in the pump recirculation circuit. Replace cover.
- Connect the control box to a 12 VDC / 1 Amp power supply (included).
- When connected to 12VDC the front panel should light with green POWER and GAS LEDs.
 - If the green GAS LED is flashing check that the gas is on, the correct pressure set, and any stopcocks on the regulator are open.
 - If the problem persists then increase the CO2 IN pressure 5 psi (35 kPa). Do not exceed 40-45 psi (275 310 kPa).
- Bleed the system by momentarily opening the tap and closing it until liquid flows uninterrupted.

THE SYSTEM MAY ACT ERRATICALLY UNTIL FULLY PURGED WITH PRODUCT AND THE WATERBATH IS COOLED.

3.9 Operating Instructions

• The Draftstream 90 is pre-set at the factory for either 1 or 2 litre/minute operation at a nominal carbonation level for the intended product dispensed. During normal operations there are no adjustments required. Simply dispense the product at the tap and enjoy the benefits of a chilled, sparkling beverage made from a still product.

3.10 Switchpad Operations



Normal Standby. Two green LEDs indicating Power and Pressure are present. If the green Gas light is not on then check pressure and press Reset.

Dispensing. Green dispense light comes on and stay solid green. If it is flashing during dispenses then trim the product pressure by 2 psi (14 kPa) and try again.

Fault. Liquid red LED is lit. Check CO_2 and product supply. Correct as required. If still illuminating during dispense the increase product pressure 2 psi and press reset.



Totalizer function. Draftstream includes a totalizer which can be used at any time to check the total number of hours spent dispensing.

- Press the FLOW TIME switch once.
- The Red LED will flash ON/OFF in 3 distinct sequences.
- Count the number of flashes in each sequence. Example:

 1^{st} sequence = 2

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2^{nd} sequence = 3
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 3^{rd} sequence = 4

TOTAL HOURS DISPENSING = 234 hours

4. Scheduled Maintenance



Warning The Draftstream 90 must not be cleaned by a water jet.

The following Draftstream 90 routine maintenance should be performed at the intervals listed.

4.1 Daily

- Good food hygiene practices should be a part of the daily routine spills wiped up, empty containers disposed of, and equipment kept neat and orderly.
- Check product. Replace empties.
- 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.

4.2 Monthly

- Unless otherwise instructed clean and sanitize the product lines. See section 4.4
- Check the condenser for dirt accumulation. If required then remove the front grill and remove dirt with a soft brush or vacuum from the front of the unit or compressed air from the fan side.
- Check that the waterbath overflow is clear and unblocked.



Caution When using compressed air always wear safety glasses.

4.3 Yearly

- Switch off the chiller and isolate from power supply by switching off at socket.
- Remove inspection cover and 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 the recirculation pump for blockage or damage.
- Fill tank with clean water until water covers the evaporator coil.
- Reconnect power and switch on the chiller. Check for leaks and flow in the pump recirculation circuit. Replace cover.

IN SOME CASES IT MAY BE NECESSARY TO DISCONNECT THE PRODUCT AND GAS LINES FROM THE UNIT FOR SERVICING. BEFORE DISCONNECTING, TURN OFF THE 12 VDC POWER SUPPLY AND CO2 GAS SUPPLY. OPEN THE TAP AND BLEED THE LIQUID AND GAS FROM THE SYSTEM. REFER TO THE FULL INSTALLATION SEQUENCE DESCRIBED IN SECTION 6 FOR RECONNECTION.

4.4 System Cleaning and Sanitation

To maintain optimum quality of dispensed product each Draftstream 90 and its associated beverage system components must be thoroughly cleaned and sanitised on a regular basis.

The approved cleaning compound is Lancer Beer Line Cleaner. Do not use strong acids as these may attack acetal fittings used in the plumbing circuit.

	Warning	Lancer BLC is a caustic based cleanser and is considered highly corrosive in concentrate form. Follow the manufacturer's handling and preparation guidelines carefully. The use of suitable protective gloves, goggles and protective clothing is essential.
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If using Key Kegs® or other keg style connections then the cleaning process is the same as for keg beer cleaning.

For Bag-In-Box systems:

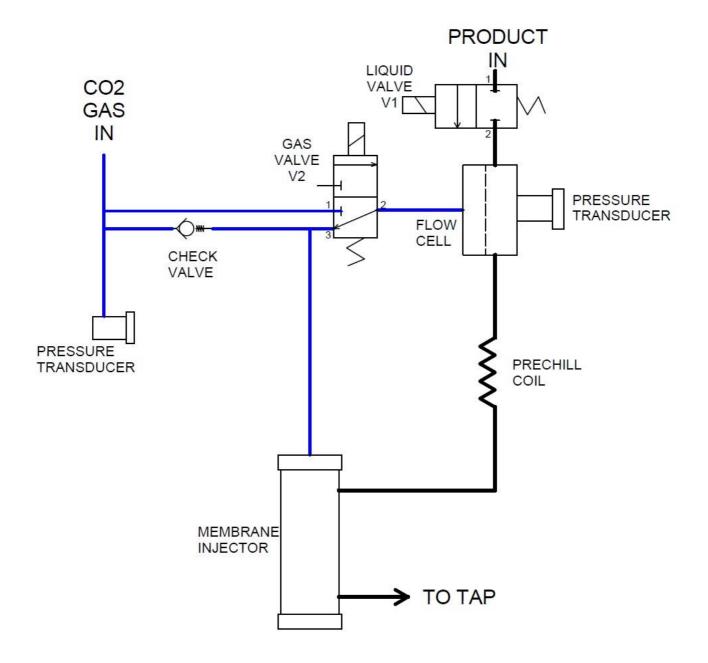


Caution Use the BIB pump to introduce cleaning solutions – Never connect a pressurised source to the BIB pump.

- Remove all disconnects from BIB containers.
- Immerse all disconnects in warm water and clean using a nylon or similar brush. Rinse with clean water.
- Prepare 15L of clean rinse water in a bucket.
- Prepare 5L of Lancer BLC according to manufacturer's instructions in a separate bucket.
- 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 the bucket of clean water. Operate the tap until clean water exits the tap.
- Immerse all sanitising fittings with attached BIB disconnects in the bucket of Lancer BLC. Pour off 3 - 4 litres and allow to soak 20-60 minutes.
- Immerse all sanitising fittings with attached BIB disconnects in the bucket of clean water. Open the tap and run off water for at least 5 minutes or until pH strips show that all cleaner has been purged from the system.
- Remove sanitising fittings from BIB disconnects and re-connect disconnects to appropriate BIB's. Operate the tap until product flows freely.

5. Assembly Diagrams & Parts List

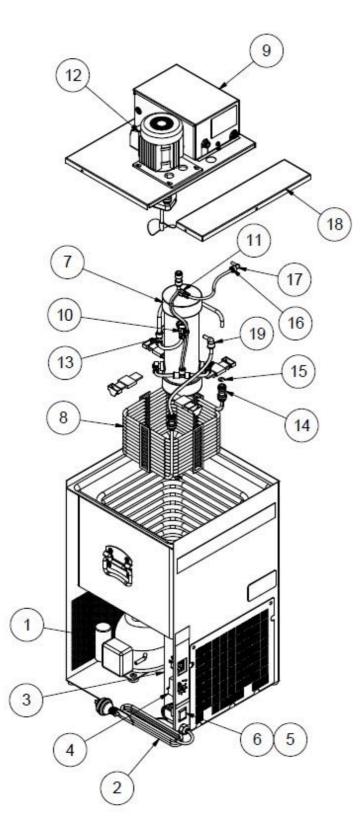
5.1 Tubing Schematic



5.2 Main Parts List

Ref.	Parts No.	Description
1	48000009	COMPRESSOR 1/4HP R404 220V/50HZ
2	83000220	LEAD POWER SUPPLY S4E
3	48000011	MOTOR VENTILATION 5W HE90
4	83000464	CONTROLLER ICEBANK ELECTRIC VIN II
5	83000245	SWITCH ROCKER GREEN ILLUM
6	83000246	SEALING BOOT SWITCH ROCKER
7	42000003	MEMBRANE CO2 INJECTOR CIDER
8	48000014	COIL ASSY DSTREAM 90
9	83000500	CONTROL BOX DSTREAM 90
10	79000756	ELBOW MALE STUD 1/4BSP X 6MM
11	79000758	ELBOW MALE STUD 1/4BSP X 4MM
12	83000418	PUMP TOTTON WITH AGI SPC51B
13	79512811	EQUAL TEE CONNECTOR 5/16 JG
14	79000219	STRAIGHT CONNECTOR 5/16SS X 5/16SF
15	79000771	LOCKING CLIP 8MM JG
16	79001034	LOCKING CLIP 6MM JG
17	79190595	STEM ELBOW 6MM X 6MM
18	61000653	PANEL LID INSPECT DSTREAM 90
19	79190607	STEM ELBOW 8MM X 8MM

5.3 Main Assembly Diagram

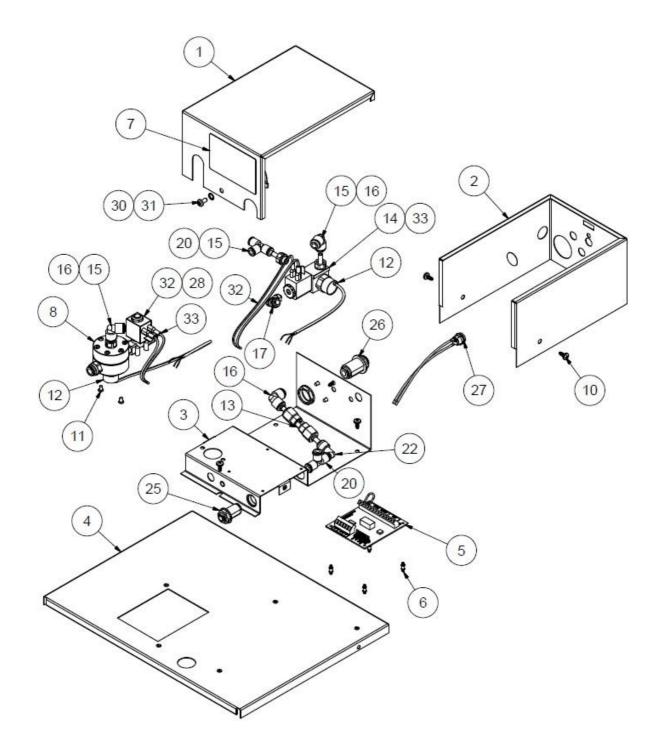


LANCER | BEER SYSTEMS

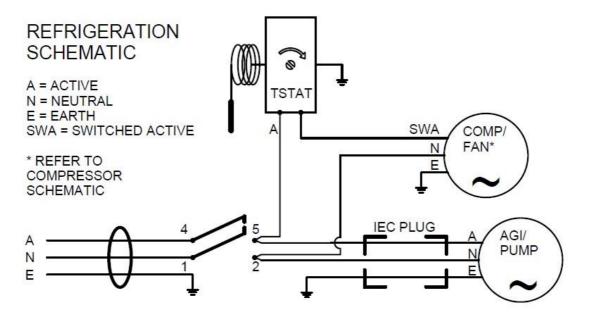
5.4 Control Box Parts List

Ref.	Parts No.	Description
1	61000655	PANEL LID JBOX DSTREAM 90
2	61000656	PANEL OUTER JBOX DSTREAM 90
3	61000654	PANEL BASE JBOX DSTREAM 90
4	61000652	PANEL LID MAIN DSTREAM 90
5	51000008	CONTROL BOARD DRAFTSTREAM T4
6	83000322	SPACER PCB 3MM DIA X 6MM
7	51000006	SWITCH MEMBRANE DRAFTSTREAM
8	50000220	FLOWCELL ASSY DRAFTSTREAM
10	79611437	SCREW 10G X 12 SELF TAP
11	79000419	SCREW M4 X 6 SS PH SLT
12	51000004	TRANSDUCER PRESSURE DRAFTSTREAM
13	51000009	CHECK VALVE ASSY ILCV DSTREAM
14	87000133	SOLENOID VALVE GAS VESTA
15	79000766	STEM ADAPTOR 6MM X 1/8 BSP
16	79000761	ELBOW EQUAL 6MM
17	79000762	ELBOW SWIVEL 6MM X M5
20	79190625	EQUAL TEE CONNECTOR 6MM JG
22	79190595	STEM ELBOW 6MM X 6MM
25	79001035	BULKHEAD CONNECTOR 6MM JG
26	79155054	BULKHEAD CONNECTOR 5/16 JG
27	83000404	LOOM POWER IN DRAFTSTREAM
28	87000135	COIL SOLENOID ODE 12 VDC
30	79151474	SCREW M5 X 10 SS PH POZI
31	79000439	WASHER 3/16 ID STAR SS
32	83000406	LOOM V1 DRAFTSTREAM
33	83000407	LOOM V2 DRAFTSTREAM

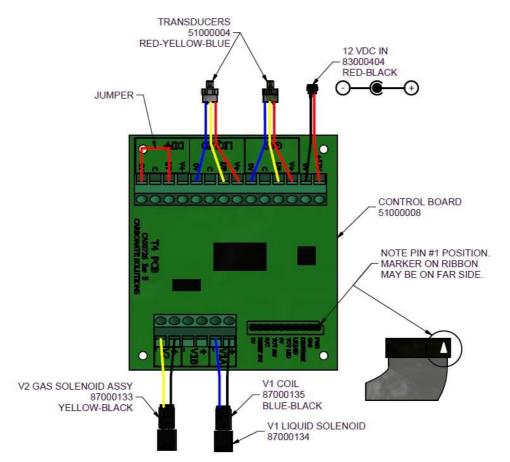
5.5 Control Box Assembly Diagram



5.6 Refrigeration Schematic



5.7 Draftstream Control Board





6. Trouble Shooting

6.1 Refrigeration

TROUBLE	CAUSE	REMEDY
Compressor will not start.	Power Failure.	Check for blown fuse, supply cord pulled out or supply outlet turned off.
	ON/OFF Switch faulty.	Check switch. Replace as required.
	Thermostat control faulty/ contacts not closing.	Check setting is appropriate eg: ice bank. Replace if faulty.
	Check compressor start mechanism components.	If faulty, replace e.g. capacitors, start relays.
	Internal 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 internal	Dirty condenser.	Clean condenser of all lint and dirt.
overload (frequent starting and stopping of	Restricted air flow over unit.	Check for air restriction to condenser.
the compressor while ice bank control	Low supply voltage.	Check with voltmeter.
contacts remain closed).	Defective internal overload.	Replace compressor.
	Check wiring connections.	Tighten if loose.
	Fan motor bearings tight or seized.	Replace motor.
Product too warm	Thermostat control defective (permanently open circuit).	Check setting is appropriate eg: ice bank. Replace if faulty.
	Low refrigerant charge.	Leak check, repair leak, charge with correct amount of refrigerant.
	Check agitator motor, seized or fused.	Replace if not working.
Compressor runs too long or doesn't cycle.	Location too hot.	Relocate or improve ventilation.
	Chiller overloaded.	Use larger model, or reduce python length.
	Defective ice bank control.	Check setting is appropriate eg: ice bank. Replace if faulty.



6.2 Draftstream

TROUBLE	CAUSE	REMEDY
No Dispense	Control Panel turned off	Check power supply and connection
	Out of product	Replace / replenish
	Low CO2 supply pressure	Check supply pressure and primary regulator for drift. Check CO2 bottle and replace if empty.
	Power Failure.	Check for blown fuse, supply cord pulled out or supply outlet turned off.
	12 VDC disconnected / failed	Repair / replace as required.
	Insufficient product pressure	Adjust pressure.
	BIB pump failure	Replace BIB pump
	Freeze up in water bath	Defrost with warm water. Check Icebank probe position
System times out during dispense	Air in system / system not primed	Prime system by opening and closing tap momentarily until liquid product emerges.
	Low product pressure	Adjust as required.
	Faulty Transducer	Check voltage between 0V and I/P terminals (blue and yellow wires). Voltage should be approximately 2.5V Replace if defective.
	Ruptured flow cell diaphragm.	Depressurize system and remove flow cell cover (in control box). Inspect diaphragm for holes / tears and replace as required.
Valve hunts / Red LED flashes on/off during dispense	Product pressure too high	Lower pressure slightly and retry.
Breakout (bubbles) in riser line	Product pressure too low	Raise pressure slightly and retry.
	Riser line cooling failure	Check recirculation circuit.
	Incorrect restrictor tube for application.	Restrict flow to 1 L/min for wines and 2 L/min for ciders and cocktails.
Poor carbonation	CO2 pressure too low.	Check primary CO2 IN pressure.
(low CO ₂ volume).	Non-food grade CO2 used.	Change CO2 to food grade.
	Incorrect restrictor tube for application	Restrict flow to 1 L/min for wines and 2 L/min for ciders and cocktails
	Dirty or greasy glasses.	Clean all glasses with appropriate commercial detergent and rinse.
	Improperly drawn drink.	Open faucet all the way and draw against side of glass or cup.
	System dirty	Clean and sanitise. See section 4.



TROUBLE	CAUSE	REMEDY
Excessive foaming	Product too warm.	Check chiller operation. Check that recirculating pump is functioning properly and riser lines are insulated.
	Incorrect dispensing technique	Dispense should always be down sidewall of a clean, tilted glass.
	Warm glasses (eg from dishwasher)	Allow glasses to cool or pre-chill as required.
	Soap residue in glass.	Clean all glasses with appropriate commercial detergent and rinse.
	Incorrect restrictor tube – flow too fast.	Adjust as required.
	Kink in riser line.	Correct as required.
	Secondary regulator pressure too high.	Check secondary regulator setting and adjust if off specification. May require resetting P1 and P2.
	System dirty	Clean and sanitise. See section 8.

7. Certificate of Warranty

It is the policy of Hoshizaki Lancer 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 Lancer Office.

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

8. Manufacturer's Checklist

Checked by	Date
Test & Tag by	Refrigeration tested by
TAG No	

Coil assembly secure and centered in water bath.
Labels applied and correct.
Refrigeration system final check. Ensure evaporator fully frosts.
Check all tube work for rubbing e.g. discharge line, liquid line, capillary tube.
Agitator motor fitted; blades not touching coil or membrane.
All panels secure; screws in place and tightened.
Clean exterior of unit including power cords.
Manual, plug pack and accessories included.
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