LANCER | BEER SYSTEMS

P400T V2 Portable Beer Chiller™

240V / 50Hz

Installation, Operation & Service Manual

Table of contents

Part No: 68000019
041 – 14 November 2014

1. Introduction

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

2. The Company

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

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

3. Our Products

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

Soft Drink Equipment

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

Beer Equipment

Hoshizaki 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 P400T Beer Disperser is a refrigerated unit designed to chill and dispense draught beer at <2° when connected to ambient temperature kegs. Coils are fitted inside the unit that will chill liquid products stored at ambient temperature. The chiller has adjustable flow controls to adjust for different flow rates and is designed for ice bank operation only.

4.2 Specifications

Voltage	240 Volts
Frequency	50 Hz
Max Current Draw	6.5 Amps
Ambient Temperature	2 - 40°C
Rated Beer Lines Pressure	0.4 MPa
Dimensions	
Width	505 mm
Depth	744 mm
Height with 150mm legs	1162 mm
Weight	
Shipping	114 kg
Empty	101 kg
Operating	173 kg
Refrigerant	780 grams R134a
Tank	72 litres
Ice bank Weight	30 kg
Construction	Stainless Steel

4.3 Models

31000401 CHILLER P400T V2 PORTABLE

4.4 Options

- Castors are standard; Optional legs

4.5 Ice Bank

All P400T chiller units are designed for ice bank, simply fill the tank with water.
Refrigeration Unit will not operate unless the tank is full of water.

5. Chiller 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 Chiller.

- Review all applicable OSH (Occupational Safety & Health) regulations.
- Review all applicable Beverage Dispensing Gas Standards
- Learn how to operate the Chiller and use the controls properly.
- Do not allow untrained personnel to operate the machine.
- Ensure that the Chiller 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 <u>CAN</u> result in death, serious injury.**

	**Caution**	**Alerts to a potentially hazardous situation that if not avoided <u>MAY</u> result in injury or equipment damage.**

5.3 Operating

	**Warning**	**Chillers 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 Chiller and service work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians.**

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

Warning	**CHILLER MUST BE ISOLATED FROM ELECTRICAL SUPPLY BEFORE COMMENCING ANY SERVICE OR MAINTENANCE WORK.**

6. Installation

Warning	**To avoid personal injury or damage, do not attempt to lift a Chiller without help. Use of a mechanical lift is recommended.**

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 Chiller must always be handled in a vertical position.**

Carefully unpack the Lancer P400T Chiller from the shipping carton. Inspect unit for concealed damage and if evident, notify delivering carrier and file a claim against the carrier.

6.3 Selecting a Location

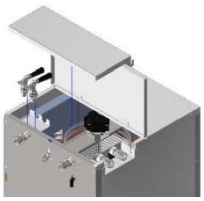
Warning	**Chillers are intended for indoor operation only; do not operate outside unless suitably protected by a weatherproof enclosure.** **This appliance is not suitable for installation in an area where a water jet could be used.** **This appliance is not intended to be installed in a kitchen.**

Caution	**The Chiller is not suitable for use in subfreezing temperatures. To prevent damage turn off and drain unit when air temperature is below zero.**

- The Chiller should be located in a well-ventilated, firm, level location.
- The appliance is only to be installed in location where its use and maintenance is restricted to trained personnel.
- Ensure sufficient clearance around Chiller to allow good fresh air circulation through the condenser – allow at least 200mm at rear and sides, with the front unobstructed.
- Installation should only be performed by a qualified and competent technician.

6.4 Connecting Taps and fitting Drip Tray

- Open lid and remove drip tray and 2 beer taps. Remove plugs from taps and place inside unit for storage.
- Fit taps into the fat-lock fittings in front of unit.
- Fit drip tray into the slots in the front panel.



- Taps and the drip tray can be stored inside the unit when transporting and storing.

6.5 Connecting Beer Lines

Before connecting sanitise all beer lines with beer line cleaner.

Connect beer lines from the keg to the fat-lock fittings on the right hand side of the chiller.

6.6 Electrical Connection

- This unit has a 240 Volt 10 amp socket on the left hand side of the machine and requires a approved suitable extension cord to connect it to the 240 Volt 50 Hz electrical supply mains.
- It is recommended that this appliance is connected to a separate 240VAC 50 Hz supply, protected by an appropriate circuit breaker and Residual Current Device (RCD).
- The service of a licensed electrician may be required to ensure the installation is in accordance with the local codes and regulations.

Warning	**If the supply extension cord is damaged, it must be replaced. Have it checked by a qualified persons in order to avoid a hazard.**

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

6.7 Filling Unit with water

Unclip the Chiller lid and fill the tank with water until water flows out the overflow tube into the drip tray.

6.8 Commissioning

- Before running unit, sanitise product lines using a beer line cleaner.
- Connect the chiller with a suitable extension lead to an appropriate socket outlet and switch unit on. The compressor, condenser fan and agitator motor should all operate.
- When the ice bank is fully formed (approx. 3 hrs.) the compressor and condenser fan will cycle off, but the agitator will run continuously.
- Operate dispensing taps and check temperature and flow of the product.
  If the product is heady (excessive foam) the CO_2 gas pressure on the keg may need to be adjusted or the beer flow control inside the chiller water tank may need adjusting.
- Check all connections for leaks.

7. Scheduled Maintenance

Warning

The Chillers must not be cleaned by a water jet.
Access to the service area restricted to persons having knowledge and practical experience of the appliance, in particular as far as safety and hygiene are concerned.

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

7.1. Scheduled Maintenance

7.1.1. Weekly

- As per brewery instructions, ensure weekly sanitisation of the whole beer system is carried out, including keg couplers, beer lines, chiller coils and taps.

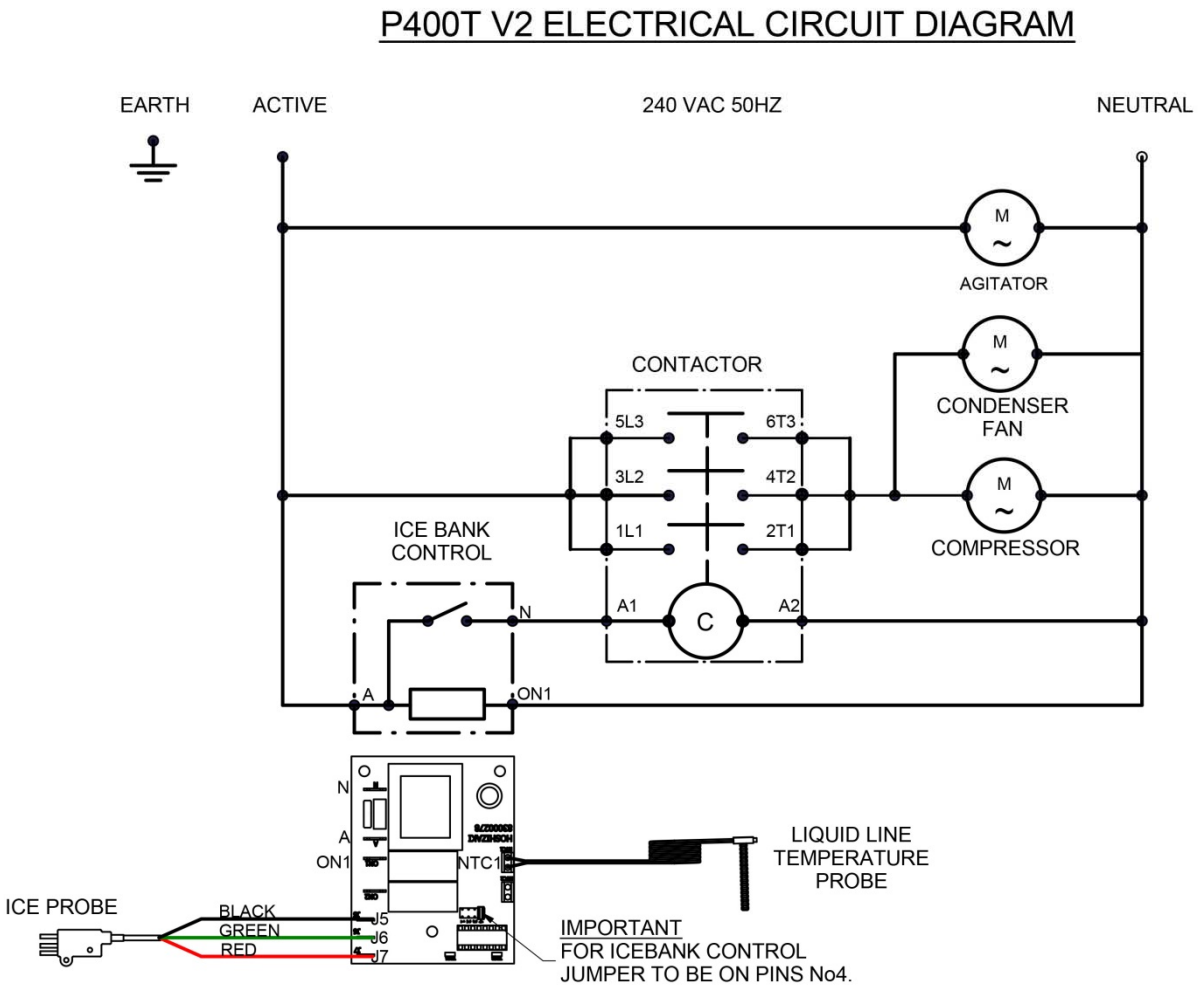
7.1.2. Monthly

- Disconnect the machine from the power supply.
- Clean condenser with a brush or blow down with compressed air..
- Check the tank level. Fill if necessary.
- Check operation of the agitator.
- Check for beer leaks.
- Reconnect the machine to the power supply.

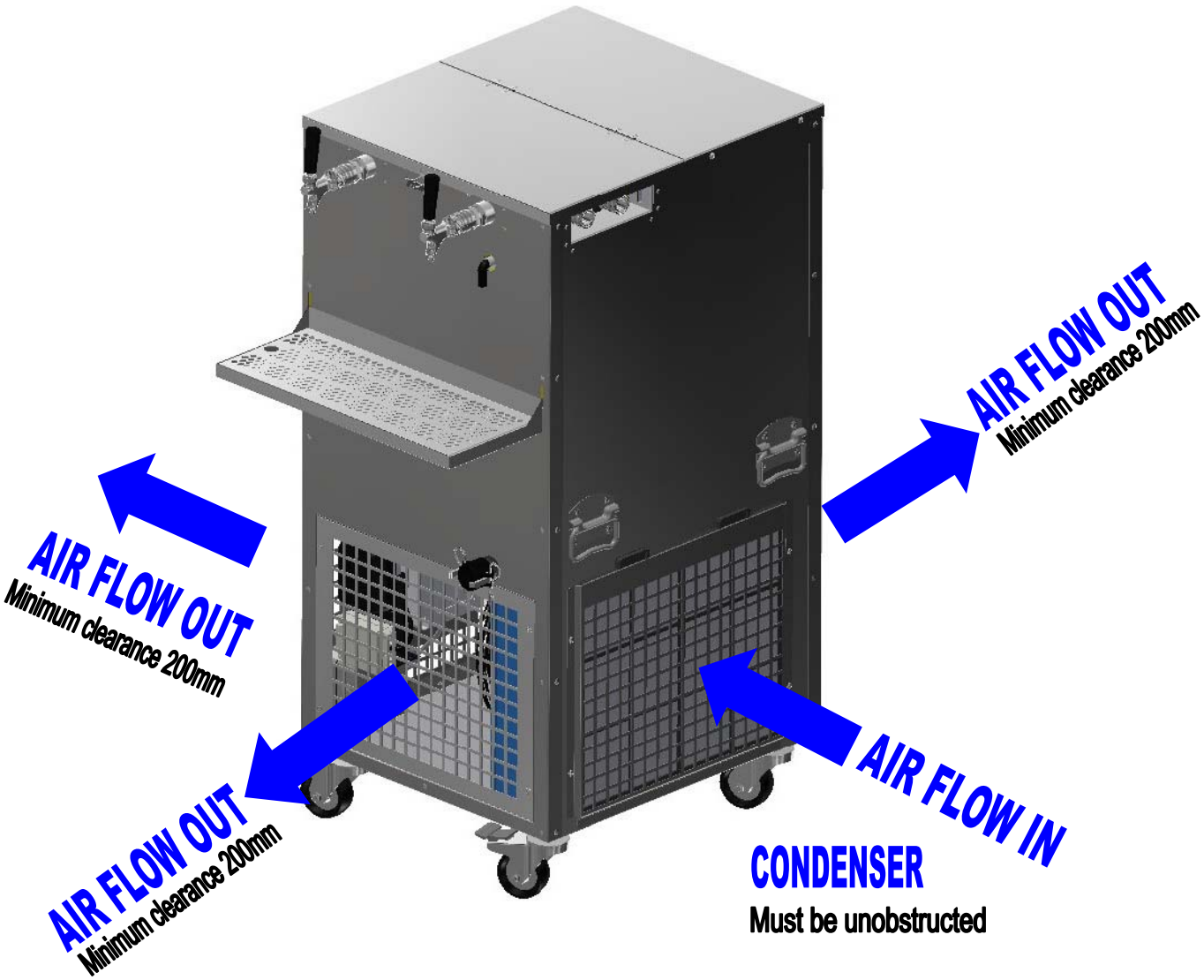
7.1.3. Yearly

- Disconnect the machine from the power supply.
- Remove drain plug to drain the water bath, check interior of the tank, clean product coils and evaporator if necessary to remove any accumulated deposits.
- Check agitator operation
- Inspect agitator blade for deposits and wear.
- Reinsert drain plug and re-fill tank with water.
- Reconnect power supply and start machine.

8. Electrical Circuit Diagram



9. Airflow Diagram



10. Trouble Shooting

10.1. Refrigeration

TROUBLE	CAUSE	REMEDY
Compressor will not start.	Power Failure.	Check for blown fuse, supply cord pulled out or supply outlet turned off.
	High Pressure/Temperature switch activated. LED on Ice Bank Control board illuminated.	Turn chiller “off” at supply socket then “on” again to reset controller.
	Ice bank control faulty contacts not closing. Low tank level.	Check Ice bank control using Procedure on page 15. Replace control or probe if defective.
	Check compressor start mechanism components.	If faulty, replace e.g. capacitors, start relays.
	Thermal overload faulty, open, circuit compressor seized, contactor faulty.	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 control contacts remain closed).	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 bearings tight or seized.	Replace motor(s)
Product too warm	Control defective (permanently open circuit).	Check Carel control using procedure on page 9. If icebank, page 15. 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.
Compressor runs too long or doesn’t cycle.	Location too hot.	Relocate or improve ventilation.
	Chiller overloaded.	Use larger model, or reduce python length.
	Loss of refrigerant.	Leak check and repair.
	Condenser clogged.	Clean off dust, line, grease, etc.
	Fan not operating.	Remove obstruction or replace motor.
	Inefficient compressor	Replace

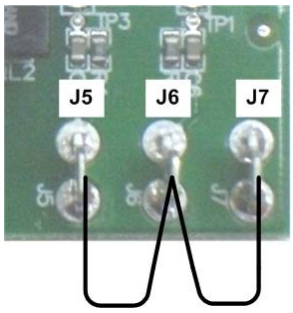
11. Hydra Icebank Control Go/No Go Test

Warning **240VAC 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.

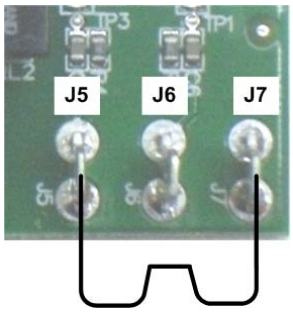
2. Connect alligator jumper to terminals J5, J6, J7. Ice bank control relay should close and refrigeration system start.

(Simulates water covering all probes)

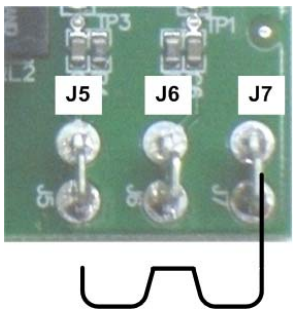


3. With refrigeration system operating (ice bank control relay energised) remove alligator jumper from terminal J6. Refrigeration system should continue to operate.

(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)

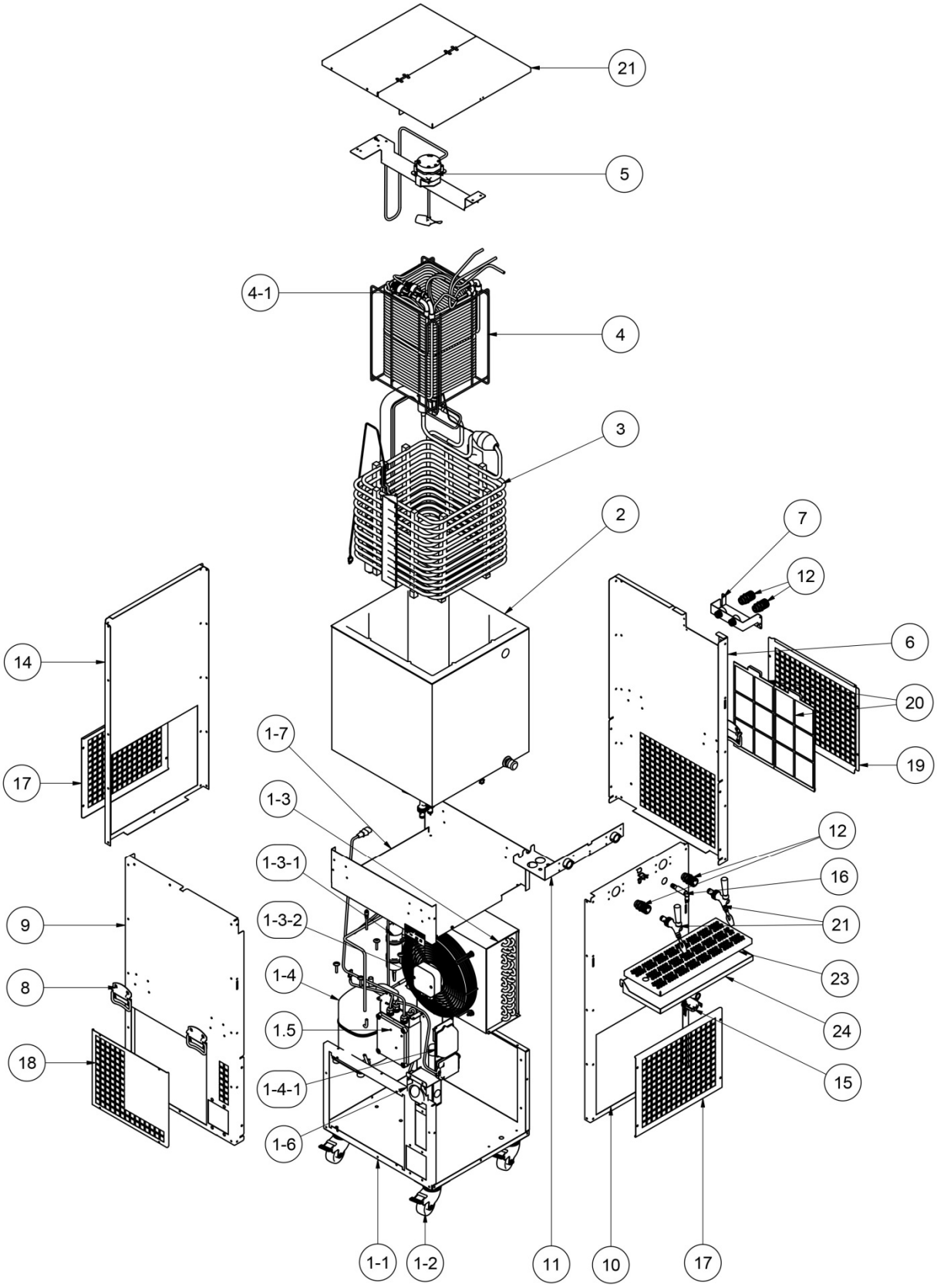


12. Assembly Parts List

12.1. MAIN BODY

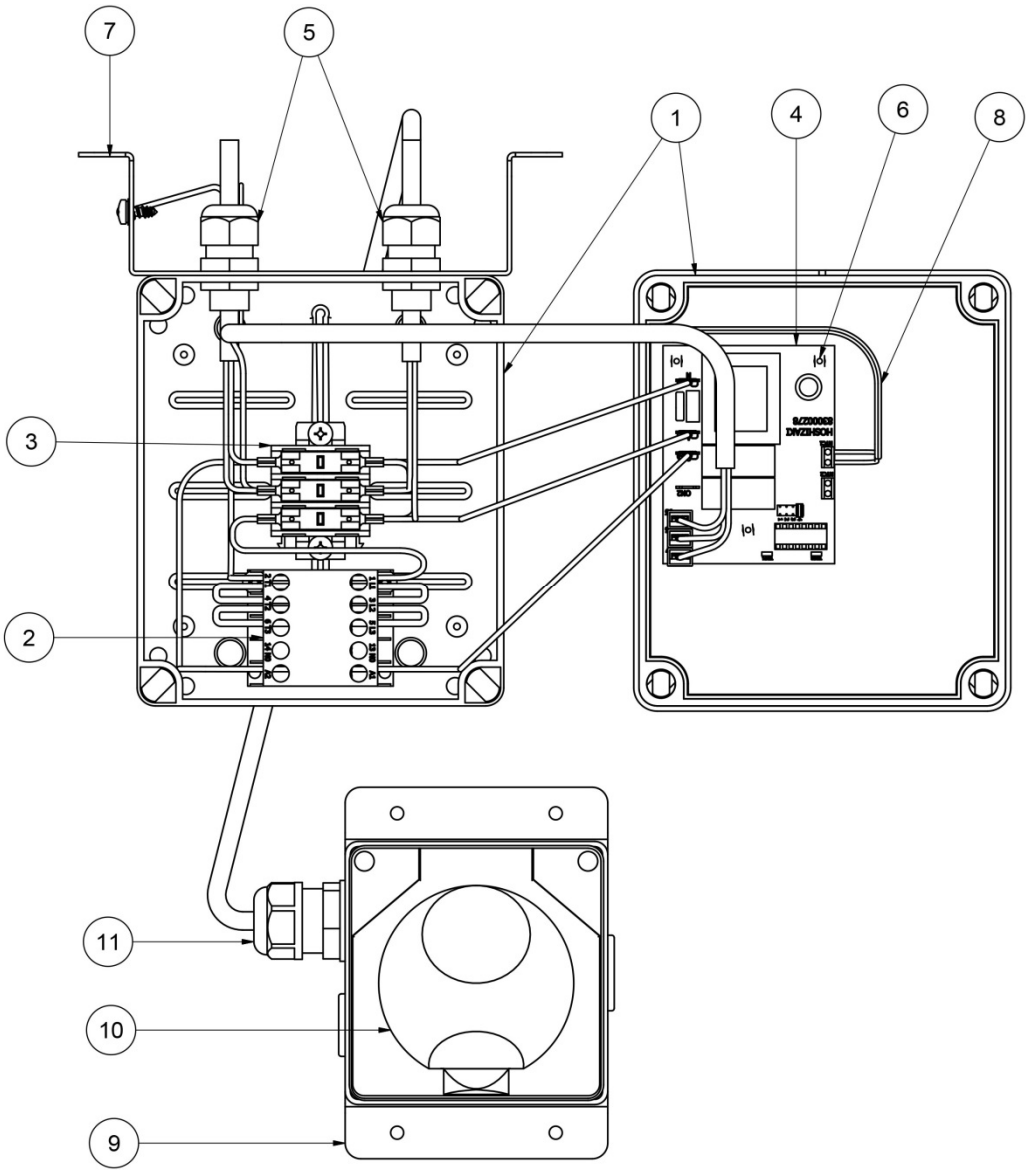
ITEM	PART NUMBER	DESCRIPTION	QTY
1	64000421	BASE ASSY P400T V2 CHILLER	1
1-1	61000720	PANEL BASE P400T V2	1
1-2	79602411	CASTOR 75MM BRAKE MANTOVA	4
1-3	80000114	CONDENSER ASSY P400T	1
1-3-1	87000102	RECEIVER DRIER ¼X¼ SOLDER	1
1-4	80000073	COMPRESSOR DANFOSS	1
1-4-1	80000073	COMP ELECTRIC BOX	1
1-5	83000420	ELECTRICAL BOX ASSY P400T V2	1
1-6	83000334	E-OUTLET CLIPSAL-435A	1
1-7	61000721	PANEL TANK SUPPORT P400T V2	1
2	85000420	TANK ASSY FOAMED P400T V2	1
3	62000400	EVAPORATOR ASSY P400T V2	1
4	63000400	CRADLE & COIL ASSY P400T V2	1
4.1	35602629	FLOW CONTROL BEER 3/8 X 5/16	2
5	64000423	AGI ASSY P400T V2	1
6	61000722	PANEL MAIN RHS P400T V2	1
7	64000424	BEER INLET ASSY P400T V2	1
7-1	35770072	ADAPTOR 3/4 FATLOCK S/S	2
8	79260986	HANDLE CHEST P.W.E CHH100 ZP	4
9	61000723	PANEL MAIN LHS AINT00325 V2	1
10	61000724	PANEL FRONT P400T V2	1
11	64000425	BEER TAP STANDOFF ASSY	1
12	35770072	ADAPTOR 3/4 FATLOCK S/S	2
13	79000008	LATCH AND STRIKE S/S GP-400T	1
14	61000725	PANEL REAR P400T V2	1
15	79001043	CAP POLY CAMLOK 3348 GP 20MM	1
16	64000426	TANK DRAIN ASSY	1
17	61000726	GRILL LARGE P400T V2	2
18	61000727	GRILL SMALL P400T V2	1
19	61000728	GRILL CONDENSER P400T V2	1
20	95000641	FILTER KMD-0201AA	2
21	64000420	LID ASSY P400T V2	1
22	33000061	TAP ASSY UNIVERSAL HILIGHT W/H	2
23	61000729	DRIPTRAY GRILL P400T V2	1
24	61000730	DRIPTRAY P400T V2	1

12.2. ASSEMBLY DIAGRAM



12.3. ELECTRICAL BOX ASSEMBLY PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY
1	83000421	ELECTRICAL BOX DRILLD P400T V2	1
2	83600811	MINI CONTACTOR CI4-9 DANFOSS	1
3	83601343	TERMINAL BLOCK 6 TAB	1
4	83000278	CONTROL LEVEL I/B HYDRA R2	1
5	83000058	GROMMET WATER TIGHT 16MM	4
6	83000244	SPACER HYDRA	3
7	61000145	BRACKET ELEC BOX SIB ELITE	1
8	83000209	PROBE NTC STRAP ON 3.0M CAREL	1
9	61000674	PANEL INLET BRACKET P400T V2	1
10	83000408	APPLIANCE INLET 56AI310	1
11	83000059	GROMMET WATER TIGHT 20MM	1



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

13. Manufacturer's Checklist

Checked by ..... **Date** .....

Gas Charge ..... **Icebank Probe fitted** .....

Electrically tested by ..... Refrigeration tested by .....

TAG No. .....

- ☐ High temperature probe located on liquid line between coil and receiver / dryer
- ☐ Compressor wiring connections label affixed, wiring checked and label signed
- ☐ Refrigeration system final check. Ensure evaporator fully frosts.
- ☐ Check all tube work for rubbing e.g. discharge line, liquid line, TX capillary.
- ☐ Agitator blades tight and not touching coils cradle.
- ☐ Check icebank probe position and tightness.
- ☐ Coils in cradle correctly.
- ☐ Clean exterior of unit.
- ☐ Check body for sharp edges.
- ☐ Check lid for cleanliness and rough edges. Fit and secure.
- ☐ Copy checklist & file, put manual/checklist in plastic bag & place in the tank area.
- ☐ Customer asset No.

W/O .....

Affix label here