

Glycoolpac 27hx

Self Contained Glycol Chiller

Installation, Operation & Service Manual



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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) and Auckland (New Zealand).

3. Our Products

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

Soft Drink Equipment

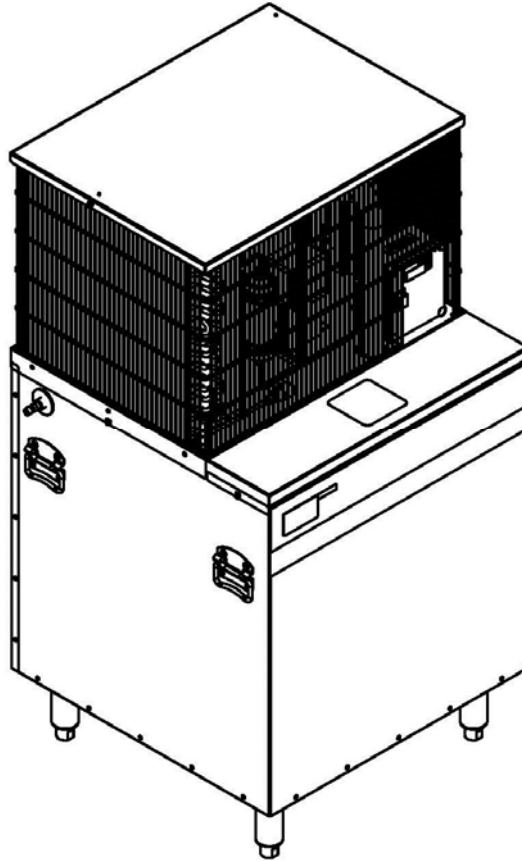
Mechanically cooled and ice cooled soft drink dispensers, frozen beverage dispensers, dispensing valves, carbonators and an extensive line of beverage dispensing parts and accessories.

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

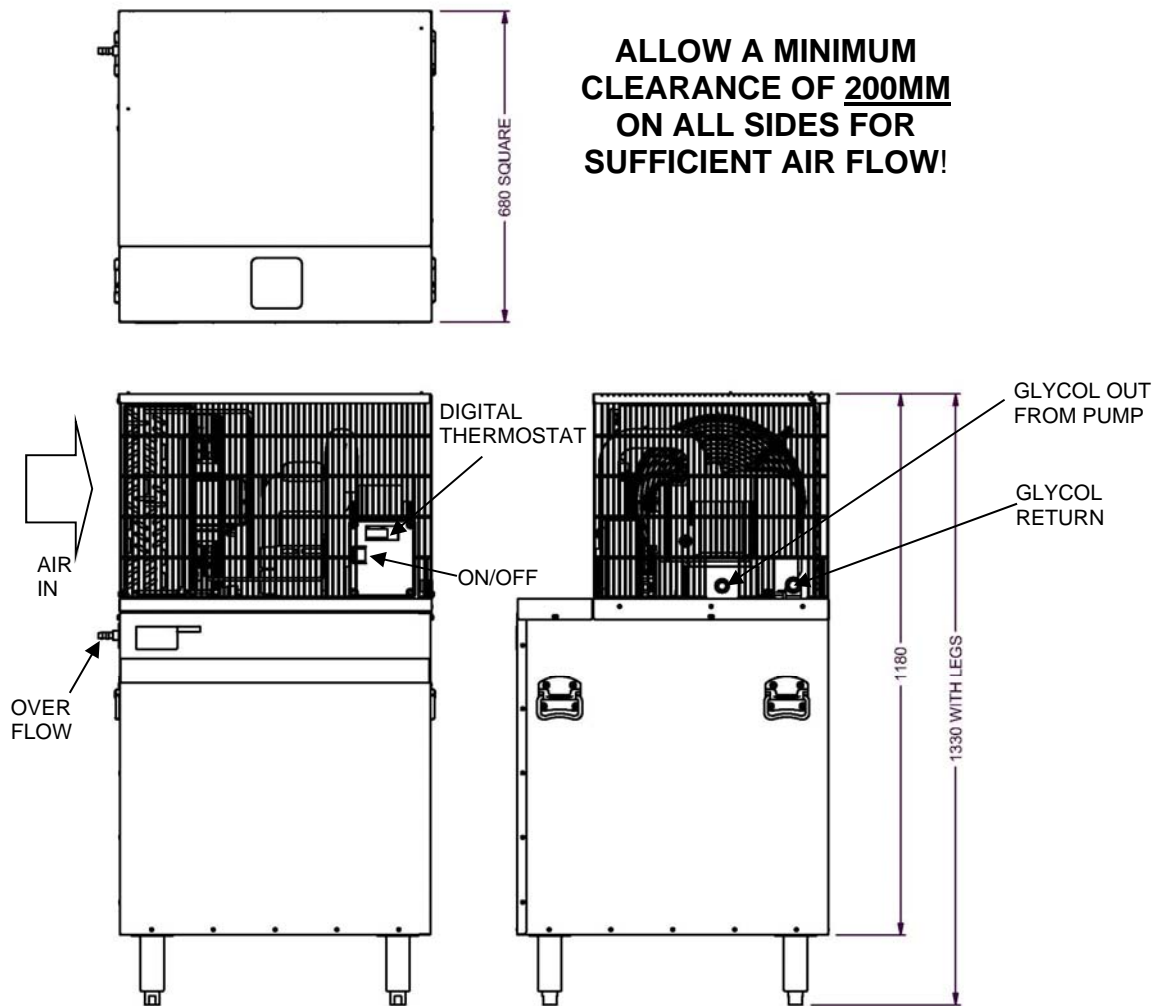
4.1 Product Features



The Lancer Glycoolpac 27hx chiller is supplied with the following features as standard:

- Advanced high efficiency heat exchanger technology uses 45% less refrigerant than previous coil models.
- Digital Thermostat with 1-button energy saving ECO Mode off-peak temperature setting.
- Rugged and dependable with low installation, operation, and maintenance costs.
- Cabinet constructed from long life corrosion resistant stainless steel.
- Rotationally moulded PE inner tank.
- Tank insulation is environmentally responsible water blown non –CFC polyurethane.
- Inner tank is airtight. Condensation is therefore kept to a minimum. This prevents the dilution of the glycol solution
- Adjustable stainless steel legs allow tank to be installed level, and also allows for easy cleaning underneath tank.

4.2 Specifications



Dimensions

Width	680 mm
Depth	680 mm
Height	1180 mm (1330 with legs)

Weight

Shipping	129 kg
Empty	114 kg
Operating	315 kg

Refrigerant R404A

Power Supply 240V / 50Hz / 15A

Standard Model 10.6 amps nominal

Glycol Bath Capacity 200 litres 30% Propylene Glycol in water.

Capacity (kW @ -10°C SST) 2.7 kW

5. 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 those on labels attached to the Glycoolpac 27hx.


- Review all applicable OHS (Occupational Health & Safety) regulations.
- Learn how to operate the Glycoolpac 27hx and use the controls properly.
- Do not allow untrained or unauthorized personnel to operate the unit.
- Ensure that the Glycoolpac 27hx is maintained according to instructions.

5.2 Recognise Safety Alert Symbols


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


	Danger	Alerts to an existing hazardous situation that if not avoided WILL result in death, serious injury, or equipment damage.
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	Warning	Alerts to a potentially hazardous situation that if not avoided CAN result in death, serious injury, or equipment damage.
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	Caution	Alerts to a potentially hazardous situation that if not avoided MAY result in injury or equipment damage.
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5.3 Operating

	Warning	This appliance is 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.
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	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.
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5.4 Service

	Caution	Installation of this unit and service work should only be performed by fully trained & certified Electrical, Plumbing, & Refrigeration Technicians.
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	Warning	GLYCOOLPAC 27hx MUST BE ISOLATED FROM ELECTRICAL SUPPLY BEFORE COMMENCING MAINTENANCE OR SERVICE.
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6. Installation



Warning

To avoid personal injury, do not attempt to lift or move Glycoolpac 27hx without assistance. Use of mechanical lifting aids is recommended.

6.1 Receiving

Each unit is tested and thoroughly inspected before leaving the factory. At time of shipment, carrier accepts responsibility for the unit. Therefore any claim for damages must be made on the carrier. Upon receiving unit from the carrier, carefully inspect the packaging for visible indication of damage. If any damage exists, have the carrier note same on bill of lading and file a claim on the carrier.

6.2 Unpacking



Caution

The use of gloves is recommended to protect hands.



Caution

Keep vertical. Do not lay Glycoolpac 27hx on its back or sides.

- Remove shipping carton and pallet from Glycoolpac 27HX
- If appropriate, assemble legs to base of unit by carefully tilting unit. (Tilt should be no more than 45°)
- Inspect unit for concealed damage. If evident, notify carrier, and file a claim against same.

6.3 Selecting and Preparing the Location



Caution

Glycoolpac 27hx units are intended for indoor operation only; do not operate outdoors unless suitably protected by a weatherproof enclosure.

- Select a firm, level location as close as is practical to water and electrical supplies, and as close as is practical to cool room containing kegs (if applicable.)
- If level adjustment is required, these can be made on the adjustable legs supplied with the unit.
- Ensure there is sufficient clearance around the unit for ventilation. (200mm on all sides)
- Avoid locations that are abnormally warm.




Caution

Glycoolpac 27hx operational weight is 315kg. Any supporting structures or racks should be certified for this loading by a registered Mechanical Engineer. Structures or racks should be securely fixed to floors or walls.


6.4 Connecting Glycol Lines and Glycol Tank Overflow

- Connect glycol out from the barbed outlet fitting on the glycol pump.
- The glycol return MUST be plumbed to the return barb for the Glycoolpac 27hx to operate properly.
- During normal operation, some overflow may occur from the unit. The overflow should be plumbed to a suitable tundish or drain. If neither of these is available, a suitable reservoir may be used to collect overflow, but it must be emptied regularly.

	Caution	Glycol is a very slippery substance. Any spills should immediately be cleaned up to prevent slipping hazards.
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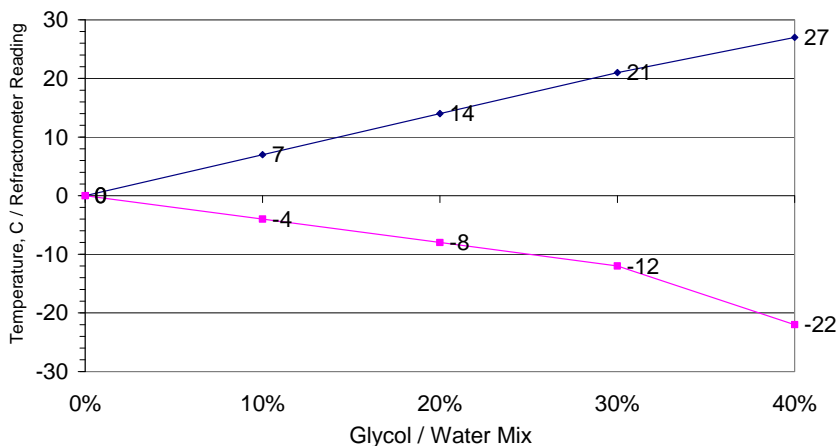
6.5 Filling Unit with Glycol / Water

- The Glycoolpac 27hx requires a 30% concentration glycol / water solution.
- Pour 60 litres of food grade propylene glycol into the tank.

	Danger	DO NOT USE ETHYLENE GLYCOL (AUTOMOTIVE RADIATOR COOLANT) AS IT IS TOXIC TO HUMANS.
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- Top up tank with clean, potable water, until a small amount of solution dribbles out of overflow.
- Confirm the concentration of glycol using a refractometer.

Relative Freeze Points for Glycol / Water Solution




- Additional premixed 30% glycol / water solution will be required for commissioning.

6.6 Connecting to Electrical Power

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

- It is recommended that these appliances are connected to a separate 240VAC 50HZ electrical supply, protected by an appropriate 15 A circuit breaker and Residual Current Device.
- Check the serial plate on the appliance for the electrical supply requirements.
- The service of a licensed electrician may be required to ensure the installation is in accordance with the local codes and regulations.

	Warning	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.
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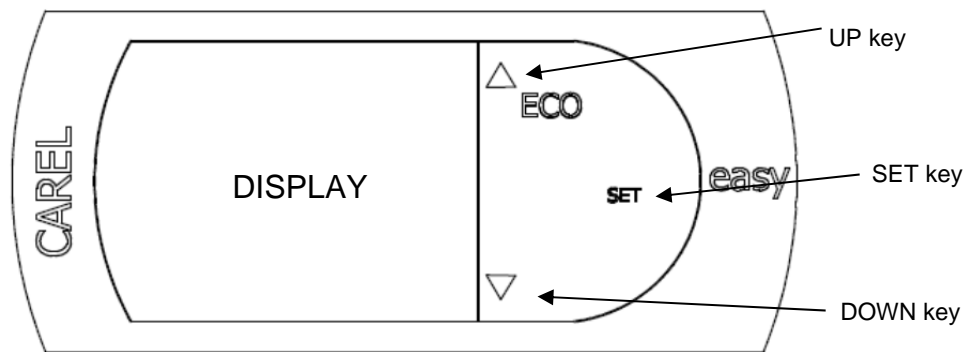
6.7 Commissioning

- The GP27hx uses plate heat exchanger technology. The Glycol Pump MUST be connected and operational for the unit to work properly. If it desired to have the unit at operating temperature prior to connecting to a python then a temporary connection from the pump outlet to the glycol return must be fitted.
- Top up the tank with premixed 30% glycol / water solution.
- Check solution with refractometer
- Turn power on to the unit. Ensure liquid level does not drop below pump intake during initial filling of python.
- If bath temperature is above unit set point, refrigeration should operate.
- Check all connections for leaks

7. Control Settings

7.1 Programming Instructions For Carel PJEZ Refrigeration Controller

The GP27hx uses a special thermostat developed with Carel to tailor the controller's functions with the requirements unique to glycol systems in general.



7.1.1 Set point

Push and hold the "SET" key, "st" is displayed then the current set point is displayed and flashes, release "SET" key to change the set point value.

- Push the "UP" or "DOWN" arrow keys to change the set point value.
- To accept the new value press the "SET" key or wait 60 seconds without pressing any keys for the unit to time out.

7.1.2 Other parameters

Push and hold the "SET" key, until "rd" is displayed.

- Select the required parameter to change using the "UP" or "DOWN" arrow keys then press the "SET" key to display its value.
- Press the "UP" or "DOWN" key to change its value.
- Press the "SET" key to store the new value and move to the next parameter.

To exit from programming mode press the "SET" key for 3 seconds or wait 60 seconds without pressing any keys for the unit to time out.

7.1.3 Eco mode

Eco Mode is also known as "night" or "off peak" mode. It is useful in troubleshooting freeze-ups. In ECO mode a fixed value is added to the setpoint thus raising the operating temperature of the glycol bath generally above the freezing point of water. An offset is added to the Set point: "St" + "r4". For example, in ECO mode the factory ECO offset of 7C is added to the factory setpoint of -2C so that the refrigeration now cycles on a glycol bath of +5C.

To set the ECO mode press and hold the "UP" key, "on" or "oF" is displayed showing how ECO mode will be changed, when "on" or "oF" disappears release key. In ECO mode the display will flash between "Ec" and the Glycol bath temperature.

7.1.4 View antifreeze probe temperature

Press and Hold "DOWN" button for approximately 5 seconds.

7.2 Alarm signals

When an alarm is activated, the display shows the corresponding message that flashes alternating with the temperature.

Message	Cause	Reset
"E0"	Glycol Probe Failure	Automatic
"E1"	Refrigeration Line Probe Failure	Automatic
"LO"	Low Temperature Alarm	Automatic
"HI"	High Temperature Alarm	Automatic
"AF"	Antifreeze Alarm	Manual - Antifreeze alarm can be reset by holding "UP" and "DOWN" keys for 5 seconds.

7.3 Carel PJEZ Parameters*

Parameter	Type	Def	Description
St	Set point	-2.0	Refrigeration will turn off when glycol reaches this temperature.
rd	F	1.0	Temperature differential, glycol temperature will increase from the cut out point by this value before the refrigeration turns on.
AF	F	-5.0	Antifreeze alarm set point. If the evaporator suction line reaches this temperature the control will stop the refrigeration system and will require a manual reset. Antifreeze alarm can be reset by holding "UP" and "DOWN" keys for 5 seconds. In case of probe 2 failure, the antifreeze alarm function is inhibited and regulation is still performed. If "AF" parameter is set to its minimum value the alarm function is inhibited.
rt	F	**	Time (in hours) of max/min temperatures logging.
rH	F	**	Highest/ maximum recorded temperature.
rL	F	**	Lowest/ minimum recorded temperature.
AH	F	20.0	High temperature alarm (relative to set point).
AL	F	4.0	Low temperature alarm (relative to set point).
c2	F	3 mins	Minimum time in mins after turning off before the control will give an output to the refrigeration solenoid (short cycle protection).
r4	F	7.0	Value to increase the set point in ECO mode.
r2	F	5.0	Maximum allowed set point.
r1	F	-5.0	Minimum allowed set point.

*Factory programmed to Hoshizaki Lancer Specifications.

8. Monthly Maintenance



Warning

Glycoolpac 27hx MUST be isolated from electrical supply before commencing any service or maintenance

- Switch the unit OFF and disconnect unit from power supply.
- Check water/glycol level.
- Check water/glycol concentration using refractometer (see chart).
- Remove lid and grille.
- Clean condenser with a soft brush or low pressure air. (If using compressed air, always blow from the fan side of the condenser)
- Remove any dust from refrigeration deck.
- Replace lid and grille.
- Reconnect to power the supply and switch the unit ON.



Caution

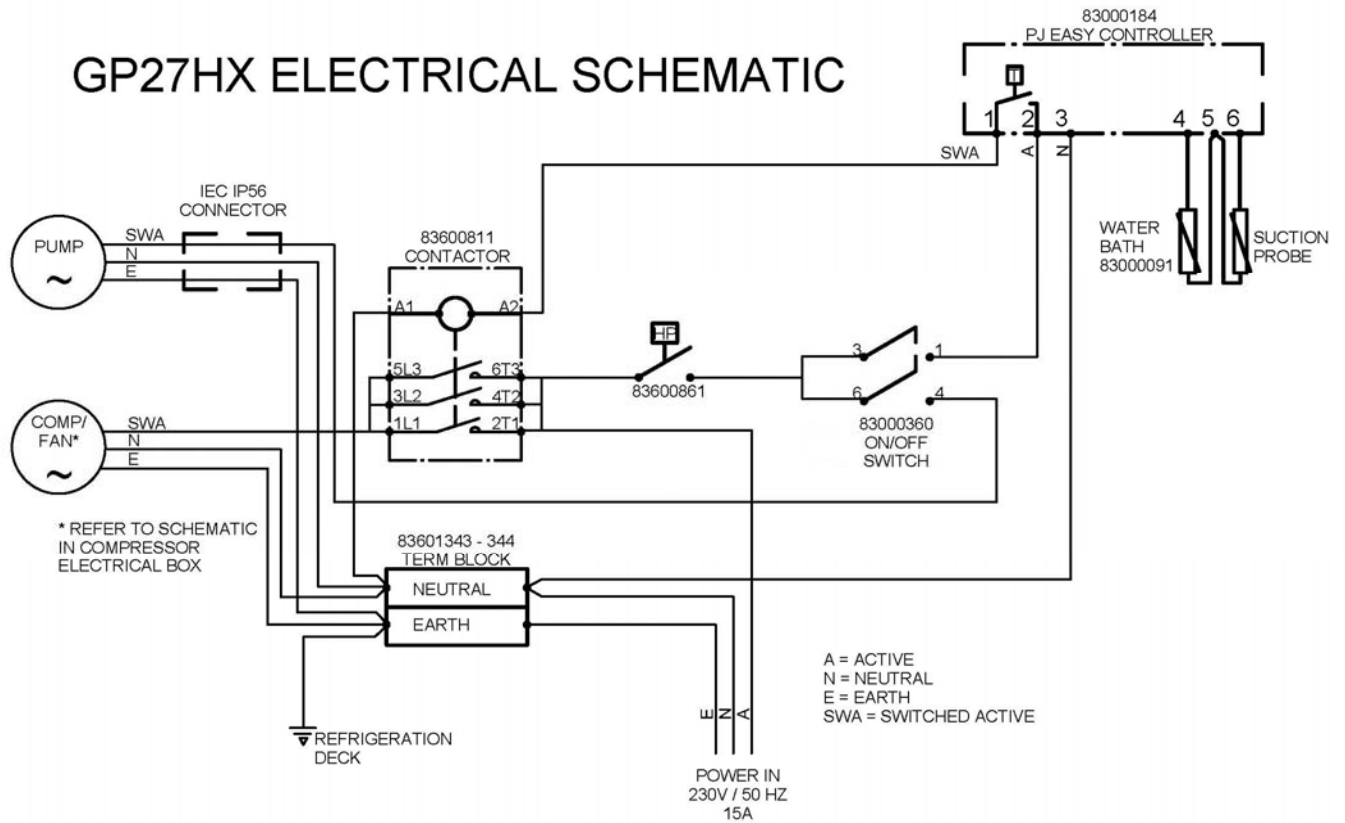
When using compressed air- always wear protective eye wear.

9. Trouble Shooting

9.1 Refrigeration

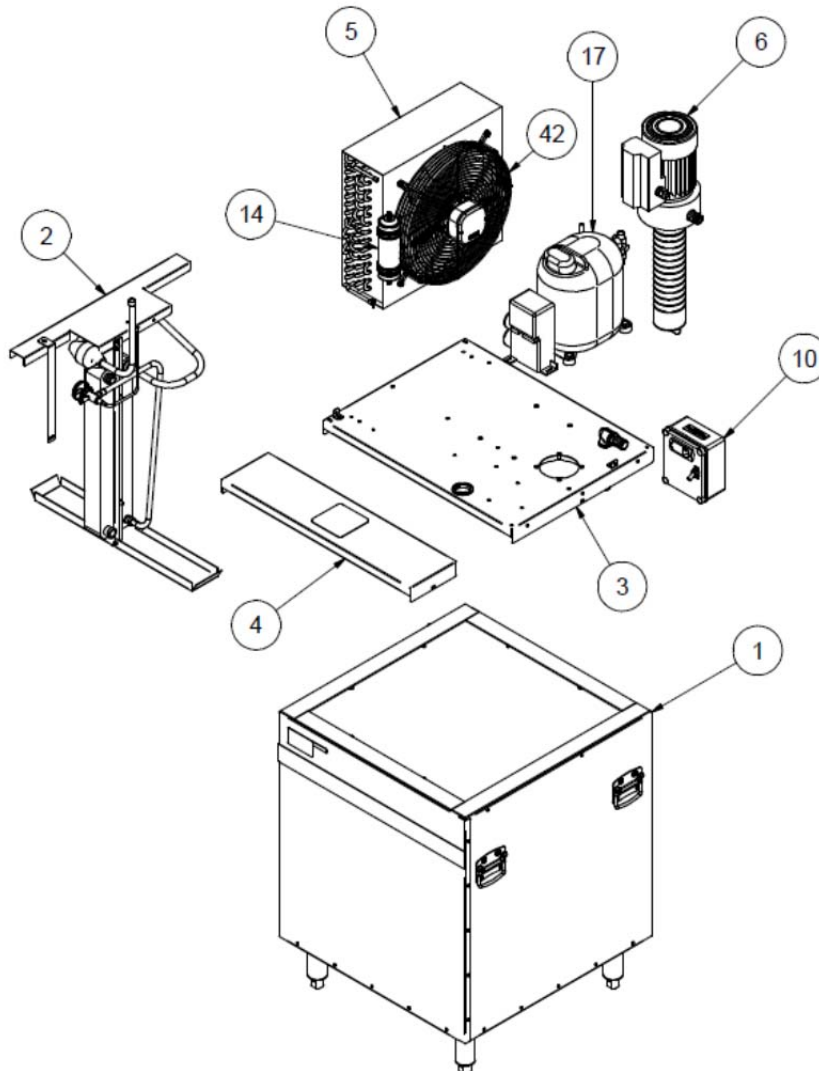
TROUBLE	CAUSE	REMEDY
Compressor will not start.	<p>Power Failure.</p> <p>H.P tripped</p> <p>Thermostat control faulty contacts not closing.</p> <p>Check start mechanism components.</p> <p>Thermal overload faulty, open circuit compressor seized.</p>	<p>Check for blown fuse or cord pulled out.</p> <p>Determine cause, rectify. Reset High Pressure Switch.</p> <p>Replace.</p> <p>If faulty, replace e.g. capacitors, start relays.</p> <p>Replace compressor, check condenser, check power supply, evacuate system and fit burnout drier to industry standards.</p>
Compressor short cycling on thermal overload (frequent starting and stopping of the compressor while thermostat 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>Incorrect differential setting.</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 overload.</p> <p>Tighten if loose.</p> <p>Replace motor</p> <p>Reset Differential setting.</p>
Unit freezes up.	<p>Pump blocked or not working properly.</p> <p>Low glycol concentration.</p> <p>Incorrect thermostat setting/defective thermostat.</p> <p>Bath probe loose or faulty.</p>	<p>Check for blockages in glycol circuit; check pump plugged in and operating properly. Replace if defective</p> <p>Check glycol bath with refractometer and adjust to 30% glycol/water.</p> <p>Bath setting should not be below -5C. Check bath with thermometer and compare with thermostat reading.</p> <p>Check position. Replace if faulty.</p>
Compressor runs too long or doesn't cycle.	<p>Location too hot.</p> <p>Cooler overloaded.</p> <p>Loss of refrigerant.</p> <p>Condenser clogged.</p> <p>Fan not operating.</p> <p>Faulty thermostat / contactor contacts permanently closed.</p>	<p>Relocate or improve ventilation.</p> <p>Undersized. Use larger model or use pre-chilled kegs.</p> <p>Leak check and repair.</p> <p>Clean off dust, lint, grease, etc.</p> <p>Remove obstruction or replace motor.</p> <p>Replace thermostat or contactor.</p>

10. Circuit Diagram



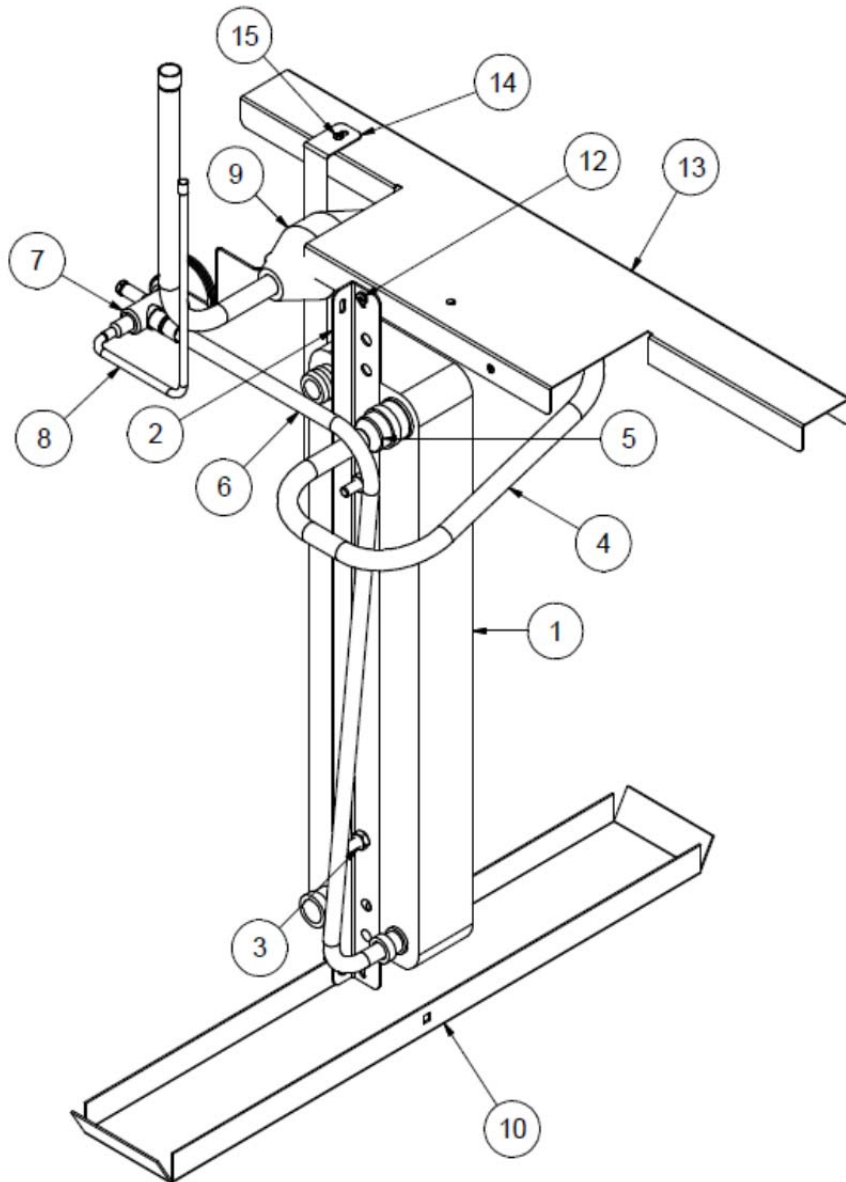
11. Spare Parts List

11.1 Major Subassemblies



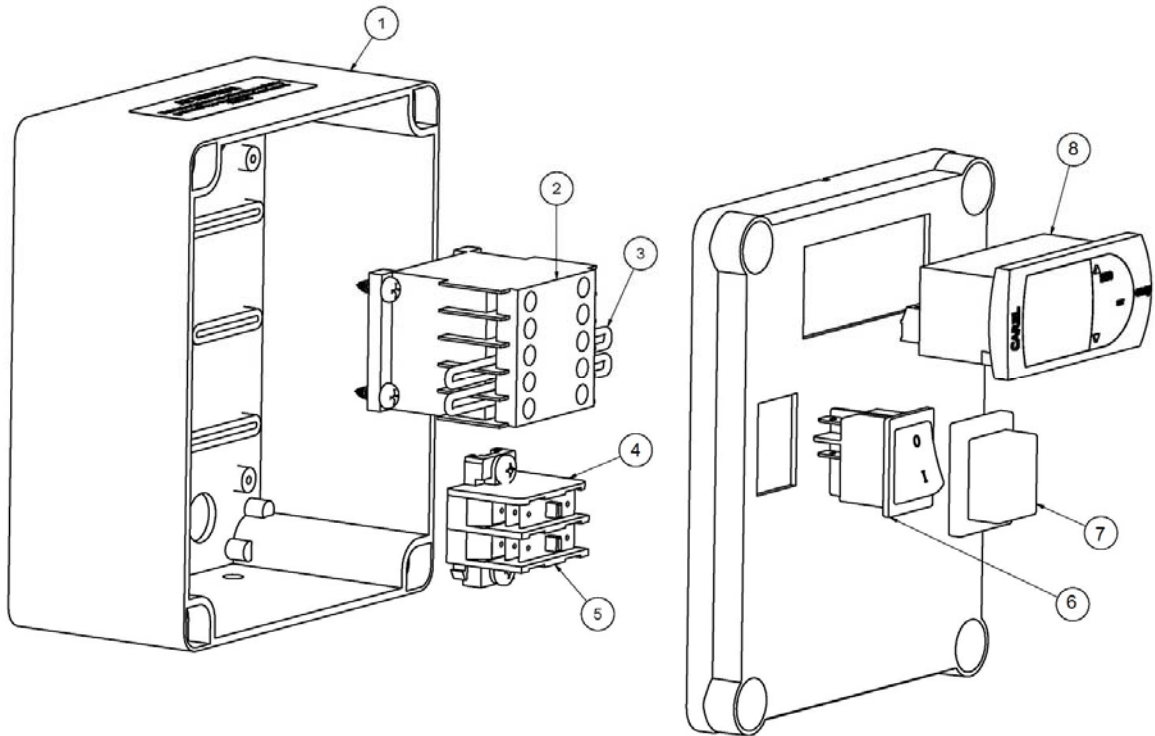
REF	PART No.	DESCRIPTION
1	61619629	BODY & TANK ASSY GLYCOOLPAC 27
2	62619915	EVAP ASSY GLYCOLPAC 27HX
3	61619939	UNIT DECK ASSY GP27HX
4	61619952	TANK COVER ASSY GLYCOOLPAC 27
5	84000025	CONDENSER GP27HX INDUS
6	78619909	PUMP & AGI ASSY SPK2-11 25MM
10	83619836	ELEC BOX GP27 HX
14	87000102	RECEIVER DRIER ¼X¼ SOLDER
17	80000104	COMPRESSOR EMBRACO 34CC R404A
42	84000026	FAN CONDENSER GP27HX HIDRIA
	83000335	RELAY EMBRACO NJ9238GK
	83000336	OVERLOAD EMBRACO NJ9238GK
	83000337	CAPACITOR START EMBRACO NJ9238GK
	83000338	CAPACITOR RUN EMBRACO NJ9238GK

11.2 GP 27 HX Evaporator Assembly

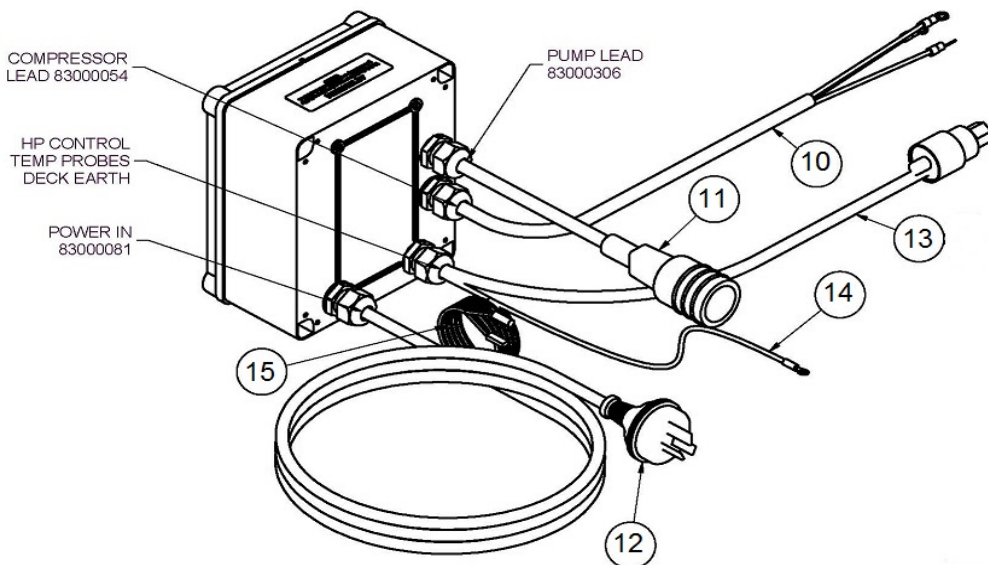


REF	PART NO.	DESCRIPTION
1	84272678	HEAT EXCHANGER 18 PLATE 3KW
2	61634217	VERTICAL BRACE GLYCOOL-R-P
3	79633717	NUT S/S M08 HEX
4	62000127	SUCTION LINE HX TO DECK GP27HX
5	79600041	Reducer,Copper,11/8"ODx1/2"ID
6	62000123	LIQUID LINE TXV TO HX GP27HX
7	87600230	TX VALVE TUB 05 R404 INT
8	62000128	LIQUID LINE DECK TO TXV GP27HX
9	79001071	TAPE AIR P30B 50MM/9MTR ROLL X 300 LG
10	61634187	BOTTOM BRACE GLYCOOL-R-P
11	79000368	GROMMET NUT INSERT SUIT 10G PK
12	79000423	SCREW S/S 10G X 5/8 PK PHP PH
13	61634199	TOP BRACE GLYCOOL-R-P
14	61634874	PROBE BRACKET GLYCOOL-R-P
15	79000386	RIVET 1/8 S/S SHORT AVINOX.

11.3 GP27 HX Electrical Box

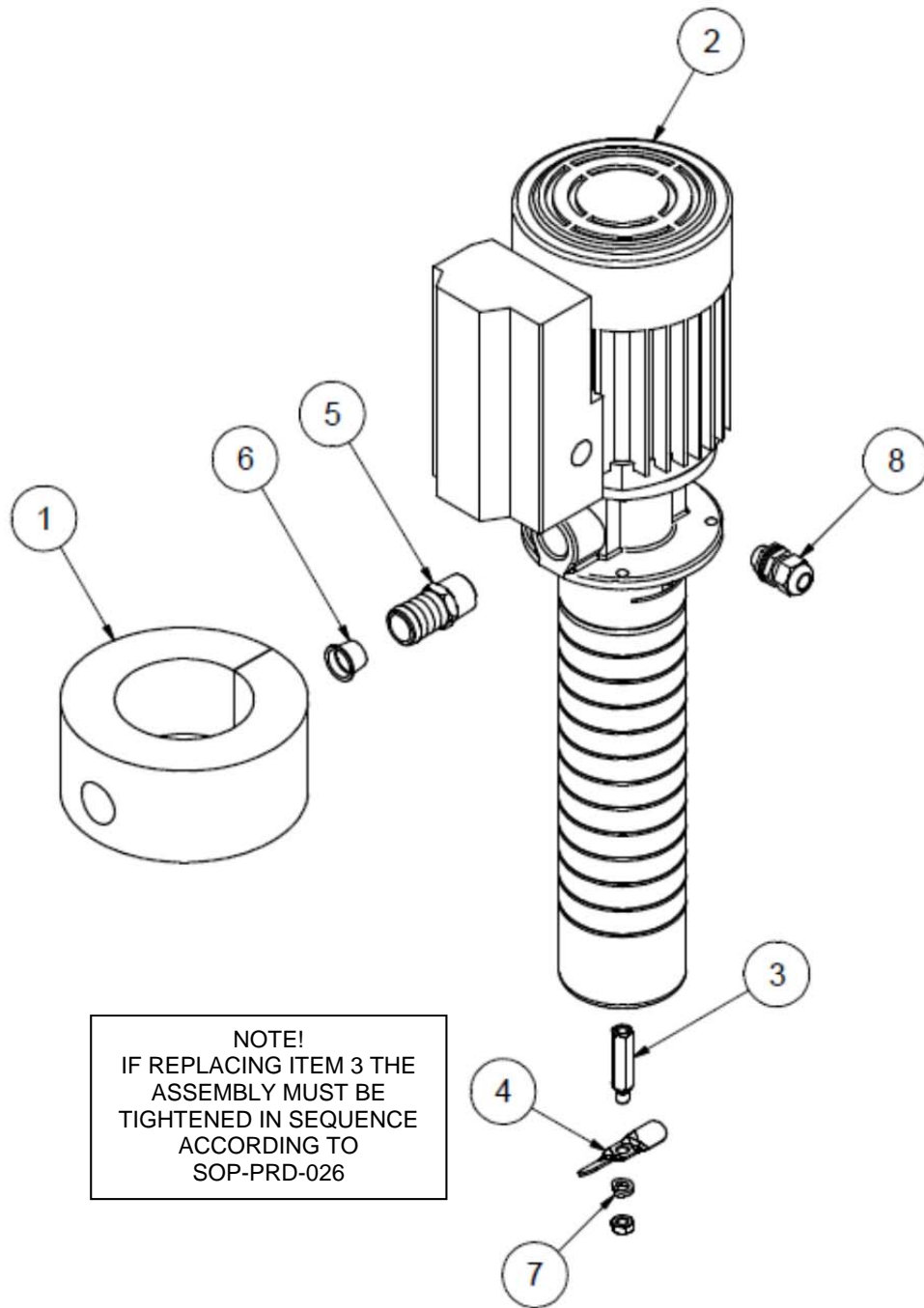


CABLE POSITIONS:



REF	PART NO.	DESCRIPTION	REF	PART NO.	DESCRIPTION
1	88645628	ELECTRICAL BOX BLANK	9	83000058	GROMMET – 4 PER
2	83600811	MINI CONTACTOR	10	83000054	COMPRESSOR LEAD
3	83000221	JUMPER WIRES – 4 PER	11	83000306	PUMP LEAD
4	83601343	TERMINAL BLOCK 6 TAB -2 PER	12	83000081	POWER LEAD
5	83601344	TERMINAL BLOCK END PLATE	13	83600861	HP CONTROL MANUAL
6	83000360	ROCKER SWITCH	14	83601741	EARTH WIRE
7	83000246	SEALING BOOT	15	83000184	PROBE NTC – 2 PER
8	83000184	PJEASY THERMOSTAT			

11.4 GP27 HX Pump Assembly



REF	PART NO.	DESCRIPTION
1	79619861	PUMP INSULATOR SPK GLYCOOLPAC
2	87273075	PUMP SPK2-11 GRUNDFOS 1PH
3	66619988	PROPELLER ADAPTOR SPK PUMP
4	87620001	PROPELLER SPK PUMP GP27
5	79000244	DIRECTOR BRASS 1BARB X 3/4 BSP
6	79000113	PLUG BLANKING CLEAR CP9X
7	79620723	WASHER SPRING S/S M08
8	83000058	GROMMET WATER TIGHT 16MM
9	83000308	IEC LEAD MALE SPLASHP 300MM

12. 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

Hoshizaki 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 replacement of defective parts will be at the sole discretion of Hoshizaki 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

Hoshizaki 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 Hoshizaki Lancer or its sub-contractor. All claims for warranty are to be made on the Hoshizaki Lancer branch that undertook the installation.

Labour

Hoshizaki Lancer will not normally cover any labour costs associated with a Parts & Equipment warranty claim. Subject to the approval of the Divisional Sales Manager, Hoshizaki 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 Hoshizaki Lancer prior to the work being undertaken

Exclusions

Hoshizaki Lancer will not accept any liability or cost associates 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 Hoshizaki Lancer, the equipment has been used in a situation the equipment has not been designed for;
- B. If in the opinion of Hoshizaki 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 Hoshizaki 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 Hoshizaki Lancer or its nominees or using other than Hoshizaki 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

Electrically tested by.....

TAG No.

- Refrigeration flow correct. Check arrows on receiver/drier.
- Refrigeration system final check. Ensure evaporator fully frosts.
- Pump runs in correct direction and quietly.
- Pump fitted, Pump type, propeller fitted & spinning freely
- Check all tube work for rubbing e.g. discharge line, liquid line, etc.
- Condenser not touching grille.
- Check probe positions and tightness.
- Glycool sticker correctly positioned and straight.
- Pump insulator fitted.
- All service valve caps fitted and tight.
- Overflow grommet fitted.
- Clean exterior of unit including power cords.
- Serial number plate attached and legible.
- Grill correctly fitted, not touching any other component. Screws tight.
- Install kit supplied.
- Check body for sharp edges.
- Put manual/checklist in plastic bag and place in unit area.
- Check lid for cleanliness and rough edges. Fit and secure.

W/O

W/V

