BRACTON PRODUCT MANUAL

Model: GLYCOL FROST 2.0
Description: GLYCOL BEER CHILLER



1.0 GENERAL SPECIFICATIONS

The Bracton Glycol Frost 2.0 is a high-performance, compact, self-contained 2.0kW glycol chiller featuring a plug and play design. It is engineered with an energy-efficient design, including a high thermal efficiency tank and an near air-tight build to minimise heat loss and moisture ingress in Australian conditions.

Technical Specifications

- **Dimensions:** 923 x 597 x 945 mm (on rollers, without stand).
- **Weight:** 100kg Dry, 190kg Wet (nominal).
- **Tank Capacity:** 90 Litres (nominal).
- **Power Draw:** 6.5A
- **Suggested Power Supply:** 10A 240v 50Hz.
- **Refrigerant:** R290.
- **Cooling Capacity:** 2kW @ 35°C, -10°C SST.
- **Pump Configuration:** Single pump.
- **Glycol Pump Options:** SPK2-11 (HI-VOL) or NRG-23 (LOW-VOL).
- **Heat Exchanger:** Copper Evaporator with Capillary.
- **Coolant Connection (SPK2-11):** 25mm barb
- **Coolant Connection (NRG-23):** 1/2" barb

Available Models

- **GFROST2.0:** 2kW Self Contained Glycol Chiller with SPK2-11.
- **GFROST2.0-NRG:** 2kW Self Contained Glycol Chiller with NRG-23.
- **GFROST2.0-X:** 2kW Self Contained Glycol Chiller with NRG-23 + 6 Coils.
- **GFROST2.0-S:** Glycol Frost Stand only (Height 150mm).

2.0 SAFETY INSTRUCTIONS

- **General Safety:** Do not allow anyone to operate the machine if not properly trained. Keep the machine in good working order and do not allow any changes to be made without the prior written consent of the Manufacturer.
- **Refrigerant Hazard:** The refrigerant used is R290, which is a combustible natural gas. The room must measure at least 1 m³ for every 8 gr. of R290 refrigerant used in the machine. If you notice a leak, do not take any naked flames or potential ignition sources near the machine and air the room for a few minutes.
- **Glycol Handling:** be careful not to spill glycol outside of the dedicated tank. Clean metallic parts immediately if they come into contact with any fluids. Always refer to the glycol manufacturer's safety data sheet before using.
- **Electrical Safety:** Always disconnect the power supply from the machine before carrying out any operation on the same in order to avoid accidents and injury.

3.0 INSTALLATION

3.1 Positioning

- The machine must be placed in a horizontal position on a surface that can support the weight of the machine and of the water/glycol mix.
- **Positioning must ensure adequate ventilation, keeping a minimum distance of 40 cm from the walls for best performance.**
- The machine must not be connected close to direct or indirect heat sources such as ovens, stoves, or radiators.
- The chiller is suitable for installation in ambient environments or coolroom if appropriately sized to account for additional heat load.
- Position the equipment to protect from water ingress or damage to sensitive components.

3.2 Filling

- The machine should be carefully filled through the fill port with 25 litres of Bracton “Long-life glycol” to maximise coolant life and minimise scale and bacterial growth.
- The coolant should be topped up with clean water to below the final evaporator coil and the percentage should be confirmed to be 25 - 32% (Brix reading 20 - 23)
- Turn on the pump and commission the system and top up the glycol coolant to just cover the top evaporator coil.

3.3 Electrical Connection

- Verify that the electrical requirements are in accordance with the data shown on the identification plate.
- The electrical circuit must be properly grounded and connected through an appropriate differential switch.
- Plug the machine to the mains using the 10A plug supplied.

4.0 THERMOSTAT CONTROLLER

This unit utilises the Carel PJ Easy thermostat controller.

4.1 Parameter Settings

The thermostat comes factory-programmed with the following configurations:

- **Set point (st):** -2.5°C.
- **Temperature differential (rd):** 1.5°C.
- **High temperature alarm (AH):** 8.0°C.
- **Low temperature alarm (AL):** -8.0°C.

4.2 Alarms and Troubleshooting

If the controller detects a fault, it will display an alarm code on the LED screen:

Alarm Code	**Description**	**Reset Type**
E0	Probe 1 error = control	Automatic
E1	Probe 2 error = defrost	Automatic
E2	Probe 3 error = condenser/product	Automatic
LO	Low temperature alarm	Automatic
HI	High temperature alarm	Automatic
cht	Dirty condenser pre-alarm	Automatic
CHt	Dirty condenser alarm	Manual
EE	Unit parameter error	Reset not possible

5.0 MAINTENANCE

To always ensure good machine operation, routine maintenance procedures are required. Always disconnect the machine from the electricity supply before doing any work on it, to prevent damage and health hazards.

5.1 Cleaning the Condenser

The build-up of dust and grease on the cooling condenser may cause overheating, and this in turn could damage the compressor beyond repair.

- Disconnect the machine from the electricity supply.
- Remove the panel to access the condenser.
- Use a soft brush, a vacuum cleaner or low-pressure compressed air to clean the condenser fins. Do not use high pressure as this may deform the condenser fins.
- Remove any dust from the cooling and electrical components.
- Refit the panel and reconnect the machine to the electricity supply.

5.2 Glycol

Glycol should regularly be checked every 3 months for a 30% concentration to prevent freezing at operating temperatures.