



Product Manual

BAR100HZ Hydrocarbon Shelf Mounted Beer Coolers

Part Number 3B6642 Issue OR (21/03/16)

Introduction

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Introduction

The BAR100HZ is an ice bath cooler designed to provide chilled product for vending applications. The system uses a bath water recirculation system and python to generate and maintain optimum drink temperature at the point of dispense.

The BAR100HZ hydrocarbon cooler is designed for effective performance and improved energy efficiency. It is ideal for a range of applications, its compact size ideally suited to under counter installations.

Safety

The BAR1 Hydrocarbon units use R290 (Care 40, Propane) refrigerant which is potentially flammable. Below are some safety points which the end user must adopt to mitigate the risk of flammable conditions arising.

- Service must only be carried out by a suitably qualified refrigeration engineer.
- The unit should be isolated from the electricity supply before removal of the covers.
- Do not damage the refrigeration circuit.
- Ventilation openings must be clear of obstructions.
- There must be a gap of at least 100mm between the appliance and a wall or other restriction.
- Where electrical components are replaced, the new component must be of the same type.
- Operate unit within (ambient) operating temperatures; 10°C to 32°C.

Specification and Installation

Specification

Dimensions	360mm(W) 450mm(D) 280mm(H)	Compressor	Cubigel ND30MBD
Dry Weight	18kg	This product contains Propane Refrigerant gas with a GWP of 3 in an hermetically sealed system	
Wet Weight	23kg		
Supply	240Vac/50Hz	Refrigerant	R290 45g
Rated Input	300W	Climatic Class	N
Rated Current	2A	Fuse Rating	5A
IP Rating	N/A		

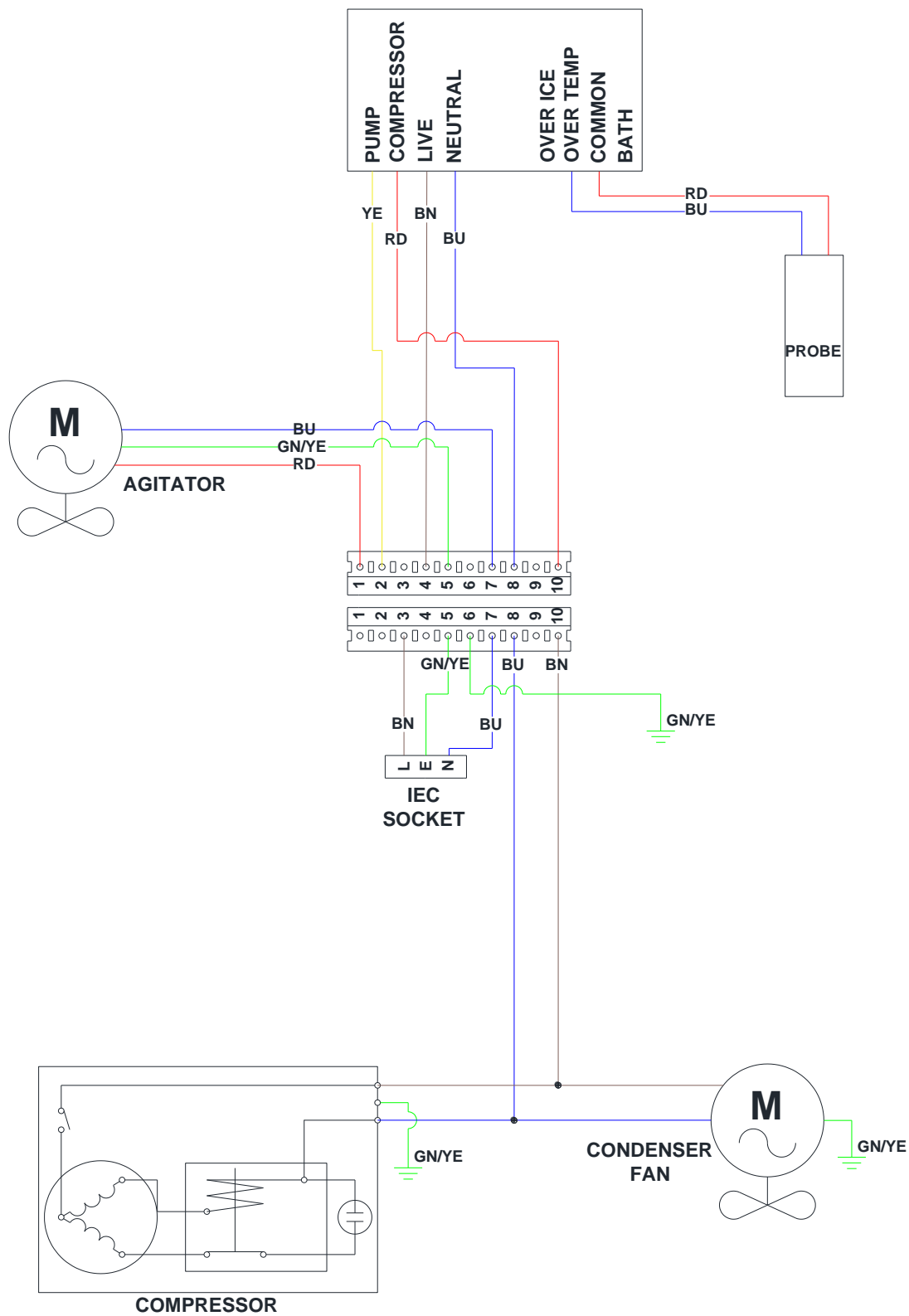
Installation

The unit must be installed by a competent person, on a firm level surface capable of supporting the weight of the machine when the bath is filled, and all connections made.

- Ensure that the ventilation openings are not blocked to allow free movement of air through the unit. Inadequate ventilation will shorten the life of the fridge system.
- The water bath requires filling prior to switch on. Remove the overflow cap and fill bath with water until it comes out of the overflow. Discontinue filling and replace the overflow cap.
- Connect the dispense python to the 'Recirculation' Flow and Return.
- Connect the product to the stainless steel product coil.
- Connect the unit to mains power.
- Turn on the mains voltage supply. After a short delay the compressor fans will activate.
- The unit will now begin to reduce the bath water temperature. Once the water is at the correct temperature an ice bank will begin to form. As the ice begins to form, a small amount of water will be displaced.

Schematic

BAR100HZ Wiring Schematic



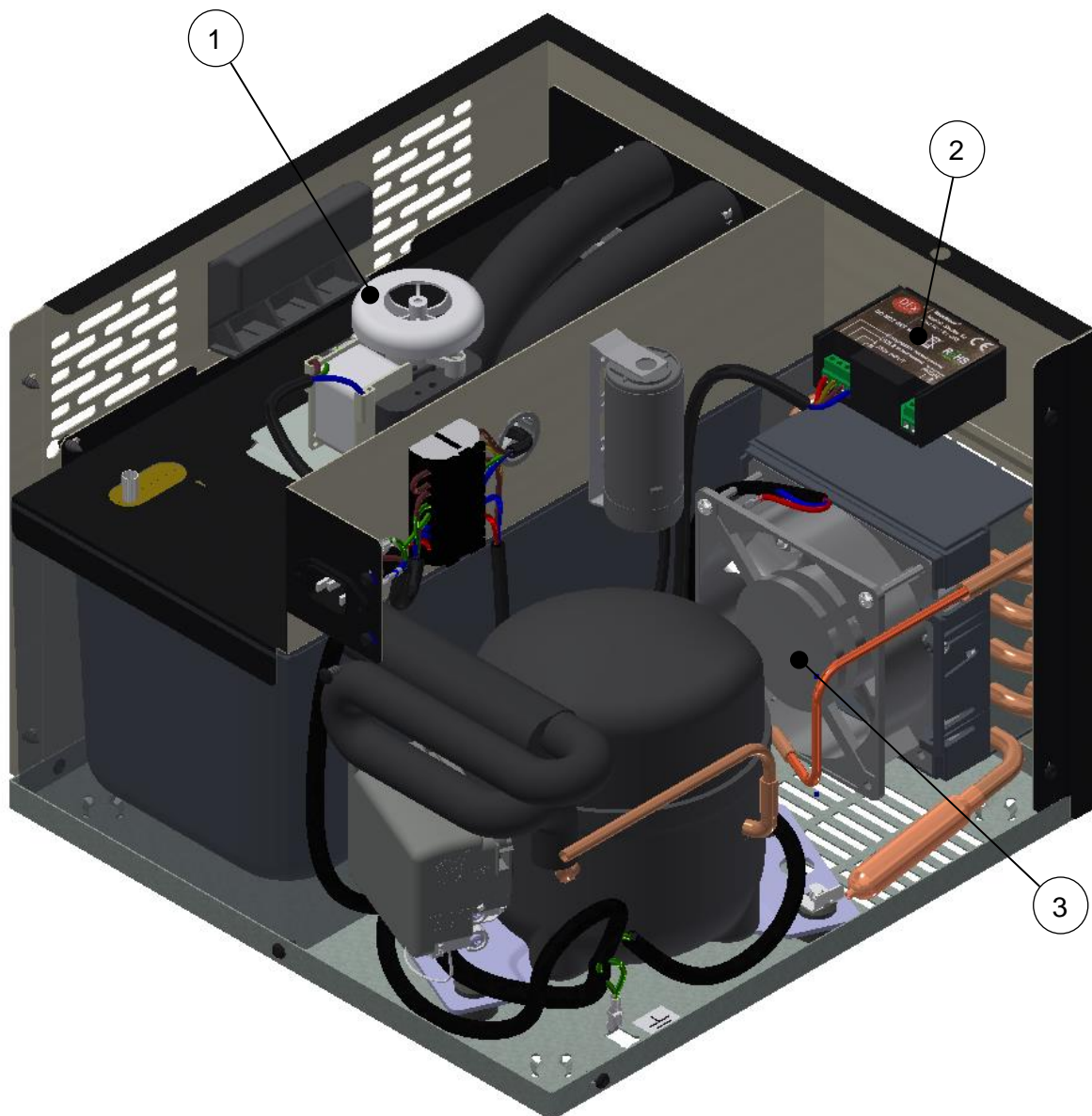
Fault Finding

Prior to fault finding, please ensure all connections (python, product, electrical) to the chiller are sound. Also ensure that the chiller has had adequate time to build ice in the ice bath.

Symptom	Possible Cause	Corrective Action
Product not Dispensing	Ice bath frozen up.	Check ice probe for possible short-circuit to ground.
		Check for ice bath contamination, melt ice, drain bath and refill. If contaminated, identify & rectify source of contamination
Warm Drinks	Insufficient cooling air flow through the fridge.	Check that the condenser is not blocked.
		Check supply to cooling fans.
		If supply present replace fans.
Compressor not running	Compressor not running	Check iLEAF Controller is not in Stby (Standby Mode). If it is, turn the unit on.
		Check iLEAF Controller is not in EnS (Energy Saving Mode). If it is, override and reset as per iLEAF product manual instructions (attached).
		Check iLEAF Controller does not display 'Hi t'. If it does, allow the unit to cool and restart. If the error occurs the temperature set point may need adjusting.
Fridge failure	Fridge failure	If compressor & fan are running and there is no cooling, return for repair.

Replacement Parts – BAR100

Item No	Description	Part No
1	Totton pump SPC8/2	3B4333
2	DFx Control DFx Probe	3B6574 3B6575
3	Fan	1B5514



Removal, Transportation and Disposal

Important: Before removal from the installation, ensure all electrical, product and gas connections are disconnected.

Disposal of Scrap Units

It is illegal to simply scrap a refrigeration unit. Before a unit can be scrapped it must first have the gas removed by a specialist using specialist equipment. Please contact Booth Dispensers Ltd., who will be happy to provide a quotation for disposal.

Transportation

Important: This unit must be transported in an upright position

As with all refrigeration systems, irreparable damage can be caused by laying the unit on its side or even transporting upside down. Where the unit is transported by a carrier, the carton should always be marked in a conspicuous manner, the correct upright position in which it must be handled.

If a unit has been transported incorrectly it should be placed in the correct upright position and left for 24 hours before attempting to run the system.

Failure to observe the above precautions could seriously damage the system, and would void any warranty.



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INSTRUCTIONS

iLEAF EDF3T 91-172EC



Compressor Running



Warning: Temperature is too warm (display flashing) / compressor over temp warning.



Service Required/ In settings mode



Pump Running

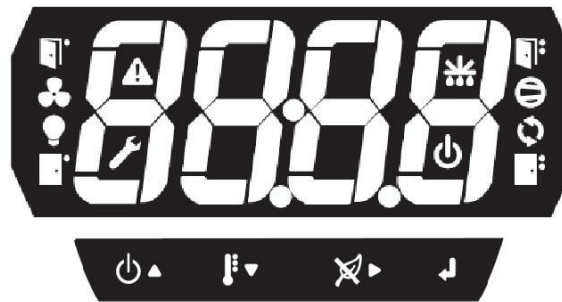
PFL PFH Probe Fault Short or Open Circuit

Displaying temperatures

Press the to change temperature being displayed. First to be displayed is the over ice probe temperature BNOP, (not fitted) press again to display the actual condenser temperature C60.0

Compressor over temperature protection

If the condenser probe overheats the controller will shutdown the compressor and display HIT to denote the over temperature. The set point can be adjusted in the menu from 50 Deg to 99 Deg with a 15 Degree Hysteresis. After 5 cycles of over temperature the warning symbol will appear on the screen, this can only be reset with a power down and restart. A service call may be required.



Electrical

Input Voltage: 230V ac +/-10%
Holding Current: 16A holding, 80A surge (resistive) Pump
Current: 1A holding, 40A Surge
Connections: Live, Neutral, Compressor Live, Pump Live

Mechanical

Dimensions: H34 x W76 x D88 with cover (mm) Cut
Out: W71 x H29 (mm)

Environmental

Front IP65, Rear IP53 using rear cover
Operating Temperature: 0° to 50°C Storage
Temperature: -20° to 70°C
Relative Humidity: 0% to 90% non-condensing

Material

Parts: Polycarbonate body and lens, clips POM
Gasket: Neoprene Rubber

Design & Manufacture

Designed & Manufactured to ISO9001:2000 CE
Compliant
RoHS Compliant
MTBF 5 years

Probe Accuracy

Calibrated probe +/-0.2 Deg C @ 0 Deg C. Un-calibrated
probe +/-0.6 Deg C @ 25 Deg C

Configuration of settings

Press for 3 seconds and release to configure
Set point: T-2.0 press / to adjust, to proceed.
Hysteresis: H 1.5
Diagnostics: D 0.0 display max and min temperatures

Clock: SETC Press to adjust the real time clock, to proceed, the digit that can be adjusted will flash, press and to adjust and to move to the next digit.
Date of week: DAYS Press to adjust the days
of week Date: DATE Press to adjust the date
Year: YEAR Press to adjust the year
Daylight Saving : LITE Press to allow turn on or off the DLS
Trading Hours: HOUR Press to adjust the trading hours.
See separate note on changing this hours. To copy trading
hours from Sunday to the other 6 days press and
together, COPY will be
displayed. Press to confirm, DONE will be displayed.
ERR will be displayed if any of the times have not been
entered correctly.

Python Refresh: PYTN Press to change the occurrence of
the python refresh during non-trading period set to either
OFF, 15, 30 or 60 minutes.

Out of hours max temp: SETT Press to adjust
maximum bath temperature, in the non-trading period.
Reset: RST Press to reset the control to its default settings.
Run Compressor RVNC Press to run for 60 seconds, or
press for 2s to end and display temp once again.
The i-Leaf controller will automatically revert to displaying the
current temperature after 30 seconds.

Compressor over temperature set point: HIT Press for 3
seconds and release to configure. Press to adjust the set
point and press / to adjust, to proceed.
Any changes to settings that have been made will be lost.
Changing the Preset value
Power up the unit pressing the button SEL will be
displayed, release button, P1 will be displayed. Use and
the default pre-set program from P1 to P5. Press to select
and save.

iLEAF EDF3T 91-172EC

How iLeaf EDF works

During trading hours, i-Leaf EDF controls the cooler as a standard controller would normally do. User defined set-point temperature and hysteresis enables the cooler to function effectively in all environments. Managing the cooler precisely using advanced control electronics and a calibrated temperature probe, iLeaf EDF maintains the temperature of the product efficiently and accurately.

Out of trading hours, i-Leaf EDF enters Energy Saving Mode or 'ENS' and maintains the temperature of the product at a maximum out of hours temperature, reducing significantly the amount of energy being used. Then, using advanced control algorithms, i-Leaf EDF 'learns' when to lower the temperature of the product again ready for opening time. This means that by opening time the product is ready to be served. Additionally, during the non-trading hours, the unique python refresh function allows the coolant within the python to be regularly replenished, maintaining product quality.

THE SETTING OF THE TRADING HOURS IS ESSENTIAL AND MUST BE DONE WHEN THE COOLER IS FIRST INSTALLED.

Symbols



i-Leaf EDF uses trading hours to optimise energy savings. During trading hours, the i-Leaf EDF will ensure that the product is kept within the range of the set-point temperature and the hysteresis. Pre-programmed trading hours will already have been set depending on the preset selected (see presets), however, for i-Leaf EDF controller to work effectively, it may be necessary to program in the actual trading hours.

i-Leaf EDF allows different trading hours to be set for each day of the week, and two trading hours period per day. For example, the trading hours on a Monday could be set between 8:00 – 12:00 and 14:30 – 22:00. If the establishment opens between 11:00 on a Tuesday but closes at 02:00 on a Wednesday morning (i.e. it is open until 2 am) it is necessary to program the i-Leaf EDF as follows, set the trading hours to be between 11:00 – 24:00 on a Tuesday and 00:00 – 02:00 on a Wednesday.

Programming i-Leaf EDF like this will ensure uninterrupted power to the cooler between the hours of 11:00 on a Tuesday and 02:00 on a Wednesday. Do not program as opens at 11.00, and closing at 2.00 in the same day period as this will cause an error to occur.

Once programmed, i-Leaf EDF will manage the temperature of the ice bath out of hours so that the product is brought back down to within the trading hour's temperature range, ready for opening time.

Setting Opening and Closing Times:

When HOUR is displayed on the control trading hours can be programmed according to day, starting with Sunday, note the name of the day precedes the trading times.

Press the button to enter the 'Trading Hours Set' mode. This will display the day and will start with SUN. Press the button again for the first trading period start time denoted by the symbol flashing. To change this time, press and to adjust until the required time is shown.

Press the button to display the first trading period end time denoted by the symbol flashing, adjust this value to the required end period and press the button again to display the second trading period that day denoted by the symbol and adjust as required, finally press the button again to display the second

trading period end time denoted by the symbol flashing Repeat this sequence for the remaining days or use the copy function, see configuration setting for details. In some cases not all opening and closing times will have values (for example, when an establishment is only open between 11:00 and 17:00 and does not open for any other periods of the day). Where this is the case, the second opening and closing times must be set to OFF. This should be done when changing the time by pressing the

button until OFF is displayed on the screen.

Opening and closing hours should be set in chronological order. The opening time must always be earlier than the closing time, otherwise the controller will display 'Err'. Note: Trading hours can be programmed to the nearest 10 minutes.

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Bath Refresh

When no trading hours are set for a particular day i-Leaf EDF will perform a full compressor cycle during the day to ensure temperature are not elevated to uncontrollable levels.

Connection details (temperature probe share common pin)



Standby

Press for 2 sec to place in standby for 2 hours the standby symbol will be displayed on the screen during this period and the words STBY

Override

When the controller is in energy saving mode ENS is displayed, the product temperature is allowed to rise to the maximum out of hours temperature. An override function exists, should the product need to be maintained for example, if the establishment remains open out of normal trading hours. To turn the override function on, press the

button, when the controller is in energy saving mode. The controller will now run to the end of the next trading period.



WARNING: ISOLATE THE COOLER UNIT FROM ALL POWER SUPPLIES BEFORE CARRYING OUT INSTALLATION. REMOVE THE PLUG FROM THE WALL.

Protect the i-Leaf controller from adverse conditions. Do not drop the i-Leaf controller.

Do not expose the i-Leaf controller to solvents.

Clean the exterior of the i-Leaf controller by removing dust and dirt with a dry cloth.

Do not use abrasives or chemical cleaning agents to clean the i-Leaf controller.

Do not overload the pump output for larger pumps use an external mains rated coil relay to control the pump remotely.