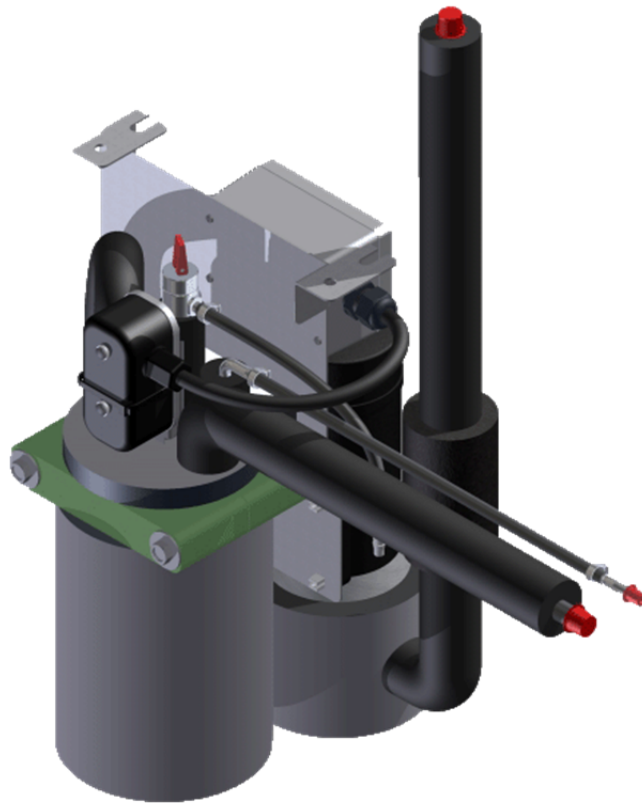


***LANCER*** | SOFT DRINK SYSTEMS

# FlexiCarb 1-Litre Carbonator

230V / 50Hz

## 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 Australian 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**

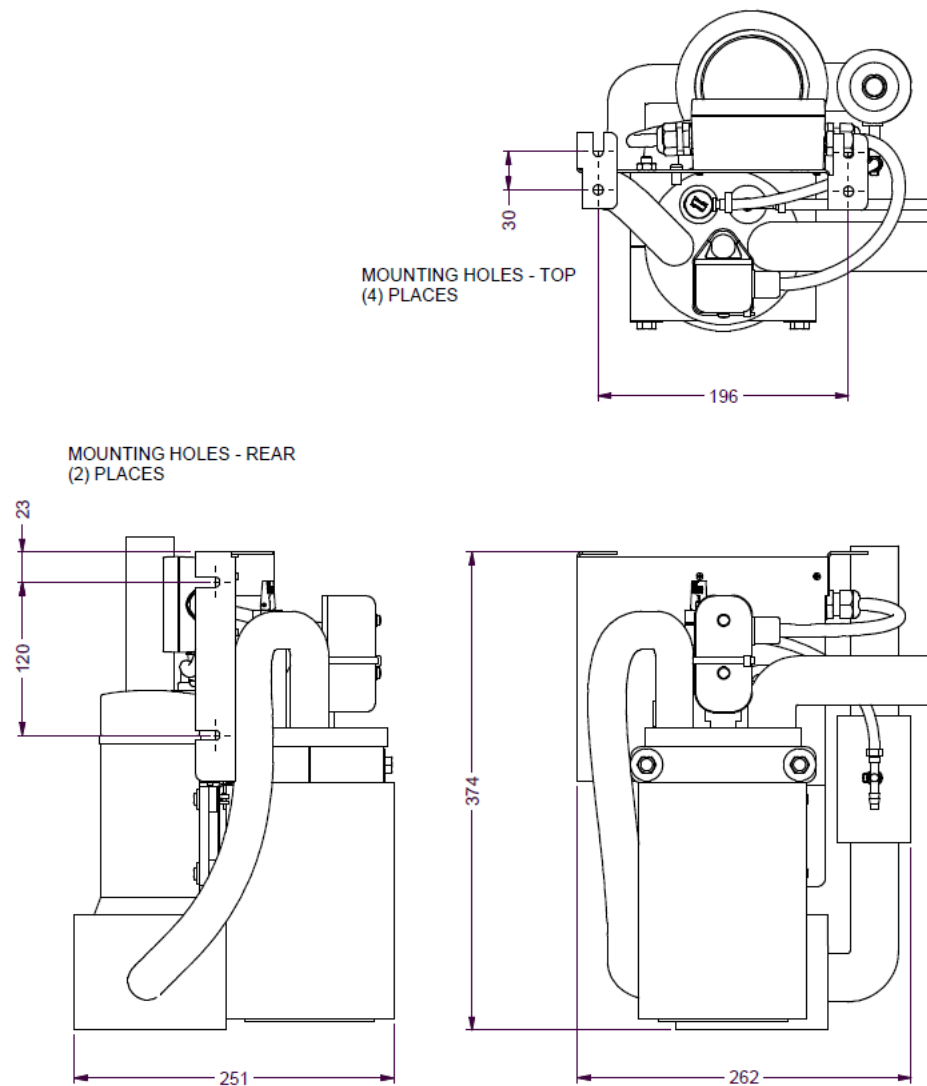
Hoshizaki Lancer manufactures and markets beer dispensing and chilling equipment, and related accessories. Products include founts, chillers, Chillerplates, drip trays, taps, handles, beer line cleaning equipment and an extensive line of beverage dispensing parts and accessories.

# 4. Product Details

## **4.1 Product Features**

The Hoshizaki Lancer FlexiCarb is an Australian designed and manufactured carbonated water unit designed for smaller installations and limited access areas. It is specifically designed to carbonate pre-chilled water and mount under or near ice cooled equipment such as cold plates and drop-ins. The pump, water lines and carbonator tank are fully insulated. The pump is thermally protected with an automatic reset. The unique design allows mounting against a wall or directly under counter top or drop-in. The Hoshizaki Lancer FlexiCarb is AS5034 compliant.

## 4.2 Specifications



<b>Voltage</b>	230 Volts
<b>Frequency</b>	50 Hz
<b>Max Current Draw</b>	0.5 Amps
<b>Ambient Temperature</b>	2 - 40°C
<b>Max Water Inlet Pressure</b>	380 kPa
<b>CO2 Gas Pressure</b>	520 kPa @ 4.5°C Water Inlet Temperature
<b>Dimensions</b>	
Width	251 mm
Depth	262 mm
Height	374 mm

**Weight**

Shipping 9.2 kg

Empty 7.6 kg

Operating 8.6 kg

**Carbonator Capacity** 1 litre nominal**Construction** Wetted Materials: stainless steel, PE, nylon, Santoprene, EPDM.**Drink Capacity** 55 ml (1.8 oz) /second continuous soda flow @ 520 kPa CO2 pressure.

NOTE: Hoshizaki Lancer reserves the right to continuous improvement. Always check the specification plaque that is attached to your device for the latest product information.

### 4.3 Models

FlexiCarb

FlexiCarb Illuminated

### 4.4 Options

- Low voltage DC power supply for lighted graphics.

## 5. Carbonator 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.

- Review all applicable OSH (Occupational Safety & Health) regulations.
- Review all applicable Beverage Dispensing Gas Standards
- Install the unit securely and leak check connections.
- Do not allow any unauthorised modifications to the machine.

### 5.2 Recognise Safety Alert Symbols

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

**Warning**

Alerts to a potentially hazardous situation that if not avoided **CAN** result in death, serious injury.

**Caution**

Alerts to a potentially hazardous situation that if not avoided **MAY** result in injury or equipment damage.

### 5.3 Operating

**Warning**

Do not remove, defeat or modify the CO2 relief valve.

**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 and maintenance of the FlexiCarb and service work should only be performed by fully trained & certified Electrical, Plumbing, & Gas Technicians. The FlexiCarb is only to be installed in locations where its use and maintenance is restricted to trained personnel.

**Warning**

Carbonator contains CO2 gas and water under pressure. Isolate these sources and lift pressure relief valve before performing any work on the system.

**Warning**

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

**Warning**

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

### 5.5 Carbon Dioxide (CO2)

**Warning**

The FlexiCarb uses a CO2 (Carbon Dioxide) supply. CO2 is a heavier than air, colourless, non-combustible gas with a faintly pungent odour. Personnel exposed to high concentrations of CO2 gas will experience tremors, which are followed rapidly by loss of consciousness and suffocation. If a CO2 gas leak is suspected, immediately ventilate the contaminated area before attempting to repair the leak.

## 6. Installation

### 6.1 Receiving

Each unit is tested and inspected prior to 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

Carefully unpack the Lancer FlexiCarb. Inspect unit for concealed damage and if evident, notify delivering carrier and file a claim against the carrier.

### 6.3 Selecting a Location

**Warning**

FlexiCarbs are intended for indoor operation only; do not operate outside unless suitably protected by a weatherproof enclosure.

**Caution**

The FlexiCarb 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 0°C.

- The FlexiCarb must be mounted in the upright position for the internal level control to work properly.
- The FlexiCarb should be mounted as close to the drink dispenser as possible to maintain temperature and good carbonation quality.
- The FlexiCarb is designed to be mounted on a wall or under a counter or directly under a drop-in style dispenser. It should not be placed on a floor.
- Installation should only be performed by a qualified and competent technician.

### 6.4 Mounting FlexiCarb

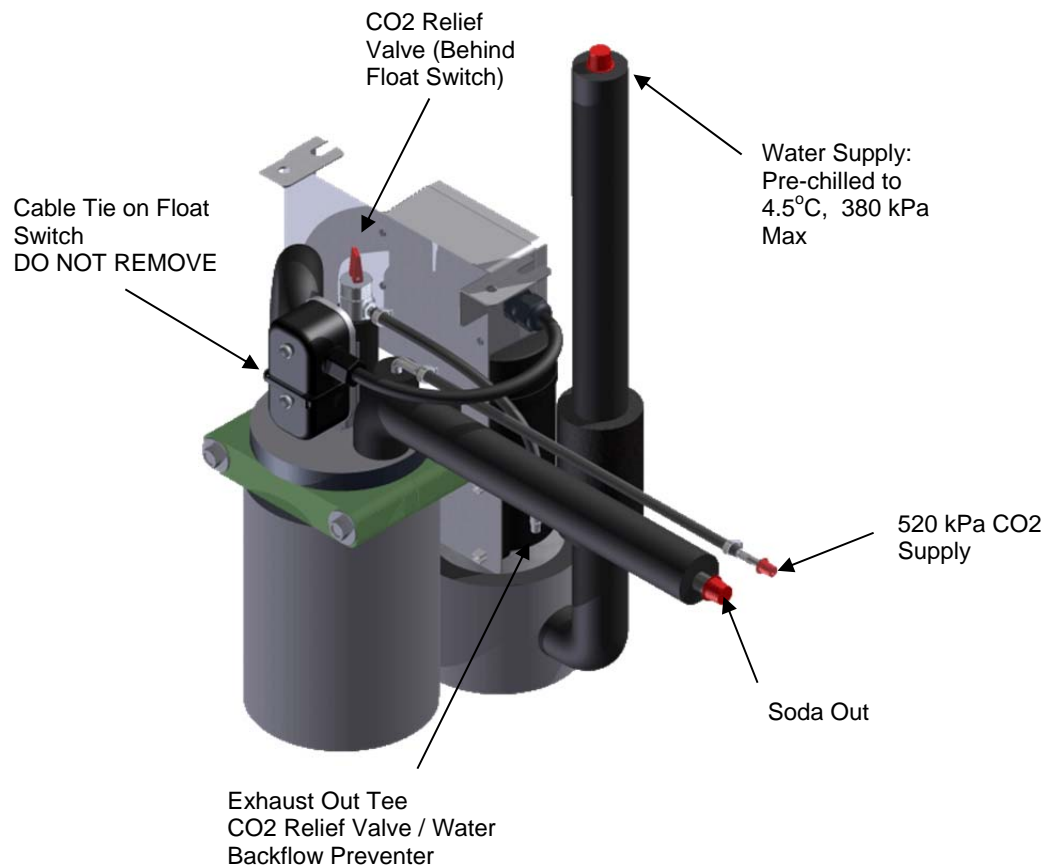
The FlexiCarb may be mounted either to a wall or hanging under a counter or drop-in.

**NOTE: THE FLEXICARB MUST BE MOUNTED IN THE UPRIGHT POSTION FOR THE LEVEL CONTROLS TO OPERATE PROPERLY.**

Refer to the hole patterns on Page 4. Use any of the mounting holes provided to secure the carbonator in place. We suggest using 6mm or larger screws.

- Drill the holes.
- Partially insert screws on one side of the mounting surface.
- Slide the FlexiCarb into place.
- Insert the remaining screws and tighten all.

## 6.5 FlexiCarb Connections



## 6.6 Connecting to water supply

**NOTE:** All water and soda connections are to be insulated when using a chilled water supply.

- Using appropriate tubing and fittings connect a 10mm water supply line from the FlexiCarb Water Inlet to a filtered, regulated water supply pre-chilled to 4.5°C or less. Installation in accordance with AS/NZS 3500.1 and AS/NZS 3500.2.
- Using appropriate tubing and fittings connect the soda outlet to the dispensing device.
- Turn on water supply, check for leaks, adjust water regulator to 380 kPa.
- Open the carbonator relief valve until water flows from CO2 exhaust tube; then close the relief valve.



**Caution**

**Maximum water supply pressure to be 380 kPa.**



## 6.7 Connecting to CO2 supply

**Warning**

As carbon dioxide (CO<sub>2</sub>) displaces oxygen; prevention of CO<sub>2</sub> leaks is paramount. If a leak is suspected, immediately ventilate the contaminated area, before attempting repairs.

- Connect CO<sub>2</sub> supply line from regulator to gas inlet on carbonator.
- Adjust CO<sub>2</sub> Regulator supplying Carbonator to 520 kPa for chilled inlet water.
- Turn on CO<sub>2</sub> supply.

## 6.8 Electrical Connection

- This unit is connected to the supply via a 10 amp flexible cord fitted with a 3 pin plug.
- Check the name plate on the machine for electrical supply requirements. Use only the power supply specified on the name plate.

**Warning**

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

**Warning**

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

## 6.9 Plumbing the CO2 exhaust vent

- The 6mm tube labelled as CO<sub>2</sub> EXHAUST must be plumbed to a naturally ventilated area.

## 6.10 Commissioning

- Ensure the drop-in has ice on the coldplate and that water supply to the Flexicarb is under 4.5°C.
- Progressively activate each dispensing valve or Bargun connected to the FlexiCarb system until an uninterrupted flow of soda pours from each dispenser.
- Dispense soda from a valve or Bargun until the pump starts on the FlexiCarb. Close the valve and allow the FlexiCarb to cycle off to check if the FlexiCarb is operating properly.
- The FlexiCarb is now ready for use.

## 7. Scheduled Maintenance



**Warning** The FlexiCarb must not be cleaned by a water jet.

### Daily

#### Cleaning/Sanitising

The FlexiCarb 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 CO<sub>2</sub> Supply

Ensure that the contents gauge on the CO<sub>2</sub> Regulator reads higher than 1400kpa on the dial. If it does not, then the CO<sub>2</sub> cylinder is empty and must be changed using safe working practices.



**Warning**

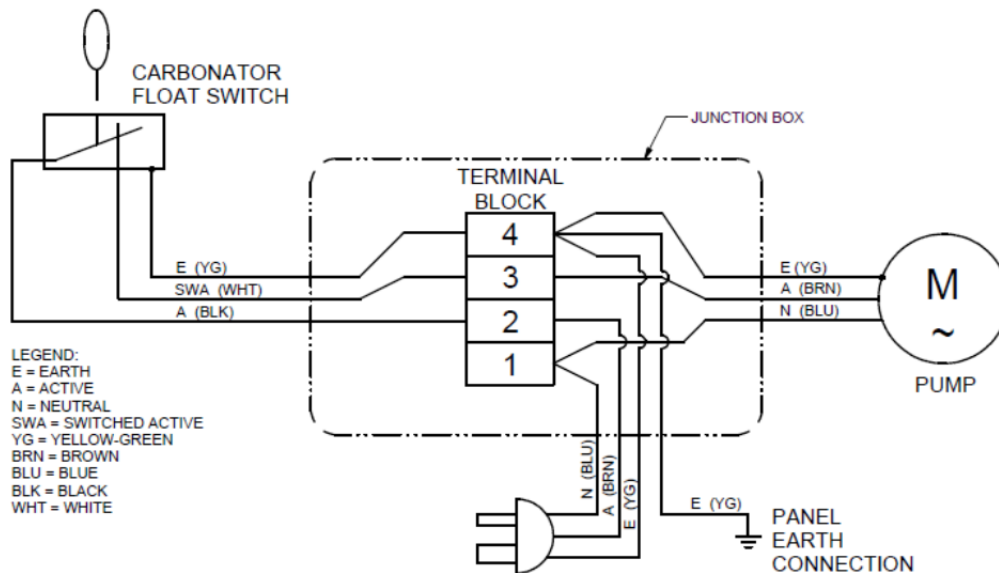
**To avoid personal injury and/or property damage, always secure the CO<sub>2</sub> cylinder with a safety chain to prevent it from falling over. Use appropriate protective equipment (as defined in Clause 3.3.2 of AS 5034) to handle cylinders. Should the valve become accidentally damaged or broken off, a CO<sub>2</sub> cylinder can cause serious personnel injury.**

### Quarterly

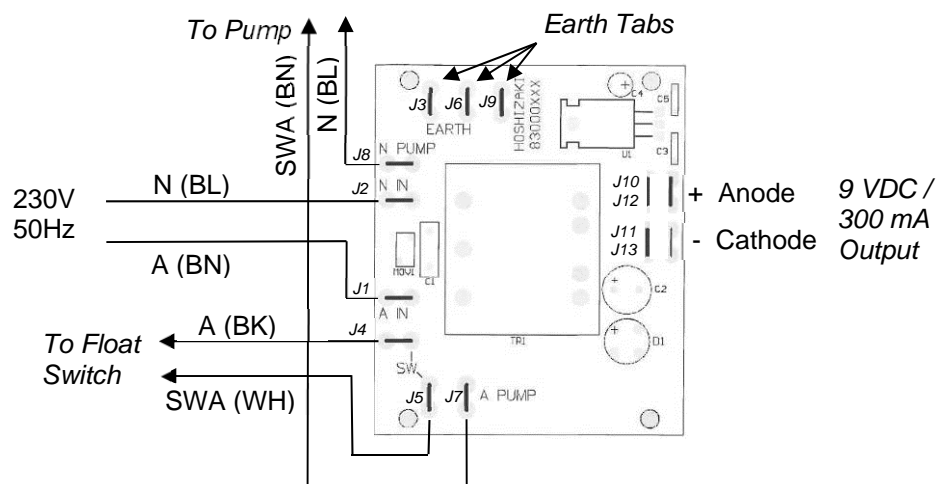
The FlexiCarb should be connected to a filtered water supply. To ensure optimum drink quality and system performance, water filters should be replaced every 3 months.

## 8. Electrical Circuit Diagram

### 8.1 FlexiCarb



### 8.2 Optional: FlexiCarb Illuminated PCB With Low DC Voltage Output For LED Graphics



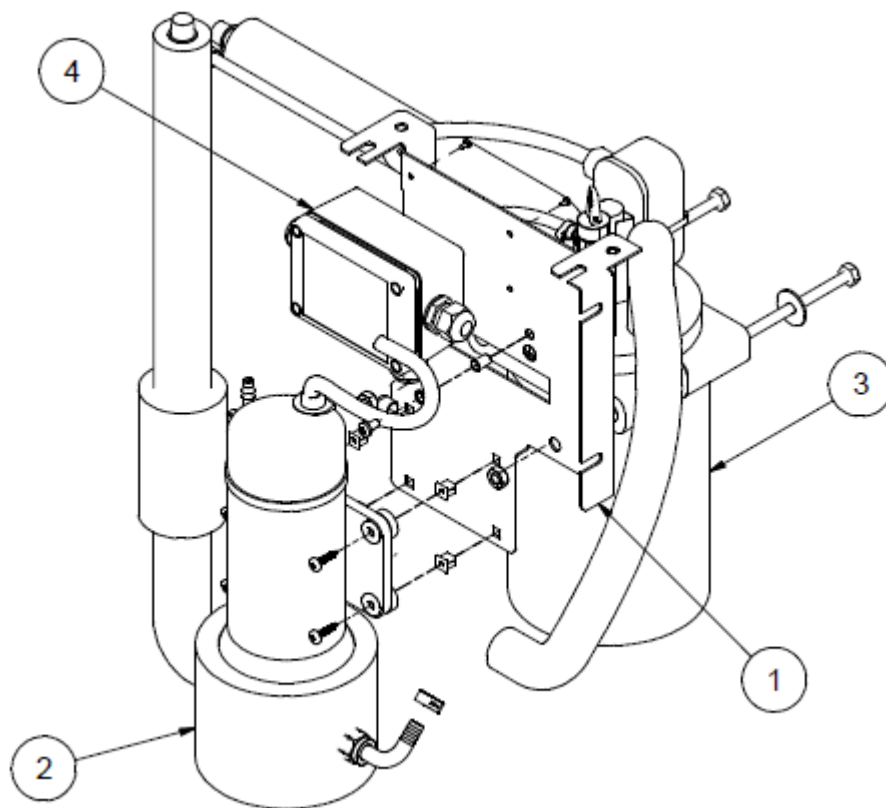
## 9. Trouble Shooting

TROUBLE	CAUSE	REMEDY
<b>Rusty appearance and/or metallic taste to water.</b>	Poor water supply – contaminated.	Carbon filter required.
<b>Pump will not run.</b>	Power failure or low voltage	Check fuses, power cord, and power supply.
	Defective pump/motor.	Replace pump.
	Carbonator flooded – hydrostatic lock.	This is caused by mains water supply pressure being higher than incoming CO2 pressure. Check water regulator setting is not greater than 380 kPa. Check CO2 settings are not below 520 kPa. Check CO2 supply bottle.
	Carbonator empty – faulty carbonator float or switch pack.	Replace carbonator (float) or switch pack.
	Low water supply pressure	Minimum water pressure is 140 kPa.
<b>Carbonator pump motor will not stop.</b>	Pump water supply restricted.	Determine if pump is being supplied with a sufficient quantity of water (minimum 3.5 LPM). Check all supply lines and valves for restrictions. Check water filter and replace cartridge if found clogged.
	Pump discharge line restricted.	Carbonator inlet check valve or orifice may be clogged or blocked. Remove, inspect and clean as required.
	Inefficient or worn pump.	Remove pump and have the flow and head pressure checked. Premature wear may indicate foreign material in the water supply. Check that a suitable filter is installed and operating properly.
	Faulty carbonator or switch pack.	Replace carbonator or switch pack.
	Leaking inlet water check valve.	Replace valve.

TROUBLE	CAUSE	REMEDY
<b>Dispenser delivers CO<sub>2</sub> gas continuously instead of carbonated water.</b>	Excessive carbonator CO <sub>2</sub> pressure.  Pump water supply restricted.  Frozen water coils (mechanically refrigerated dispensers).  Frozen water coils (ice cooled dispensers)	See "Pump will not run". Check CO <sub>2</sub> pressure regulator for creeping – should be 520 kPa.  Clean strainer or replace filter.  Thaw coils with compressor off and check ice bank sensor position.  Remove ice from cold plate. <b>DO NOT USE SUB-COOLED ICE</b>
<b>CO<sub>2</sub> gas or water escapes from pressure relief valve.</b>	CO <sub>2</sub> pressure too high.  Pump motor will not stop.  Defective switch pack or carbonator float.  Inadequate water supply. Lines too small or restricted.	Check CO <sub>2</sub> pressure regulator for creeping – set to 520 kPa.  Bleed gas from pressure relief valve.  Replace.  Insure a minimum supply of 3.5 LPM at 380 kPa.
<b>Poor carbonation – low CO<sub>2</sub> volumes.</b>	Flooded carbonator.  Dirty water supply.  CO <sub>2</sub> pressure too low.  Poor quality paper cups.  Dirty / greasy glasses.  Improperly drawn drink.	Check float / switch pack for proper operation.  Check filters  Check CO <sub>2</sub> source for contents and correct – 520 kPa – settings.  Replace cups.  Wash all glasses and rinse in clean water. Allow to cool before using.  Glass / cup should be held at a slight angle to the faucet nozzle and product dispensed down the inside wall to minimize agitation and preserve carbonation.

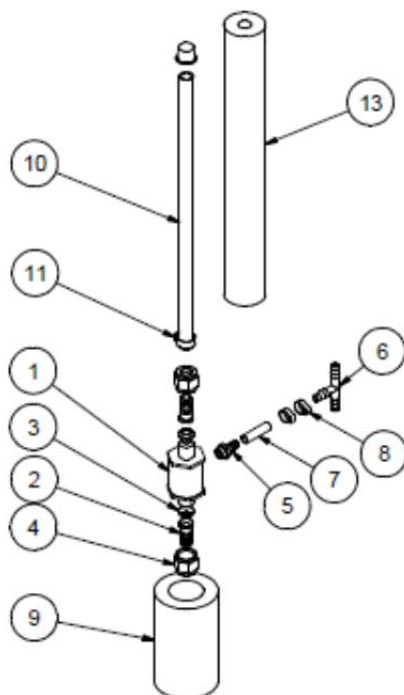
## 10. Parts list

Ref	Description
1	PANEL MOUNTING FLEXICARB 1L
2	FLEXICARB 1 LITRE – PUMP ASSY
3	FLEXICARB 1 LITRE – CARBONATOR ASSY
4	FLEXICARB 1 LITRE – JBOX NON-ILL



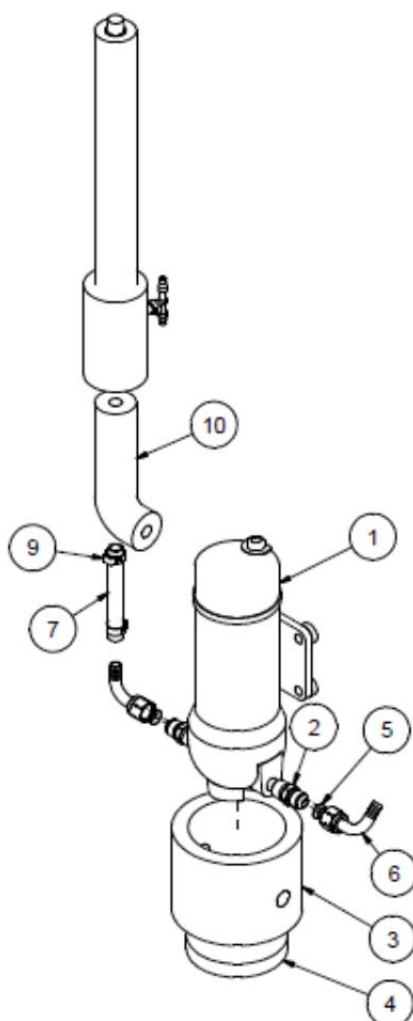
**10.1 Flexicarb Backflow Assy**

Ref	Parts	Description
1	79000683	BFV WATTS 9DB (AUS COMPLIANT)
2	79117818	TAIL S/S 10MM BARB 3/8 NUT
3	79158134	SEAL NYLON 3/8 FLARE
4	79000206	NUT SWIVEL 3/8 FL CHROME
5	66000031	DIRECTOR BR 1/8NPT X 6MM BARB
6	79121506	TEE NYLON 6/6/6MM BARB T14
7	81000161	TUBE LDP 6MM U/V BLACK
8	79221203	CLAMP STEPLESS S/S 118
9	81000018	INSOLEX 32 ID X 13 W
10	81000072	TUBE LDP 10MM U/V BLACK
11	79120854	CLAMP STEPLESS S/S 157 10MM
12	79000107	CAP BLANKING PLASTIC ½
13	81000010	INSOLEX 12 ID X 13W



## 10.2 Flexicarb Pump Assy

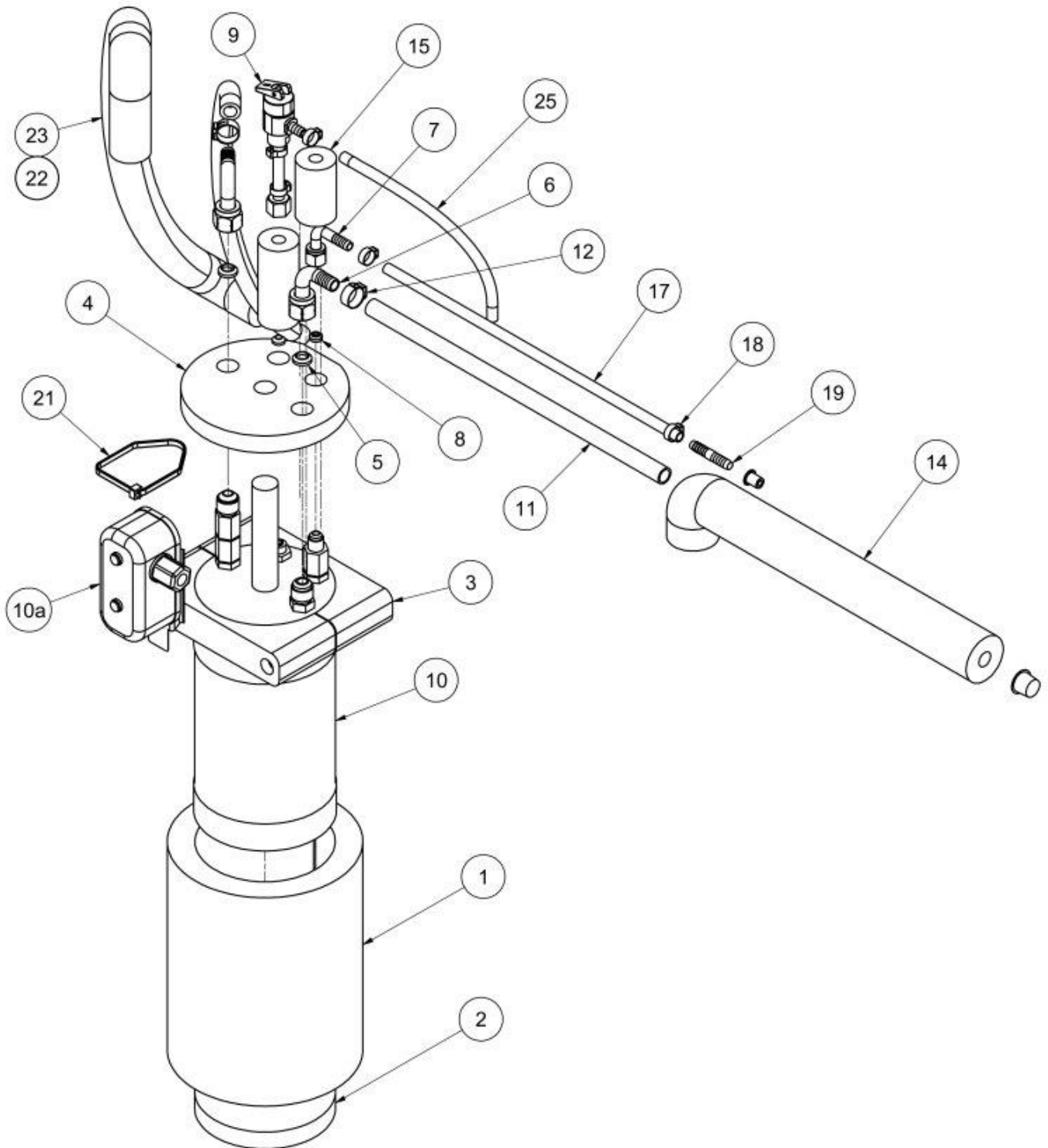
Ref	Parts	Description
1	24000039	PUMP TRIPLEX MODEL R3811503B
2	79000338	FITTING S/S 3/8 FLARE X 3/8 NPT
3	81000502-1	INSULATION KIT FLEXICARB – PUMP WRAPPER
4	81000502-2	INSULATION KIT FLEXICARB – PUMP BOTTOM
5	79158134	SEAL NYLON 3/8 FLARE
6	79000334	ELBOW SWIVEL 10MM X 3/8 FL FEM
7	81000072	TUBE LDP 10MM U/V BLACK
9	79120854	CLAMP STEPLESS S/S 157 10MM
10	81000010	INSOLEX 12 ID X 13W
	23000100	PUMP KIT FLEXICARB





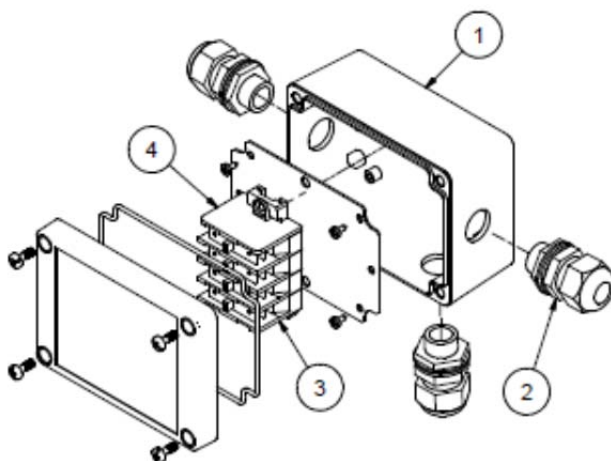
**10.3 Flexicarb Carbonator Assy**

Ref	Parts	Description
1	81000502-3	INSULATION KIT FLEXICARB – CARB WRAP
2	81000502-4	INSULATION KIT FLEXICARB – CARB BOTTOM
3	79000735	STAUFF CLAMP 102MM
4	81000502-5	INSULATION KIT FLEXICARB – CARB TOP
5	79158134	SEAL NYLON 3/8 FLARE
6	79000334	ELBOW SWIVEL 10MM X 3/8 FL FEM
7	79000335	ELBOW SWIVEL 6MM X ¼ FLARE FEMAL
8	79158146	SEAL NYLON 1/4 FLARE
9	08000001	CARB RELIEF ASS CHUDNOW AS5034
10	23000005	CARBONATOR 1L FLEXICARB
10a	23000009	FLEXICARB SWITCH PACK
11	81000072	TUBE LDP 10MM U/V BLACK
12	79120854	CLAMP STEPLESS S/S 157 10MM
14	81000010	INSOLEX 12MM ID X 13MM W X 300MM LG
15	81000009	INSOLEX 10 ID X 9 W
17	81000161	TUBE LDP 6MM NAT/BLACK X 300MM
18	79221203	CLAMP STEPLESS S/S 118
19	79118227	SPLICE S/S 6MM BARB
21	79000475	CABLE TIE 360MM X 4.8MM BLACK
22	81000164	HOSE PE BRAIDED NSF 9.6 X 15MM
23	81000010	INSOLEX 12MM ID X 13MM
25	81000161	TUBE LDP 6MM NAT/BLACK



## 10.4 Flexicarb Junction Box

Ref	Parts	Description
1	83000309	FLEXICARB JUNCTION BOX NON ILLUM
2	83000058	GROMMET WATER TIGHT 16MM
3	83601343	TERMINAL BLOCK 6 TAB
4	83601344	END PLATE FOR TERMINAL BLOCK



# 11. 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.

## 12. Manufacturer's Checklist

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

TAG No. (P/MIX) ..... (REF) .....

- ☐ All motors and pumps secured and mounted correctly.
- ☐ All pumps run quietly and carbonator pump switched O.K.
- ☐ Carbonator and plumbing pressure tested. Check for leaks on pumps, clamps, welds, strainers, carbonator fittings and all joints.
- ☐ Clean exterior of unit including power cords.
- ☐ Check body for sharp edges.
- ☐ Carbonator relief valve fitted and correct.
- ☐ Copy checklist & file, put manual/checklist in plastic bag.
- ☐ Customer asset No.

Model No: .....

Serial No: ..... W/O .....