Multiplex

icecore eco-friendly

ICECORE™ 15, ICECORE™ 30

Post Mix Cooler Carbonators
Original Instructions

USER, INSTALLATION & MAINTENANCE MANUAL

MODEL RANGE COVERED:	ICECORE™ 15 INTEGRAL & WATER COOLED	R290 REFRIGERANT
	ICECORE™ 30 INTEGRAL & WATER COOLED	R290 REFRIGERANT
	ICECORE™ 15 INTEGRAL	R744 REFRIGERANT
	ICECORE™ 30 INTEGRAL	R744 REFRIGERANT

MANUAL PART No.	PI57621
MANUAL REVISION No.	2
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Manitowoc

Dear Customer

Please read the operating instructions carefully before operating this unit.

- Please keep these operating instructions safe and with the unit.
- Examine the equipment immediately after supply for transport damage.
- Contact the manufacturer and/or carrier if necessary. Damage, which arises by inappropriate treatment or operation, is not subject to guarantee \ warranty.
- Manitowoc Beverage Systems are constantly developing and improving their products according to their policies. Manitowoc Beverage Systems therefore reserve the right to modify and to improve the products described in this documentation without prior announcement. However, any significant modification will be announced in advance.
- Reproduction of any kind without previously written permission of Manitowoc Beverage Systems is prohibited.

Explanation of the symbols (pictograms)

 Requirement sign: **IMPORTANT PLEASE READ**

 Information sign: **INFORMATION**

 Warning: **NOTE!**

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GENERAL DESCRIPTION, FUNCTION AND INTENDED USE OF EQUIPMENT.

This equipment is a hermetically sealed refrigeration unit in the form of a post mix remote soft drinks cooler-carbonator.

This equipment is designed to be installed in cellars, ventilated storerooms and areas generally away from the point of dispense. It is designed to carbonate, recirculate and chill mains potable water and chill soft drinks syrup to provide a quality draught soft drink at the point of dispense.

This equipment should be installed in the system between the bulk storage area and the drinks dispense font(s).

This equipment provides cooling to the water and up to 8 syrup products and up to 2 beer \ premix products dependant on the model by means of cooling coils within a water filled tank, in which an ice bank will form. This ice bank size is controlled by a resistive probe connected to the main control board.

This equipment has an integral carbonator, which carbonates mains potable water using CO2 (Carbon Dioxide gas). The carbonated water is recirculated through cooling coils from the carbonator via an internal recirculation pump through a python to a dispense font(s).

This equipment uses hydrocarbon refrigerant (R290), or CO2 refrigerant (R744) dependent on the model.

There are NO other recommended uses for this equipment.

INCORRECT USAGE OF EQUIPMENT

This equipment should be used only in accordance with the instructions oppposite. It should not be used for any other purpose.

Do not use the product coils to chill other products than those stated opposite.

Do not operate the equipment in a wet environment. Any spillage must be wiped dry immediately.

The unit should not be installed in small enclosed spaces such as cupboards or pantries, where fresh air flow is restricted.

Keep the unit free from excessive heat and cold. Minimum and maximum ambient temperatures are:

Minimum:	12°C
Maximum:	40°C

Misuse or use of the equipment for any other purpose than those identified above will invalidate any warranty, and may constitute a danger to yourself and others.

SAFETY, WARNING AND SAFE HANDLING

Applicable to R290 units only

***WARNING!* - THIS EQUIPMENT IS CHARGED WITH R-290 REFRIGERANT (PROPANE).**

ONLY QUALIFIED SERVICE ENGINEERS HOLDING A VALID HANDLING CERTIFICATE FOR CARE 40 (PROPANE) CAN WORK ON THE REFRIGERATION SYSTEM OF THIS EQUIPMENT. PLEASE READ THE INFORMATION BELOW BEFORE ANY WORK IS CARRIED OUT.

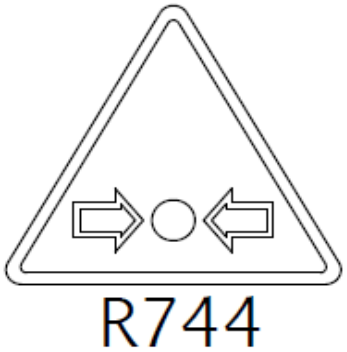
Referigeration R290 (Care 40, Propane)
Note: Only engineers who have been trained in the safe handling and use of hydrocarbon refrigerants should work on this system.

- Work on this system in a well ventilated area or outside.
- Use a local leak detector to indicate if there is hydrocarbon in the air around the system (place it at a low level as HC are heavier than air)
- Ensure there are no sources of ignition (flames or sparking electrical components) within 3m (10 feet) of your work area.
- If replacing components use like-for-like replacements.
- Take great care when brazing to ensure all refrigerant has been removed from the system.
- Use only refrigerant grade propane (R290 or Care 40).

Please be advised that R290 refrigerant should be reclaimed into a suitable recovery cylinder and disposed of via your refrigerant supplier.

– WARNING: Keep all ventilation openings in the appliance enclosure or in the structure the unit is housed in clear of obstruction.
– WARNING: Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- WARNING: Do not damage the refrigerant circuit.
- WARNING: Do not dispose of unit without first removing all R290 refrigerant. This process can only be completed by an engineer qualified to handle hydrocarbon refrigerants.

Applicable to R744 units only



WARNING

SYSTEM CONTAINS REFRIGERANT R744 (CO_2) UNDER HIGH PRESSURE. DO NOT TAMPER WITH THE SYSTEM. IT MUST BE SERVICED BY QUALIFIED PERSONS ONLY

- WARNING: Do not dispose of unit without first de-gassing all R744 refrigerant. **This process can only be completed by an engineer qualified to handle CO_2 refrigerants**.

⚠ WARNING

SAFETY INSTRUCTIONS

THE UNITS COMPLY WITH THE CURRENT STANDARDS AND REGULATIONS OF THE EU AND REPRESENT THE CURRENT STANDARD OF TECHNOLOGY.

SAFETY DURING INSTALLATION, OPERATION AND DECOMMISSIONING CAN ONLY BE ENSURED BY FOLLOWING THE INSTRUCTIONS IN THIS USER MANUAL.

ANY WORK OR MAINTENANCE MUST BE CONDUCTED IN ACCORDANCE WITH THE FOLLOWING SAFETY INSTRUCTIONS. TECHNICAL CHANGES TO SAFETY OR ELECTRICAL DEVICES, OR THE MAINS LEAD ARE STRICTLY FORBIDDEN.

INSTALLATION, MAINTENANCE AND REPAIR ON THIS EQUIPMENT MUST BE CARRIED OUT BY SUITABLY TRAINED PERSONNEL.
ONLY USE GENUINE SPARE PARTS.
NON-COMPLIANCE WITH THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.

MANITOWOC BEVERAGE SYSTEMS AND ITS LEGAL ENTITIES ENSURE NO LIABILITY FOR DAMAGE CAUSED BY THE USE OF NON GENUINE SPARE PARTS OR BY IMPROPER TREATMENT OF THE EQUIPMENT.

⚠ WARNING

SYSTEM PRESSURE

THE CARBONATOR IS AN INTEGRAL PART OF THE UNIT AND IT SHOULD BE NOTED THE CARBONATION PROCESS INVOLVES THE USE OF HIGH PRESSURES AND POTENTIALLY NOXIOUS GAS AND AS SUCH, DUE CARE SHOULD BE TAKEN WHEN HANDLING, INSTALLING AND MAINTAINING THE EQUIPMENT WITH PARTICULAR REGARD TO THESE HAZARDS.

⚠ WARNING

CARBON DIOXIDE

CARBON DIOXIDE LEAKS ARE POTENTIALLY FATAL IF CONCENTRATIONS RISE TO DANGEROUS LEVELS. IN VIEW OF THIS, THE INSTALLATION SHOULD BE REGULARLY CHECKED FOR INTEGRITY AND THE GENERAL AREA OF INSTALLATION PROPERLY VENTILATED AT ALL TIMES.

⚠ WARNING

WAYS THE EQUIPMENT SHOULD BE USED

THE UNITS ARE INTENDED FOR USE AS A COOLING AND RECIRCULATION UNIT FOR SYRUPS AND CARBONATED WATER TO PROVIDE THE CORRECT CONDITIONING FOR SERVING DRAUGHT SOFT DRINKS AND AS SUCH SHOULD ONLY BE USED FOR THAT PURPOSE. THERE ARE **NO** OTHER RECOMMENDED USES FOR THIS EQUIPMENT

⚠ WARNING

ROTATING PARTS

SOME COMPONENTS WILL ROTATE FOR A SHORT PERIOD AFTER THE POWER TO THE UNIT HAS BEEN SWITCHED OFF.
THESE COMPONENTS SHOULD BE AVOIDED UNTIL STATIONARY.

⚠ WARNING

DANGER BY LOW TEMPERATURES

THE EVAPORATION TEMPERATURE IN THE HERMETIC CIRCUIT CAN TYPICALLY BE -10°C. THIS CAN BE A POTENTIAL SOURCE OF FREEZE BURNS TO THE SKIN DURING CLEANING AND MAINTENANCE. ADEQUATE PPE SHOULD BE WORN AT ALL TIMES.

⚠ WARNING

WARNING: THIS EQUIPMENT MUST BE EARTHED

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

GREEN AND YELLOW.....EARTH
BLUE .....NEUTRAL
BROWN.....LIVE

AS THE COLOURS OF THE WIRES IN THE MAINS LEAD OF THIS APPLIANCE MAY NOT CORRESPOND WITH THE COLOURED MARKINGS IDENTIFYING THE TERMINALS IN THE PLUG TO BE FITTED, PROCEED AS FOLLOWS:

A. THE WIRE WHICH IS COLOURED GREEN AND YELLOW MUST BE CONNECTED TO THE TERMINAL IN THE PLUG THAT IS MARKED WITH THE LETTER, E™ OR BY THE EARTH SYMBOL ⏚ COLOURED GREEN OR GREEN AND YELLOW.
B. THE WIRE WHICH IS COLOURED BLUE **MUST** BE CONNECTED TO THE TERMINAL IN THE PLUG THAT IS MARKED WITH THE LETTER, N™
C. THE WIRE WHICH IS COLOURED BROWN MUST BE CONNECTED TO THE TERMINAL IN THE PLUG THAT IS MARKED WITH THE LETTER, L™

ALL MAINS VOLTAGE COMPONENTS ARE HAZARDOUS. ANY ELECTRICAL WORK MUST BE CARRIED OUT BY A QUALIFIED COMPETENT PERSON.

⚠ WARNING

HEAT

THE COMPRESSOR, CONDENSER, HIGH PRESSURE REFRIGERATION TUBES AND MOTORS WILL BECOME HOT DURING OPERATION. PLEASE AVOID ANY CONTACT TO THESE PARTS DURING AND AFTER OPERATION UNTIL THEY HAVE COOLED DOWN.

⚠ WARNING

POWER ISOLATION METHOD

ALL UNITS ARE FITTED WITH A STANDARD EURO PLUG TO IEC83:1985 OR A UK PLUG WITH A 10 AMP FUSE.

BEFORE COMMENCING ANY WORK/ MAINTENANCE:

A. SWITCH OFF THE SOCKET THAT THE PLUG IS INSTALLED INTO.
B. REMOVE THE PLUG FROM THE SOCKET.
C. IN THE CASE OF WATER COOLED UNITS, THE CONNECTING PLUG SHOULD BE REMOVED FROM THE GLYCOL MODULE

⚠ WARNING

LEAKAGES

MANITOWOC BEVERAGE SYSTEMS HAS DONE A COMPLETE QUALITY AND FUNCTION CHECK ON EACH UNIT. NEVERTHELESS, LEAKAGES ON WATER LINES DURING OPERATION CAN NOT BE EXCLUDED TOTALLY.

TO AVOID EXPENSIVE CONSEQUENTIAL DAMAGES WE PROPOSE THAT THE FOLLOWING STEPS ARE FOLLOWED:

A. TAKE CARE THAT ANY WATER FROM THE WATER BATH OVERFLOW GETS GUIDED INTO A PROPER DRAINAGE SYSTEM.
B. TAKE CARE THAT ALL WATER AND SYRUP LINES TO THE UNIT ARE TIGHT BEFORE OPERATING THE SYSTEM FOR THE FIRST TIME AND THAT DAMAGE THROUGH LONGER PERIODS OF NON-OPERATION CAN BE EXCLUDED (I.E. BY CLOSING THE MAINS WATER FEED).

⚠ WARNING

SHARP EDGES

MANITOWOC BEVERAGE SYSTEMS MAKE EVERY EFFORT TO REMOVE ANY SHARP EDGES.
HOWEVER THE CORRECT PPE SHOULD BE USED WHEN HANDLING THIS EQUIPMENT

i INFORMATION

CORRECT SAFE HANDLING

ICECORE 15 & 30

PLEASE REFER TO MANUAL HANDLING GUIDELINES WHEN LIFTING THIS EQUIPMENT

i INFORMATION

UNIT WEIGHT

ICECORE 15	77KG
ICECORE 30	94KG

⚠ WARNING ONLY LIFT THIS EQUIPMENT IN ITS DRY STATE !

i INFORMATION

MAX./ MIN. AMBIENT TEMPERATURES

COOLER UNIT:

MINIMUM +12°C	MAXIMUM +40°C

HEAT DUMP UNIT:

MINIMUM -5°C	MAXIMUM +43°C

MAX./MIN. WATER PRESSURE (DYNAMIC)

MINIMUM	20PSI (1.4 BAR)
MAXIMUM	50PSI (3.4 BAR)

MAX./MIN. CO2 PRESSURES

MINIMUM	75PSI (5.1 BAR)
MAXIMUM	90PSI (6.1 BAR)

i INFORMATION

ADJUSTMENT/ MAINTENANCE REQUIREMENTS

IT IS NOT RECOMMENDED THAT THE END USER MAKES ANY ADJUSTMENTS OR CARRIES OUT ANY MAINTENANCE OTHER THAN:

CHECK THE MAINS LEAD AND PLUG VISUALLY FOR CONDITION.

CHECK THE UNIT AND ITS PIPE WORK FOR VISUAL EVIDENCE OF LEAKS, INCLUDING THE HEAT DUMP, IF APPLICABLE.

CHECK THAT THE CONDENSER GRILL VENTS ARE NOT CHOKED OR OBSCURED, INCLUDING THE HEAT DUMP IF APPLICABLE.

IF THERE IS ANY SPILLAGE OF LIQUID ONTO THE UNIT, ISOLATE THE POWER SUPPLY BEFORE CLEANING UP.

MAKE ANY NECESSARY ADJUSTMENTS AS RECOMMENDED BY THE SYRUP SUPPLIER.

NOTE: THERE ARE NO USER SERVICE PARTS

⚠ WARNING

BEFORE ANY ATTEMPT TO CARRY OUT MAINTENANCE, OR RECTIFY A FAULT CONDITION, YOU MUST ISOLATE THE UNIT FROM THE MAINS, I.E. SWITCH OFF THE APPLIANCE THEN REMOVE THE PLUG

⚠ WARNING

THERE ARE NO END USER SERVICEABLE PARTS.
ANY FAULT OR PROBLEM WITH THE EQUIPMENT MUST ONLY BE RECTIFIED BY A QUALIFIED SERVICE ENGINEER.

⚠ WARNING

THIS EQUIPMENT SHOULD BE FITTED WITH A CORRECTLY FUSED AND WIRED 13 AMP PLUG FITTED WITH A 10AMP FUSE OR ALTERNATIVELY A STANDARD EURO PLUG.

⚠ WARNING

MISUSE OR USE OF THE EQUIPMENT FOR ANY OTHER PURPOSE THAN THOSE IDENTIFIED WILL INVALIDATE ANY WARRANTY AND MAY CONSTITUTE A DANGER TO YOURSELF AND OTHERS

⚠ WARNING

IT IS UNSAFE TO LIFT OR ATTEMP TO MOVE THE COOLER DURING CLEANING OR AT ANY OTHER TIME WHILE THE UNIT IS IN OPERATION.

⚠ WARNING

THIS UNIT IS UNSUITABLE FOR USE BY UNSUPERVISED CHILDREN, AGED OR INFIRM PERSONS.

IMPORTANT

THIS EQUIPMENT CAN CONTRIBUTE TO THE AMBIENT TEMPERATURE

CO2 CYLINDER INFORMATION

DANGEROUS

WARNING

1. **ALWAYS** CONNECT THE CO2 OR GAS CYLINDER TO A REDUCING VALVE.
2. **NEVER** TRY TO CONNECT CYLINDER DIRECTLY TO PRODUCT CONTAINER.
3. **NEVER** INTERCONNECT SOFT DRINKS, CO2 OR GAS CYLINDER EQUIPMENT WITH OTHER EQUIPMENT.
4. **ALWAYS** SECURE CYLINDER UPRIGHT WHILST IN USE.
5. **ALWAYS** KEEP CYLINDER AWAY FROM HEAT.
6. **NEVER** DROP OR THROW CYLINDERS.
7. **NEVER** TRY TO UNSCREW FITTINGS FROM CONTAINERS.
8. **ALWAYS** VENTILATE AREA AFTER CO2 LEAKAGE

THIS INFORMATION SHOULD BE DISPLAYED IN A POSITION ADJACENT TO THE CO2 SUPPLY CYLINDER AT ALL TIMES

METHODS OF CLEANING

NOTE: Persons performing cleaning/ sanitizing operations MUST be competent and fully trained in safe methods of use of cleaning/sanatizing agents and their applications.
Personal protective equipment should always be used.

Do not use a water or steam hose to clean the unit whilst still installed.

It is important that all the vents and grills are kept clear (including condenser grills where applicable) otherwise cooling performance decreases and the system overheats.

Regarding the cleaning and sanitising procedures please refer to national/EU regulations.
For the UK please follow the below mentioned procedure:

TWICE ANNUALLY: By a competent service/ maintenance engineer
Isolate the unit from the mains electricity supply.
Clean and sanitize the product coils in line with the syrup suppliers' instructions.

ANNUALLY: By a competent service/ maintenance engineer
Isolate the unit from the mains electricity supply.
Remove any extraneous debris from the unit or its casing preferably using a vacuum cleaner or brush.
Check the unit for electrical safety.

PREVENTION OF FREEZING/ACTION REQUIRED IF FREEZING OCCURS

It is recommended that the unit should not be sited in an area below 12°C.

In the unlikely event of freezing up occuring the following actions are recommended:

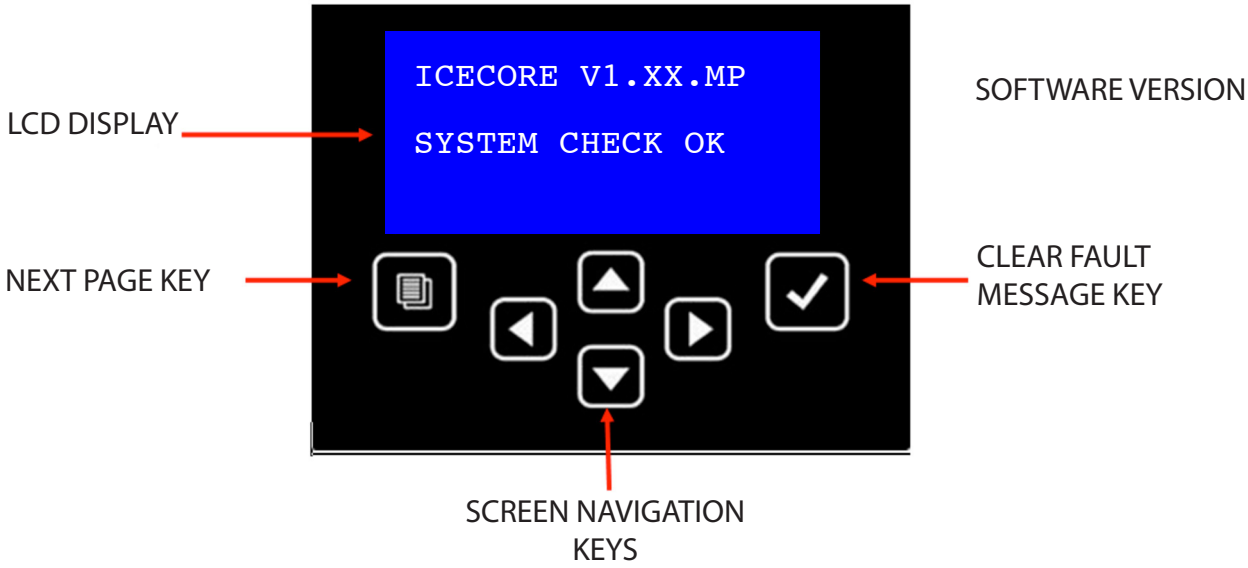
1. Isolate the unit from mains electricity supply.
2. Disconnect the heat dump power cable. (Water cooled units only)
3. Isolate product supply from unit.
4. Vent pressure lines by opening dispense tap.
5. Isolate from the heat dump (coolant lines) using service valve. (Water cooled only) Apply gentle warmth to the general area of the unit and its pipework.
6. Check for obvious leaks.
7. Turn water supply on whilst continually watching for leaks.
8. Reconnect product supply.
9. Reconnect mains electricity supply and heat dump supply if water cooled.
10. Observe unit running for a short period, watching out for leaks, strange noises or any other form of malfunction.
    If no problems are observed, then normal operation of the unit may be resumed.

SECTION 2
CONTROLS AND DISPLAY

INDEX

1. DISPLAY DIAGRAM
2. POWER UP
   - A) SET LANGUAGE
   - B) SET OUTPUTS SCREEN
3. HOME PAGE
4. TEMPERATURE DISPLAY SCREEN
5. STATUS PAGES 1 & 2
6. CHANGE PARAMETERS MENU, DEFAULT AND PROGRAMMABLE LIMITS TABLE.
7. SET OUTPUTS SCREEN
8. KEYPAD LOCKOUT FUNCTION
9. RESTORE FACTORY DEFAULTS
10. TABLE 2. ERROR MESSAGES DATA

1. DISPLAY DIAGRAM



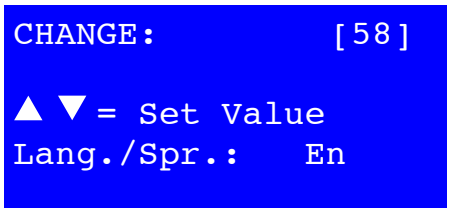
2. POWER UP: On power up one of two screens will display

A) LANGUAGE PARAMETER

When first powered up, if all outputs (pumps & compressor) have been set to OFF*, this will automatically default the display to the LANGUAGE PARAMETER screen. A 60 second countdown will start in the top right corner of the screen.

* The switched outputs will be set to OFF at the factory.

User Interaction:
Press ▲▼ to choose language. (Default English)



Once the language has been selected; depress the next page key once to move to the **SET OUTPUTS SCREEN (with suspended outputs and countdown).**

If no changes are made, after the 60 second countdown has elapsed, the screen will automatically go to the **SET OUTPUTS SCREEN (with suspended outputs and countdown).**

Note: The user is still able to make changes within this **LANGUAGE PARAMETER** screen even if the display has been set to locked. **(see: 8. Keypad Lockout function)**

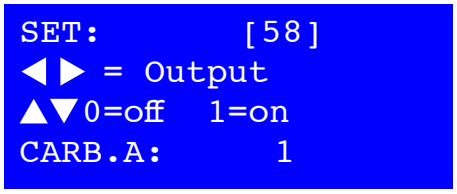
B) SET OUTPUTS SCREEN (with suspended outputs and countdown)

The purpose of this screen is to allow immediate access to switch the outputs in the table below "on/off". This is without needing to navigate through the menu and during which time the outputs are suspended to "off" to prevent pumps running dry etc.

When first powered up, if any outputs (pumps & compressor) are set to **ON**, this will automatically default to the **SET OUTPUTS SCREEN**. A 60 second countdown will start and the power to the outputs will be temporarily suspended.

CARB. A
RECIRC. A
COMPRESSOR. A

** Note: B components pack will only display in this menu if switched ON in the parameters menu



During the countdown the displayed status of the outputs (on/off) will not change even though power to the components is suspended.

If any changes commence (arrows pressed) the countdown will reset to 60 seconds.

Any outputs set to **On** will only become active once returned to the **HOME PAGE**.
The home page is reached by pressing the next page key once .

The display will automatically return to the **HOME PAGE** after the 60 second count down has elapsed.

Note: The user is still able to make changes within this **SET OUTPUTS** screen even if the display has been set to locked.
(see: 8. Keypad Lockout function)

User Interaction:

Press ◀ ▶ To choose which outputs to set
Press ▲▼ To switch on / off

3. HOME PAGE:

```
ICECORE V1.XX.MP

SYSTEM CHECKS OK
```

This page will display during normal running
The display will always return to the HOME PAGE, from any other pages, if left to time out.
Once back at the home page, any changes to outputs or parameter values, are saved.

The screens are accessed in the following order:

1. HOME PAGE
2. TEMPERATURE DISPLAY SCREEN
3. STATUS PAGE 1
4. STATUS PAGE 2
5. CHANGE PARAMETERS MENU (Password Protected)
6. SET OUTPUTS SCREEN

To scroll through the display screens depress the next page key 

Any system faults will show up on the third line of the **HOME PAGE**.
See table 2 - for Fault Diagnosis Table

```
ICECORE V1.XX.MP

Fridge High
√ TO CLEAR FAULT
```

Note: This line will only appear in the case of a fault that can be reset by the user.
See **table 2** for resettable faults

4. TEMPERATURE DISPLAY SCREEN:

Displays the actual temperature of:

1. Re-circulating soda water return
2. Refrigeration liquid line
3. Water bath

```
T.Recirc.A:   XX°C

T.Fridge:     XX°C
T.Bath:       XX°C
```

To scroll to the next page depress the next page key 
If left, after 3 minutes, the display will automatically return to the **HOME PAGE.**

5. STATUS PAGES 1 AND 2:

This displays the real time on/off status of the main components (0 = off , 1 = on). For example, if the Carbonator pump A is set to ON in the SET OUTPUTS SCREEN the STATUS PAGE will indicate if the control is calling for the pump to be powered (i.e. when the carbonator bowl is required to fill).

Note: The status pages cannot diagnose if components have failed, only if they are signaled to operate.

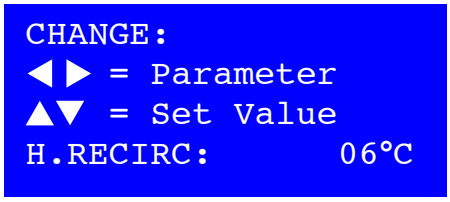
To scroll to the next page depress the next page key

If left, after 3 minutes, the display will automatically return to the **HOME PAGE**.

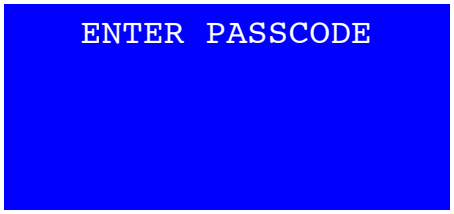
6. CHANGE PARAMETERS MENU: Pass code protected

This allows the user to view, change values, or re-set selected parameters:
See Table 1. for the list of parameters that can be changed.

The left/right arrow keys ◀▶ are used to scroll through the parameters and view the set point values.



When an attempt is made to change a set point, as soon as an up/down arrow key is pressed ▲▼ the user will be asked to
ENTER PASSCODE - PLEASE REFER TO DRINKS PROVIDER FOR INFORMATION.

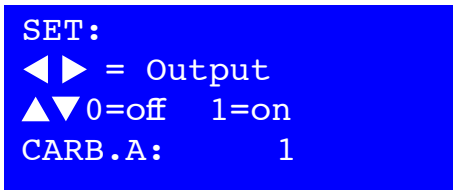


To scroll to the next page depress the next page key 
If left, after 3 minutes, the display will automatically return to the **HOME PAGE**.

TABLE 1

PARAMETER OPTIONS	DEFAULT VALUE	SET POINT ADJUSTMENT RANGE
H.RECIRC: 6°C	6°C	4°C to 10°C in 1°C steps
FRIDGE HI.: 60°C	60°C (R290)	60°C to 68°C in 1°C steps
CLEAN COND: 50°C	50°C (R290)	50°C up to "FRIDGE HIGH: parameter value (1°C steps)
HIGH BATH: 3°C	3°C	3°C to 10°C (1°C steps)
CARB. T. OUT: 180 seconds (Value sets both A & B Circuits)	180 seconds	90 seconds to 300 seconds (10 seconds steps)
R744 (Reset = 0): 0 Allows technicaians to reset R744 fridge over pressure cut out after fault has been recified. Note: R744 Fridge units only	0 (Ok/ Reset)	0 or 1 0 = Fridge pressue Ok/ Reset 1 = Fridge over pressure fault
Unit ID Number.: XXXX	XXXX	Only required to set channel for communication with other devices
Lang./Spr.: En (Optiona: English/French/German)	English	English, French, German

7. SET OUTPUTS SCREEN: (without countdown or suspended outputs)



This screen allows the components listed in the table below to be switched ON / OFF

CARB. A
RECIRC. A
COMPRESSOR. A

User Interaction:
Press ◀ ▶ To choose which outputs to set
Press ▲▼ To switch on / off

When this screen has been accessed by navigating the menu, and not automatically on **POWER UP**:
1. The outputs will not be suspended
2. There will not be a count down
3. Any ON/OFF status changes will be activated immediately

To scroll to the next page depress the next page key 
If left, after 3 minutes, the display will automatically return to the **HOME PAGE**.

8. KEYPAD LOCKOUT FUNCTION

The keypad can only be locked or unlocked from the home page.

To lock or unlock the display, hold down the **Left** navigation key for 5 seconds. 

When the keypad is set to locked, this disables the **Up / Down** navigation keys and will also remove the **Up / Down** arrows from the display.

All other keys will still function, allowing the user to:

- Scroll through the menu
- View parameters
- Reset faults

When the keypad is set to locked, the V on the top line of the display will change to **L**. (As below)

The status of the locked /unlocked function will be stored in the memory.
On power up the status will remain, as previously set, before powering down.

Note:
When the unit is first power up, the display automatically defaults to one of the following screens, dependant on the status of the outputs when the unit was powered down:

- LANGUAGE PARAMETER: If outputs are set to off
- SET OUTPUTS SCREEN with suspended outputs and countdown: If any output is set to on

In both of the above screens the Up/Down navigation keys will **not** be disabled even if the keypad status is set to locked.

After leaving these screens the keypad lock will resume, if previously set to on, before power down.

9. RESTORE FACTORY DEFAULTS

The factory default settings can be restored by holding down the clear fault message key  for 5 seconds.

10. Table 2. ERROR MESSAGES DATA

MESSAGE DISPLAYED	INPUT SENSOR	DEFAULT SET POINT	ADJUSTABLE RANGE AND INCREMENTS (WHERE APPLICABLE)	PCB ACTION(S)	SELF/ MANUAL RESET
HI.TEMP RECIRC A	TRCR A	+6°C AND ABOVE FOR MORE THAN 1 MINUTE	+4°C TO +10°C 1°C STEPS	FLASH MESSAGE AND TEMPERATURE	AUTO RESET
CLEAN CONDENSER	T REF	+50°C AND ABOVE FOR A PERIOD OF 20 MINUTES	+50°C TO "FRIDGE HIGH" SET-POINT 1°C STEPS	FLASH MESSAGE AND TEMPERATURE	AUTO RESET
FRIDGE HIGH (OVER TEMP)	T REF	+60°C AND ABOVE FOR A PERIOD OF 15 MINUTES	+60°C TO +68°C 1°C STEPS	FLASH MESSAGE AND TEMPERATURE SWITCH OFF COMPRESSOR **A**	MANUAL RESET
OVER ICE	T BATH	-1°C AND / OR BELOW FOR A PERIOD OF 30 MINUTES	NON ADJUSTABLE	FLASH MESSAGE SWITCH OFF COMPRESSOR (COMPRESSOR WILL AUTO RESET WHEN BATH TEMPERATURE RISES TO 0°C)	FAULT MESSAGE: MANUAL RESET COMPRESSOR AUTO RESET
HIGH BATH TEMP XX°C	T BATH	+3°C AND ABOVE FOR A PERIOD OF 10 MINUTES	+3°C TO +10°C 1°C STEPS	FLASH MESSAGE AND TEMPERATURE	AUTO RESET
LOW CO2 PRESSURE	LOW CO2 (230V)	SWITCH CONTACTS N/O OF CO2 PRESSURE HIGH (OK) (230V)	SWITCHING PRESSURE DEPENDANT ON PRESSURE. SWITCH SET POINT. TYP. 50 PSI CUT IN.	FLASH MESSAGE	AUTO RESET
LOW CO2 PRESSURE	CO2 PSEN (5V)	N/A	N/A	FLASH MESSAGE	AUTO RESET
LOW CO2 PRESSURE	CO2 SW (5V)	N/A	N/A	FLASH MESSAGE	AUTO RESET
LOW WATER PRESSURE	WATER (230V)	SWITCH CONTACTS N/O IF WATER PRES-SURE HIGH (OK) (230V)	SWITCHING PRESSURE DEPENDANT ON PRESSURE SWITCH SET POINT. CURRENTLY 7 PSI & 20.5 PSI.	FLASH MESSAGE SWITCH OFF: CARB PUMP A RECIRC PUMP A FLOOD SOLENOID BOOST SOLENOID	AUTO RESET
LOW WATER PRESSURE	H2O PSEN	N/A	N/A	AS ABOVE	AUTO RESET

MESSAGE DISPLAYED	INPUT SENSOR (SOME INPUTS HAVE MORE THAN ONE SENSOR OPTIONS)	DEFAULT SET POINT	ADJUSTABLE RANGE AND INCREMENTS (WHERE APPLICABLE)	PCB ACTION(S)	SELF/ MANUAL RESET
HIGH REFRIGERATION PRESS CALL TECHNICIAN NOTE: FAULT TO ALTERNATE BETWEEN THE TWO MESSAGES ON THE THIRD LINE	HP CO2 (230V)	SWITCH CONTACTS NORMALLY CLOSED IF FRIDGE PRESSURE OK, OPENS ON HIGH PRESSURE FAULT	SWITCHING PRESSURE DEPENDANT ON PRESSURE SWITCH SET POINT (140 BAR C/OUT 100 BAR C/IN)	FLASH MESSAGE SWITCH OFF ALL OUTPUTS: COMPRESSOR A CARB PUMP A RECIRC PUMP A FLOOD SOLENOID BOOST SOLENOID	MANUAL RESET (ONLY IN PARAMETERS) CALL TECHNICIAN
CARB.A TIME OUT	N/A TIME BASED	DEFAULT = 180 SEC.	60 TO 300 SEC (10 SEC. STEPS)	FLASH MESSAGE SWITCH OFF: BOOST SOLENOID FLOOD SOLENOID CARB PUMP A RECIRC PUMP A	MANUAL RESET
COMP. A TIME OUT	N/A TIME BASED	CONTINUOUS RUNNING FOR 18 HOURS	NON ADJUSTABLE	FLASH MESAGE SWITCH OFF: COMPRESSOR A	MANUAL RESET
CARB PUMP A CUTOUT	THCOA	SWITCH CONTACTS NORMALLY CLOSED IF OK OPEN ON FAULT CONDITION	NON ADJUSTABLE DEPENDANT ON THERMAL SW. SETTING	FLASH MESSAGE SWITCH OFF: CARB PUMP A RECIRC PUMP A CARB PUMP B RECIRC PUMP B FLOOD SOLENOID BOOST SOLENOID	MANUAL RESET

SECTION 3
INSTALLATION INSTRUCTIONS

NOTE: Ensure Section 3, Controls and Display, have been read before proceeding.
The unit should be installed and serviced by a suitably trained person. Units are supplied with a detachable mains lead, with a moulded IEC socket.

1. Unpack the unit from its transportation packaging and visually check for any signs of damage.

2. Site the unit in a convenient location in the cellar or room on a level surface where it is to be located and make sure that a mains electricity supply is within 2 meters and in an area allowing free circulation of air. The unit should always be fitted with the mains lead that is supplied with the unit.

3. Fuses for standard UK plug: (Not applicable to units fitted with Euro Lead)

   Icecore 15
   Integral & Water Cooled ----- 10 AMP FUSE
   Icecore 30
   Integral & Water Cooled ----- 10 AMP FUSE

4. If the unit is a water cooled version, the glycol module and heat dump must be installed and connected as detailed in the GLYCOL MODULE AND HEAT DUMP INSTALLATION INSTRUCTIONS before commissioning the complete system.

5. Connect the dispense head to the unit using suitable fittings and python, referring to the connection diagram on the lid of the cooler and those supplied with the dispense head.

6. Connect a mains water supply of 1.5 bar to 3.5 bar to the tube labelled 'WATER IN' (do not turn on yet).

7. Connect all products to the unit as labelled (do not connect to the syrup containers yet).

8. Connect CO2 gas supply of 5.1 bar to 6.1 bar to the cooler using the tube labelled 'CO2 IN' (do not turn on yet).

9. Fit the short length of 15mm black tubing supplied with the unit into the John Guest fitting labelled overflow located on the right hand side of the unit (looking from the front). Remove the red filler cap from the filler funnel located on the top of the unit. Using a funnel, carefully fill the water bath with fresh clean COLD water until water just trickles from the external overflow. (Approx. 44 litres for the Icecore 15 and 70 litres for the Icecore 30). Fit the John Guest cap to the overflow, pushing home to achieve a seal. Replace the red filler cap in the funnel. Any excess water will now be routed to an internal overflow and will be evaporated off by the refrigeration system.

10. Connect the unit to the mains electricity supply (do not turn on yet). The mains plug must be accessible.

11. Turn on the CO2 supply.
NOTE: Check for audible leaks and rectify before proceeding

12. Turn on the mains water supply and check for obvious leaks and rectify before proceeding any further.
NOTE: Before proceeding, please read the instructions below on how the LCD interface and control operates (Section 3).

13. Switch on the unit at the mains power supply and switch on the compressor via the LCD keypad to allow the ice bank to build. Initially, ensure that the soda recirculation pump and carbonator pump are switched off.
NOTE: If the unit is a water cooled version, ensure that the glycol lines prime correctly and that the glycol module is topped up to the correct level.

Refer to **HEAT DUMP - GENERAL GUIDELINES & GLYCOL MODULE** installation instructions.

14. Switch on the carbonator pump via the LCD keypad and wait for the carbonator to fill.
NOTE: It is best practise to allow the cooler to build ice to the top coil of the evaporator to a thickness of 5mm before switching the recirculation pump on. This avoids excessive ice bank build times

15. Switch on the soda re-circulation pump via the LCD keypad. The soda recirculation pump will pump the soda water from the carbonator bowl around the soda circuit whilst pushing any gas in the lines back to the carbonator bowl. The carbonator bowl will automatically refill as the recirculation pump draws soda from the bowl. As the gas is returned to the carbonator bowl any excess pressure is automatically vented from the carbonator bowl vent valve.

15. (Cont.) The excess pressure is audible when venting from the carbonator bowl. When the sound of the venting has ceased, soda will pour at the point of dispense without gas pockets.

NOTE: Drawing soda water from the dispense head to purge any gas pockets is not a requirement.

NOTE: On Eco Pac units fitted with the TMFR re-circulation pump, the pump will operate at full speed until the recirculation temperature reaches 4°C where it will reduce in speed down to its minimum RPM at 1°C.

16. Connect the syrup supply and operate the dispense valves until syrup is dispensed.

17. The dispense head can now be brixed and the system will be ready to use.

NOTE: Upon commission "High Bath Temp" warning may be dispalyed until the bath temperature reaches an acceptable level (see section 3 for parameter). The same may also be observed with "High Recirc Temp" warning".

- The over ice fault may be observed upon commision as the bath temperature can be below -1°C for longer than 30 minutes during the super cooled phase. This is normal and after tripping on this fault once it will not reoccur.

HEAT DUMP - GENERAL GUIDELINES

1. It is important that the heat dump is sited correctly to enable it to work efficiently. The guidelines below should be adhered to wherever possible.

2. Ensure the unit is sited on an outside wall (preferably not south facing) in the correct orientation out of direct sunlight.

3. Ensure there are no other heat sources, i.e. a condensing unit or another heat dump, in the immediate vicinity, where hot air may be re-circulating.

4. Use the recommended tubing (15mm O/D, 10mm I/D Special EVA) to connect the base unit to the heat dump. Do not use PVC braided tube, as this is not compatible with glycol and also prone to kinking when warm.

5. Do not exceed the recommended distance and lift (40m from the base unit to the heat dump and 9m of lift).

6. The heat dump must be connected using a minimum of 1.5mm^2 two-core cable. If a smaller cable is used, a voltage drop will occur which may cause the fan motor to run at a reduced speed.

7. If the unit is to be installed inside a building or room, ensure that there is adequate ventilation within the room to enable the heat to be dissipated effectively.
   Temperatures within the room should not exceed 40°C

8. Do not kink the flow and return tubes that would restrict the coolant flow.

9. Do not insulate the flow and return lines.

10. The flow and return lines must not be strapped together, as heat transfer between the two will affect the system performance.

11. Ensure that the heat exchanger matrix of the heat dump is kept clean and free from obstructions. It is recommended that it should be cleaned with a soft brush at regular intervals.

GLYCOL MODULE - INSTALLATION INSTRUCTIONS

NOTE: The unit should be installed and serviced by a suitably trained person.

1. Site the glycol pump module within 2 meters of the base unit and use the bracket supplied to secure the module to a wall.

2. Connect the glycol module's power supply to the 230V power outlet socket on the Icecore base unit. (**DO NOT SWITCH ON YET**)

3. Using Cobracol tubing, connect the 'COOLANT FLOW' from the glycol module to the 'COOLANT IN' on the base unit.

4. Again using Cobracol tubing, connect the 'COOLANT OUT' from the base unit to the 'FLOW' on the heat dump. Connect the 'RETURN' on heat dump to the 'COOLANT RETURN' on the glycol module to complete the circuit.

5. Finally, connect the 1.5mm^2 twin wire coming from the heat dump to the 24V outlet socket on the glycol module using the two pin plug supplied or to the spring loaded push in connectors (dependant on model).
   It does not matter which way the wires are connected as they are not polarised.

6. Ensure the lines are correctly installed, secured neatly and free from kinks.

7. Fill the glycol module reservoir tank with a quantity of coolant mixed 30% glycol to 70% water, ensuring a quantity remains for topping up the system when priming. The following table should be used as a guideline for the volume of coolant for varying installations.

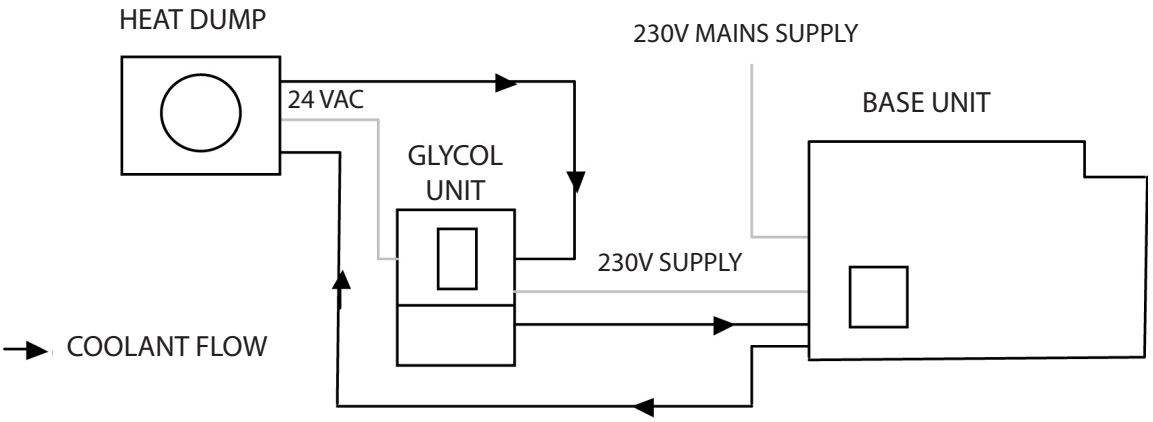
8. The Icecore base unit can now be powered up and using the LCD control, switch the compressor to on.

9. Upon switching the compressor on, the pump in the glycol module will start together with the heat dump fan. As the system primes, the level will drop in the coolant header tank. Keep topping this up until, the system is full, there are no air locks and that coolant is returning freely into the header tank.

NOTE: Maximum Lift = 9m
Maximum distance from base unit = 40m

DISTANCE FROM BASE UNIT TO HEAT DUMP	APPROX. VOLUME OF GLYCOL	APPROX VOLUME OF WATER Based on a 3 ltr. Glycol Module tank and 15mm O.D. x 10mm I.D. Tubing
5m	1.6 ltrs.	3.2 ltrs.
15m	1.9 ltrs.	3.7 ltrs.
20m	2.4 ltrs.	4.8 ltrs.
30m	2.9 ltrs.	5.8 ltrs.
40m	3.4 ltrs.	6.9 ltrs.

WATER COOLED UNIT – equipment connection schematic



Warning

The Icecore unit is fitted with a fridge temperature sensor. If the LCD display is flashing the "FRIDGE HIGH" error message, it is likely that the fridge is over temperature due to be one of the following:

1. Low water \ glycol level, coolant leak, blockage within cooling system.
2. Component failure: heat dump fan motor, water pump, 24V transformer, wiring fault.

If the "FRIDGE HI." error occurs the compressor will be shut down. It is necessary to manually reset this fault condition after the problem has been rectified.

DISMANTLING / DECOMMISSIONING PROCEDURE

Before decommissioning commences, all outputs (Carb. A, Recirc. A and Compressor) should be switched off. (See Section 3: Controls and Display)

1. Isolate the unit from mains electricity supply and mains water supply.

2. Drain off all post mix products including the syrup and carbonated water (clean syrup lines as recommended by the syrup supplier).

3. Turn the CO2 off and disconnect all lines associated with the regulators, also vent pressure from lines by purging the product valves as required.

4. Disconnect all post mix pipe work and remove dispense head equipment, including the python as recommended by the equipment owner.

5. Siphon or pump out water from the water bath to a suitable drainage point.

6. Allow ice bank to melt (the careful use of hot water may be used to accelerate this process). Remove and remaining water after melting the ice.

IMPORTANT

Failure to remove all ice/water could result in substantial amounts of water being released from the unit which may be detrimental to the unit and/or its surrounding and increase the maximum weight of the unit

SECTION 4
CLIMATE CLASS ISO 23953-2:2005(E)

Table 3 - CLIMATE CLASS

TEST ROOM CLIMATE CLASS	DRY BULB TEMPERATURE °C	RELATIVE HUMIDITY %	DEW POINT °C	WATER VAPOUR MASS IN DRY AIR g/Kg
0	20	50	9.3	7.3
1	16	80	12.6	9.1
2	22	65	15.2	10.8
3	25	60	16.7	12.0
4	30	55	20.0	14.8
5	27	70	21.1	15.8
6	40	40	23.9	18.8
7	35	75	30.0	27.3
8	23.9	55	14.3	10.2

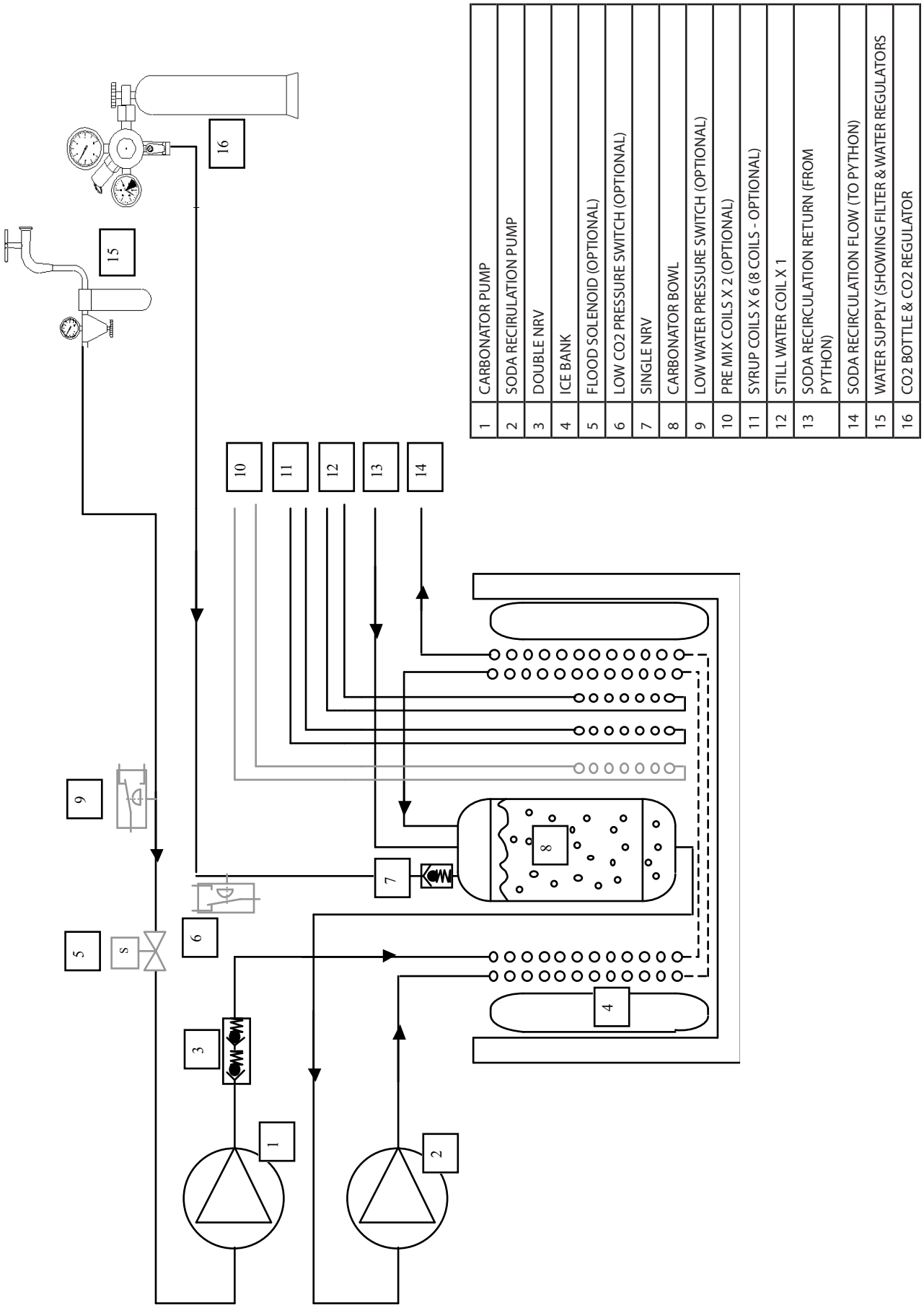
NOTE: THE WATER VAPOUR MASS IN DRY AIR IS ONE OF THE MAIN POINTS INFLUENCING THE PERFORMANCE AND THE ENERGY CONSUMPTION OF THE CABINETS.

SECTION 4
ICECORE TECHNICAL SPECIFICATION

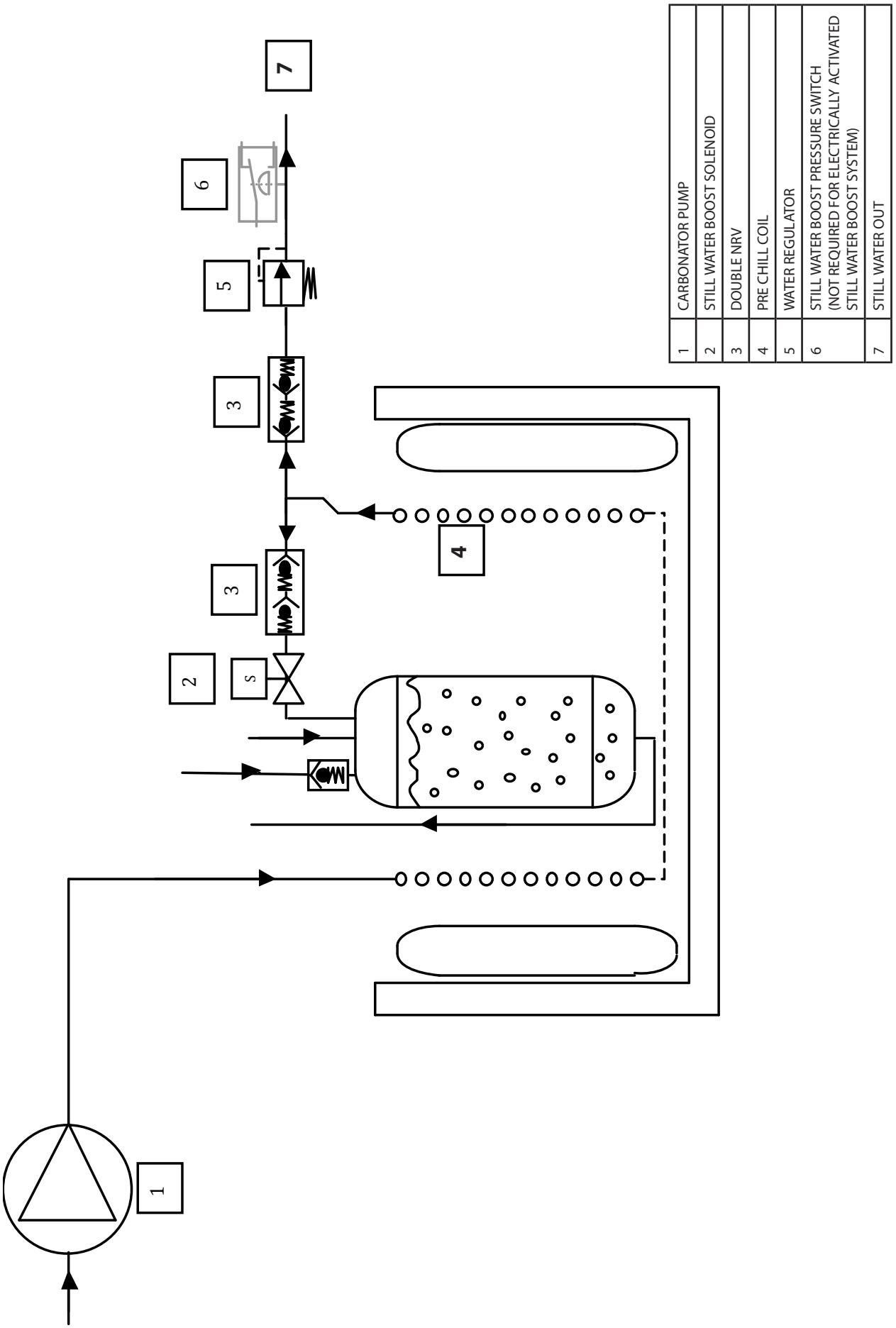
		ICECORE 15 INTEGRAL	ICECORE 15 WATER-COOLED	ICECORE 30 INTEGRAL
Voltage/ Frequency		230 VAC/ 50 Hz	230 VAC/ 50Hz	230 VAC/ 5Hz
Fuse rating		10 Amp.	10 Amp.	10 Amp.
Peak elecr. power	R290	920 Watts	950 Watts	930 Watts
Consumption (1)	R744	950 Watts	N/A	965 Watts
Current draw (1)	R290	4.4 Amps	4.4 Amps	5.1 Amps
	R744	5.35 Amps	N/A	5.2 Amps
Compressor	R290	12cc	12cc	14.5cc
	R744	Type M 2.5cc	Type M 2.5cc	Type M 2.5cc
Cooling capacity (2)	R290	820 Watts	880 Watts	780 Watts
	R744	820 Watts	N/A	820 Watts
Water bath capacity		44 Ltr.	44 Ltr.	70 Ltr.
Ice-bank size		15 Kgs	15 Kgs	26 Kgs
Height (H)		609mm	609mm	639mm
Height with casters		648mm	648mm	678mm
Width (W) inc. handles		868mm	868mm	981mm
Depth (D) inc. back spacer		524mm	524mm	589mm
Weight (dry)		77 Kgs	77 Kgs	94 Kgs
Operational weight		121 Kgs	121 Kgs	164 Kgs
Carbonator bowl volume		1.8 Ltr.	1.8 Ltr.	5.2 Ltr.
Noise level		>70db(A)	>70db(a)	>70db(A)
Water supply pressure		Min 20psi (1.5 bar)/ Max 50 psi (3.4 bar)		
CO2 pressue		Min 70psi (5 bar)/ Max 90 psi (6.2 bar)		
Operating conditions		Climate Class: 7	Climate Class: 7	Climate Class:7
		Maximum inlet water temperature = 32°C		

(1) @ 40°C Ambient 75% R.H. with Agitator, Carbonator and Recirculation pumps running
(2) @ 24°C Ambient during ice phase

SECTION 5
FLOW SYSTEM DIAGRAM

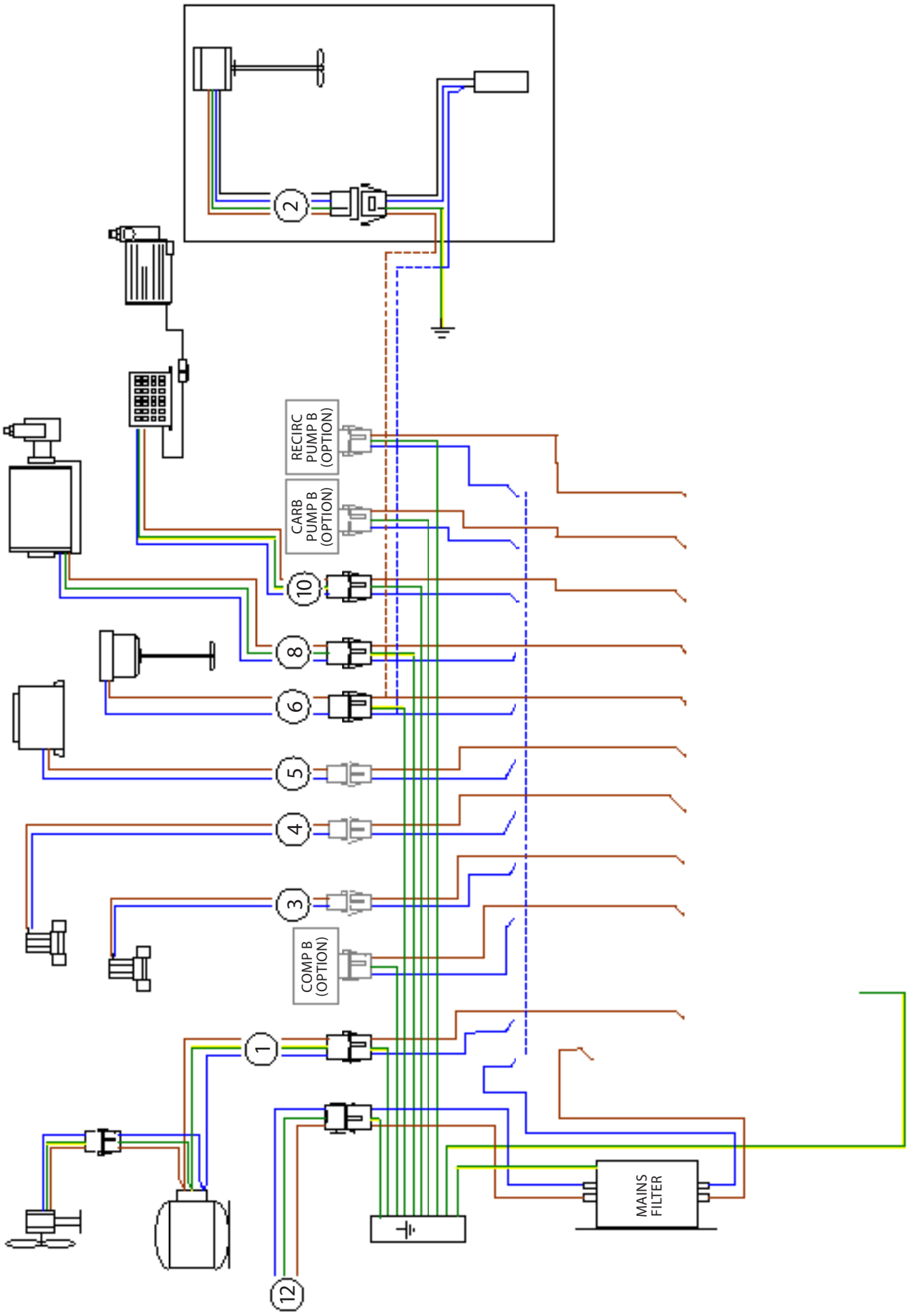


STILL WATER BOOST FLOW DIAGRAM



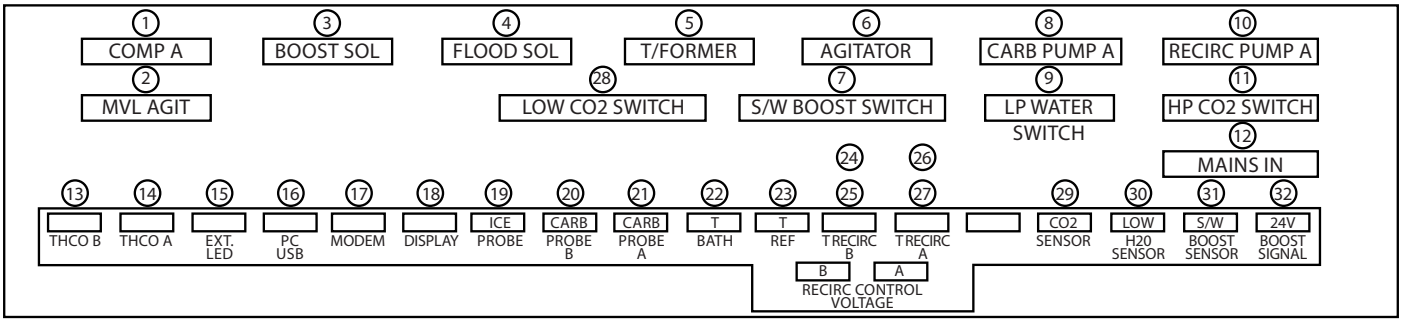
1	CARBONATOR PUMP
2	STILL WATER BOOST SOLENOID
3	DOUBLE NRV
4	PRE CHILL COIL
5	WATER REGULATOR
6	STILL WATER BOOST PRESSURE SWITCH (NOT REQUIRED FOR ELECTRICALLY ACTIVATED STILL WATER BOOST SYSTEM)
7	STILL WATER OUT

SECTION 6
WIRING SCHEMATIC - OUTPUTS

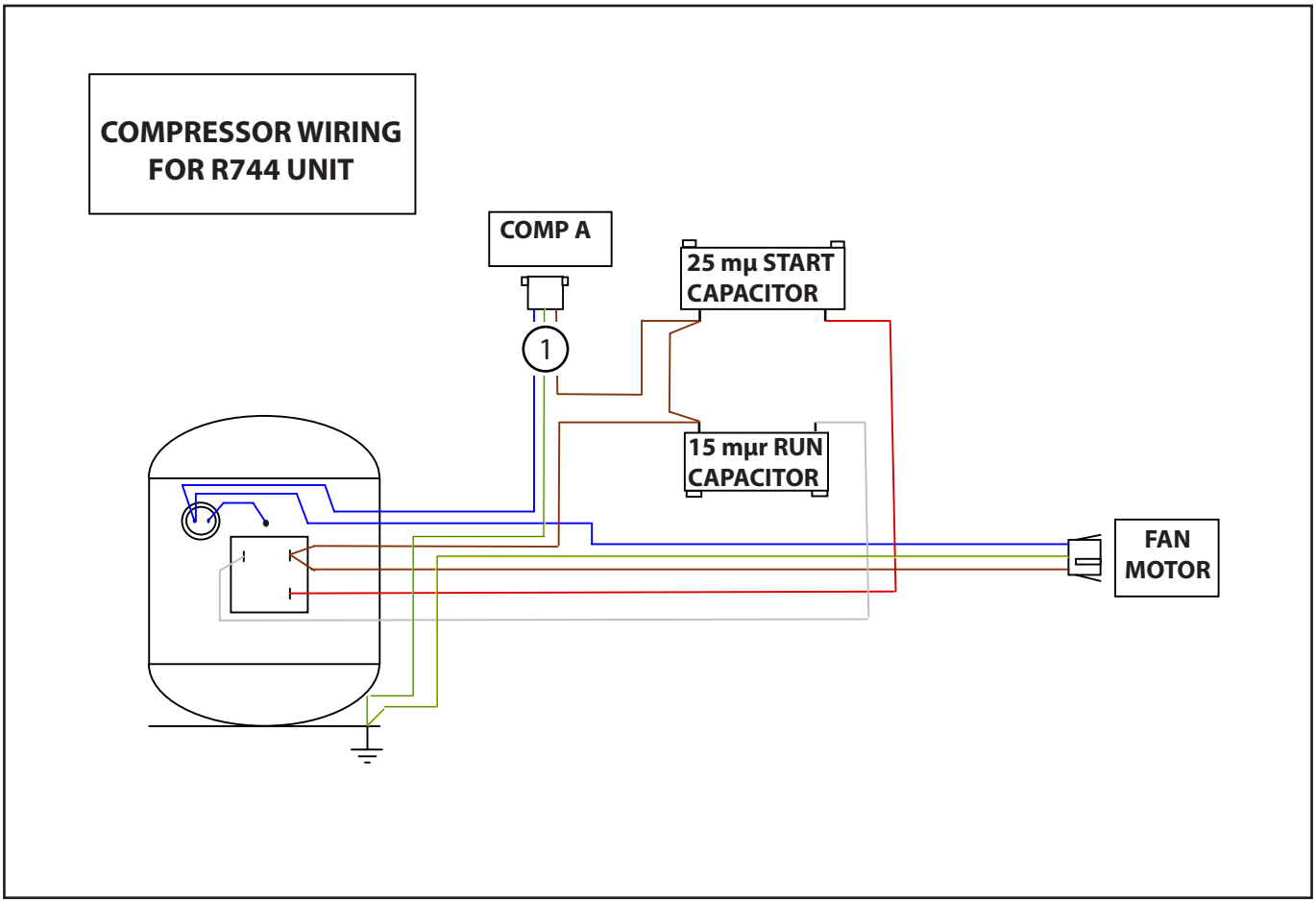


WIRING SCHEMATICS - OUTPUTS

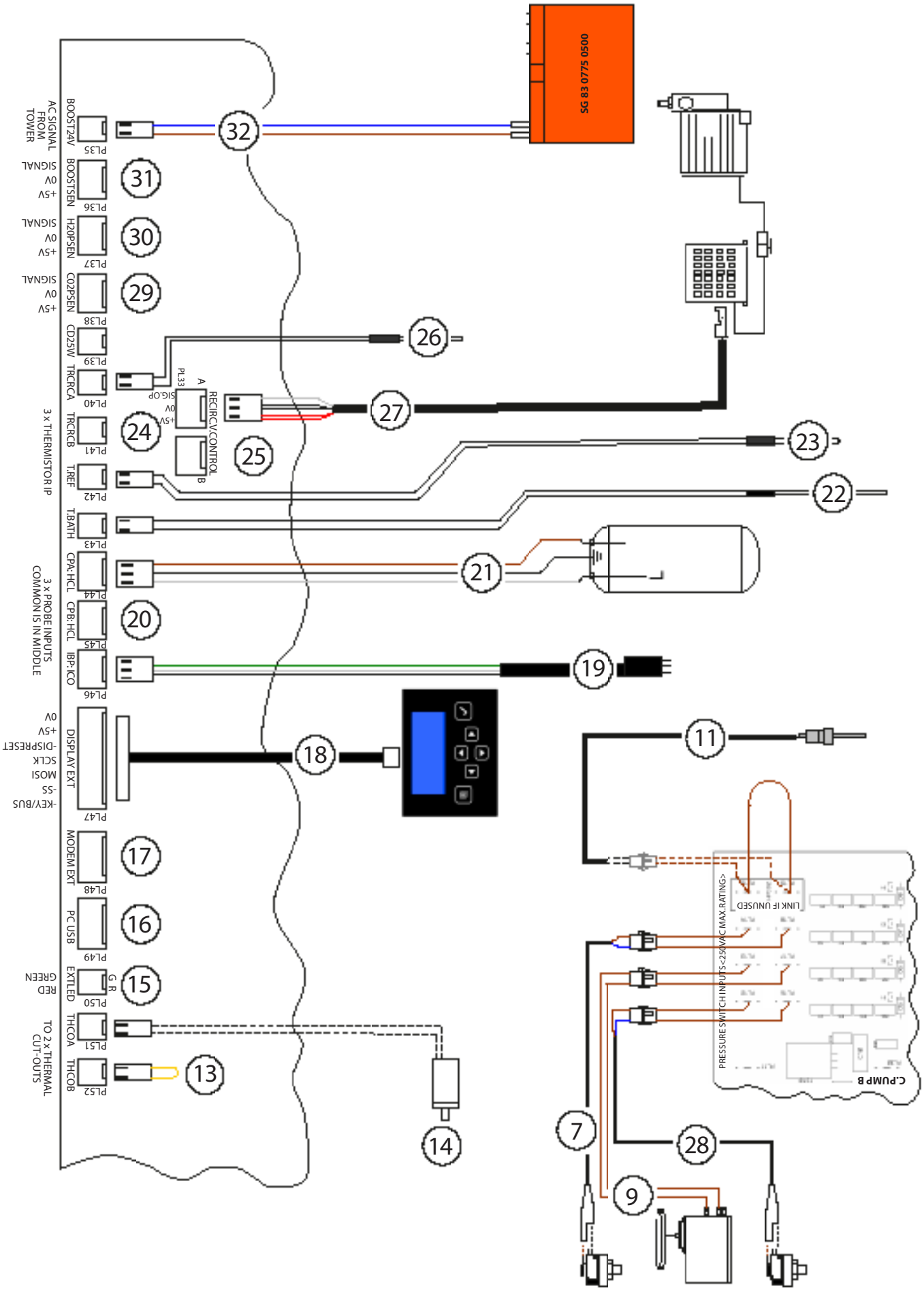
CONNECTOR NUMBER		DESCRIPTION	
1	COMP A	COMPRESSOR A SUPPLY	STANDARD
2	MVL AGIT	AGITATOR SUPPLY FOR STANDARD AC MOTORS WITH CAPACITORS (NON ECO MOTORS)	STANDARD
3	BOOST SOLENOID	BOOST SOLENOID SUPPLY (FITTED TO UNIT WITH STILL WATER BOOST)	OPTIONAL
4	FLOOD SOLENOID	FLOOD PROTECTION SOLENOID	OPTIONAL
5	TRANSFORMER	TRANSFORMER 230V SUPPLY - INTEGRAL TRANSFORMER TO POWER DISPENSE VALVES)	OPTIONAL
6	AGITATOR	AGITATOR SUPPLY FOR AGITATORS WITH LOW POWER CONSUMPTION ECO MOTORS	OPTIONAL
8	CARB PUMP A	CARBONATOR PUMP A SUPPLY	STANDARD
10	RECIR PUMP A	RECIRCULATION PUMP A SUPPLY	STANDARD
12	MAIN IN	MAINS VOLTAGE SUPLY TO PCB	STANDARD



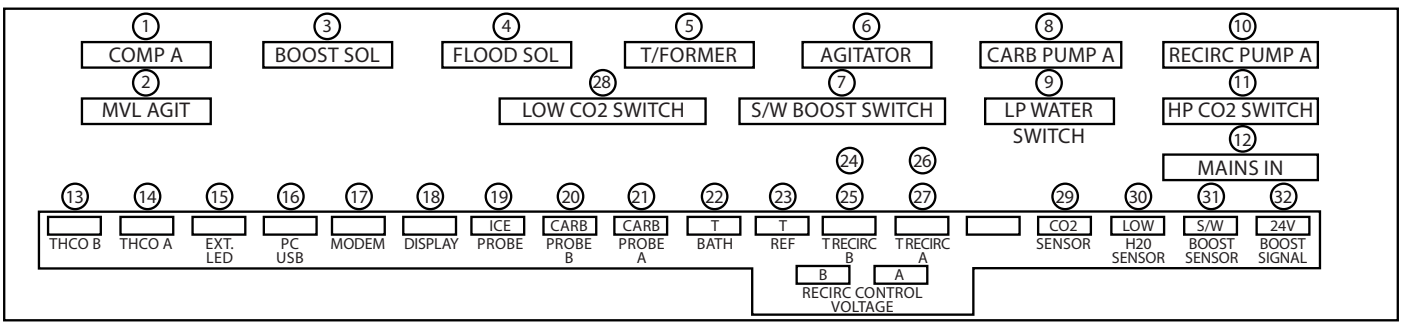
COMPRESSOR WIRING SCHEMATICS



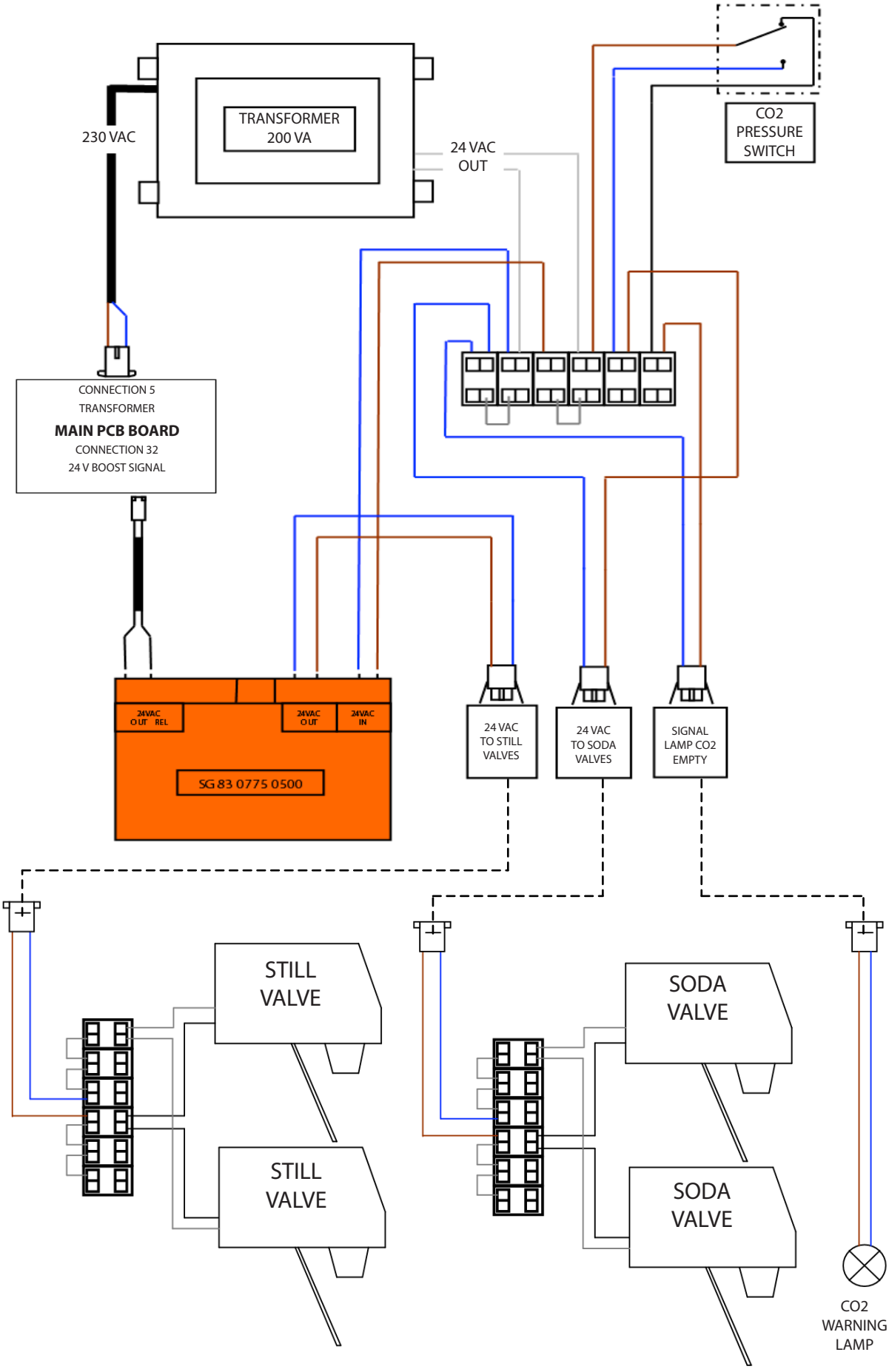
WIRING SCHEMATICS - INPUTS



CONNECTOR NUMBER	COMPONENT	DESCRIPTION	FITMENT
7	S/W BOOST SWITCH	STILL WATER BOOST PRESSURE SWITCH	OPTIONAL
9	LP WATER SWITCH	LOW WATER PRESSURE SWITCH	OPTIONAL
11	HP CO2 SWITCH	HIGH PRESSURE SAFETY SWITCH FOR UNITS WITH R744 REFRIGERANT (LINK OUT IF SWITCH IS NOT FITTED)	R744 UNIT
13	TCHO B	CARBONATOR PUMP B - THERMAL CUT OUT SWITCH (LINK OUT IF SWITCH IS NOT FITTED)	N/A
14	TCHO A	CARBONATOR PUMP A - THERMAL CUT OUT SWITCH (LINK OUT IF SWITCH IS NOT FITTED)	OPTIONAL
15	EXT. LED	EXTENSION LED	N/A
16	PC USB	USB CONNECTION TO PC	N/A
17	MODEM	MODEM CONNECTION	N/A
18	DISPLAY	LCD DISPLAY	STANDARD
19	ICE PROBE	ICE BANK PROBE - 3 PIN	STANDARD
20	CARB PROBE B	CARBONATOR LEVEL PROBES - CARB BOWL B	N/A
21	CARB PROBE A	CARBONATOR LEVEL PROBES - CARB BOWL A	STANDARD
22	T BATH	THERMISTOR PROBE - WATER BATH TEMPERATURE	STANDARD
23	T REF	THERMISTOR PROBE - FRIDGE LIQUID LINE TEMPERATURE	STANDARD
24	T RECIRC B	THERMISTOR PROBE - SODA RECIRCULATION RETURN TEMPERATURE (CIRCUIT B)	N/A
25	RECIRC CONTROL B	THERMISTOR PROBE - SODE RECIRCULATION RETURN TEMPERATURE (CIRCUIT B)	STANDARD
26	T RECIRC A	RECIRCULATION PUMP B - SPEED CONTROL OUTPUT SIGNAL (0 TO 5 VDC)	N/A
27	RECIRC CONTROL A	RECIRCULATION PUMP A - SPEED CONTROL OUTPUT SIGNAL (0 TO 5 VDC)	OPTIONAL
28	LOW CO2 SWITCH	CO2 BOTTLE PRESSURE SWITCH	N/A
29	CO2 SENSOR	CO2 BOTTLE PRESSURE TRANSDUCER	N/A
30	LOW H2O SENSOR	LOW WATER PRESSURE TRANSDUCER	N/A
31	S/W BOOST SEN-SOR	STILL WAYER BOOST PRESSURE TRANSDUCER	N/A
32	24V BOOST SIG-NAL	ELECTRONIC STILL WAYER BOOST - 24V INPUT SIGNAL FORM SG 83 0775 0500	OPTIONAL



WIRING SCHEMATICS
ELECTRONICALLY ACTIVATED STILL WATER BOOST



Function of Electronically Activated Still Water Boost:

There are three twin core cables running from the cooler, via the python, to the dispense tower:

1. Connections between the electronic (SG83 0775 500) box and the still water water valves at the dispense tower.
2. Connection from the 24 VAC transformer, via the CO2 pressure switch to the soda valves
3. Connection from the CO2 pressure switch to the CO2 bottle empty warning lamp at the dispense tower

When a drink is dispensed from one or more of the still water valves, the electronic (SG83 0775 500) box will de onator pump will remain on until the still valve(s) close, when the current detected by the box drops away.

Switching thresholds:
ON: >500 mA +/- 25%
OFF: <400 mA +/- 25%

When the CO2 bottle is empty, the contacts on the CO2 pressure switch will switch over and cut the 24 VAC supply voltage to the soda valves, and close the contacts to iluminate the bottle empty warning lamp at the dispense tower.

Cable sizing for 24 VAC python supply cables:

0.75 mm^2 cable cross-section area	Max run = 16 metres at 24 VAC.
1.50 mm^2 cable cross-section area	Max run = 32 metres at 24 VAC.

These distances are based on simultaneous operation of four valves, each taking 1.5 amps.

SECTION 7
FAULT FINDING DIAGNOSTICS

This section is split into two. The first section shows flow diagrams designed for the use of the account holder /end user.
It it is advised that the flow diagrams are followed to prevent unneccessary service call outs.

The second section shows diagnostic tables designed for the engineer / technician.

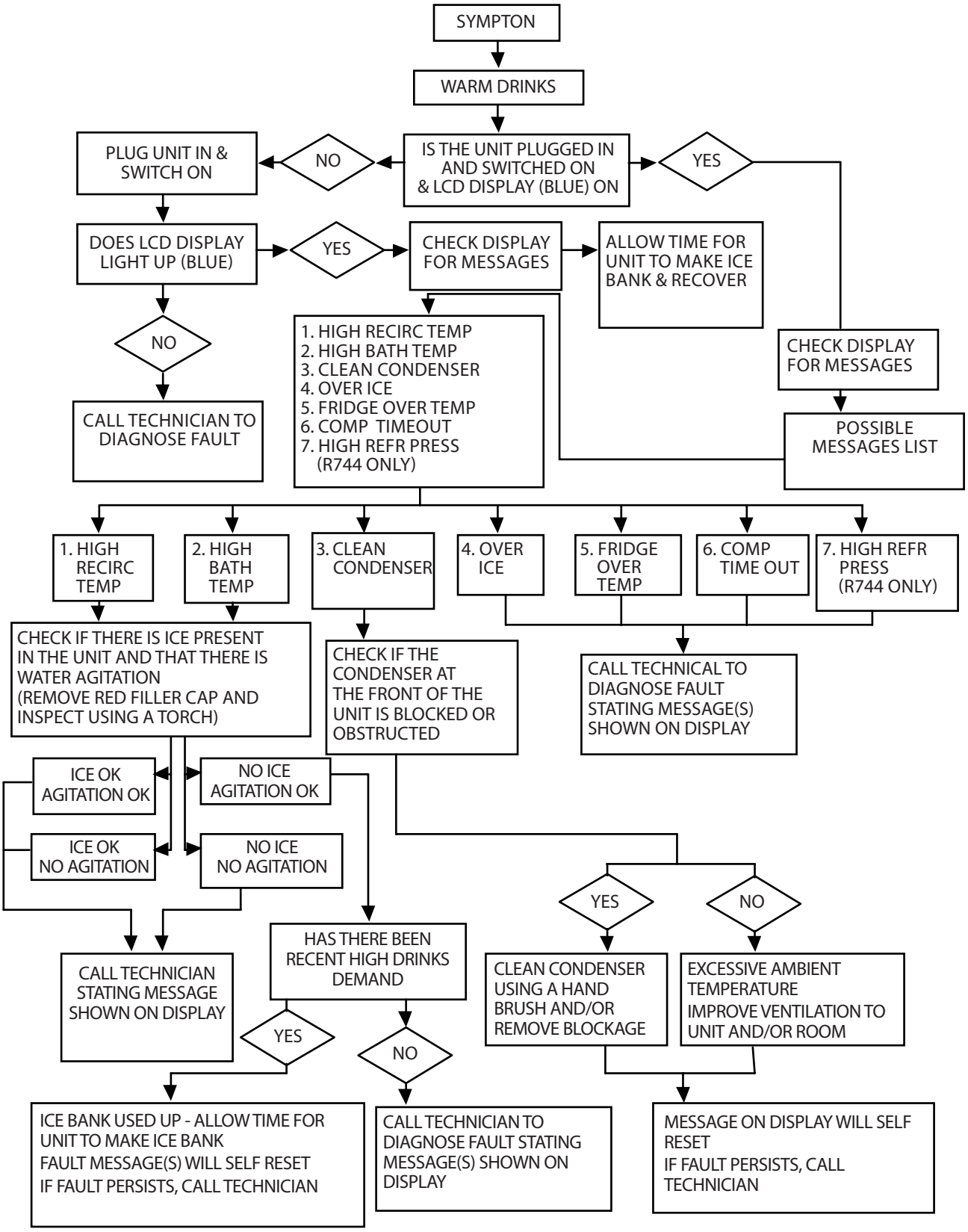
Account or end user checks

Flow Chart 1 ---- Warm drinks
Flow Chart 2 ---- Flat drinks
Flow Chart 3 ---- No dispense of carbonated water or gas only

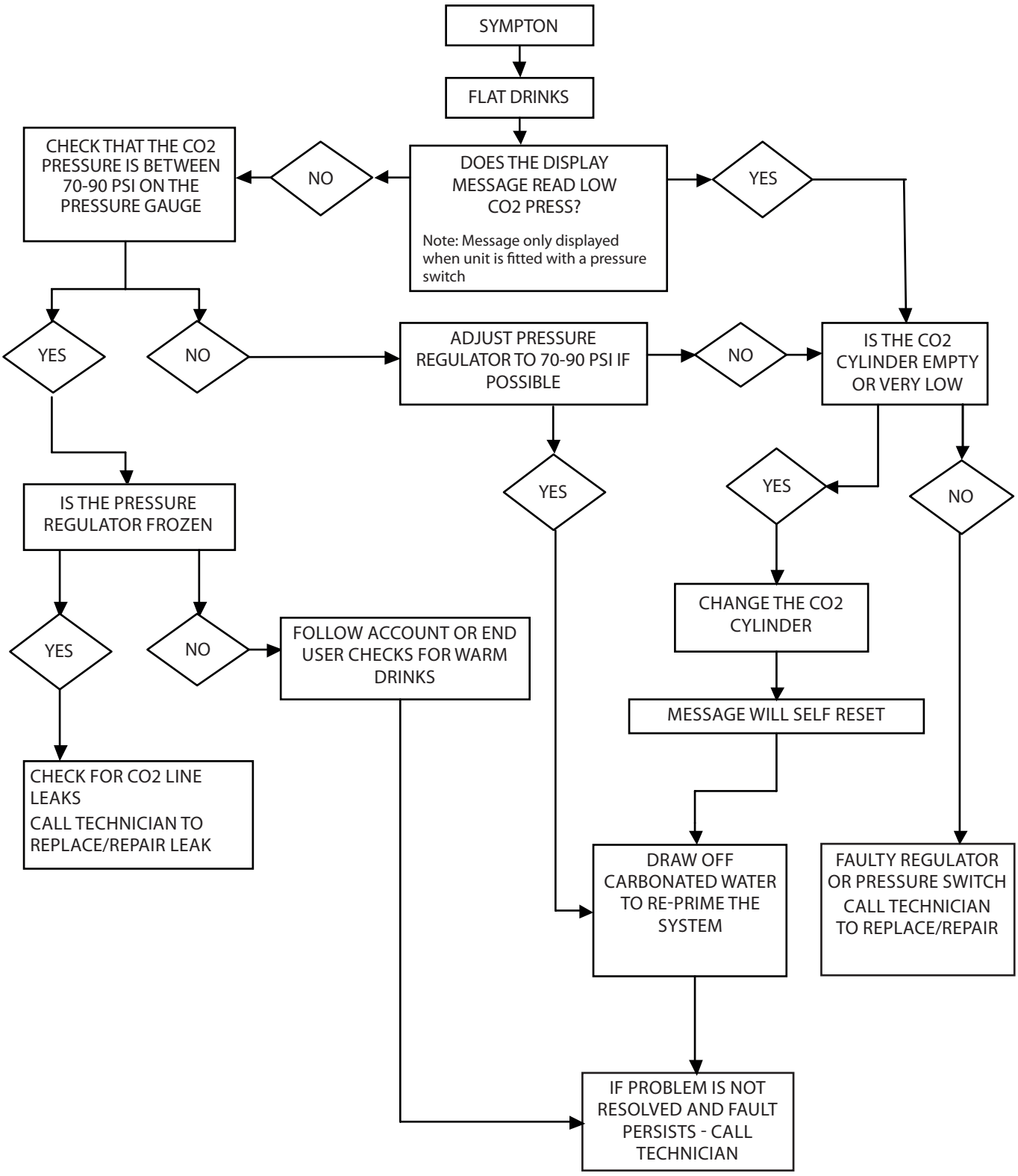
Engineer \ Technician fault finding diagnostic guide:

- Hi Recirc A
- Clean Condenser
- Fridge High
- Over Ice
- High Bath Temp
- High Refr Press (R744 Only)
- Carb Time Out
- Comp Time Out

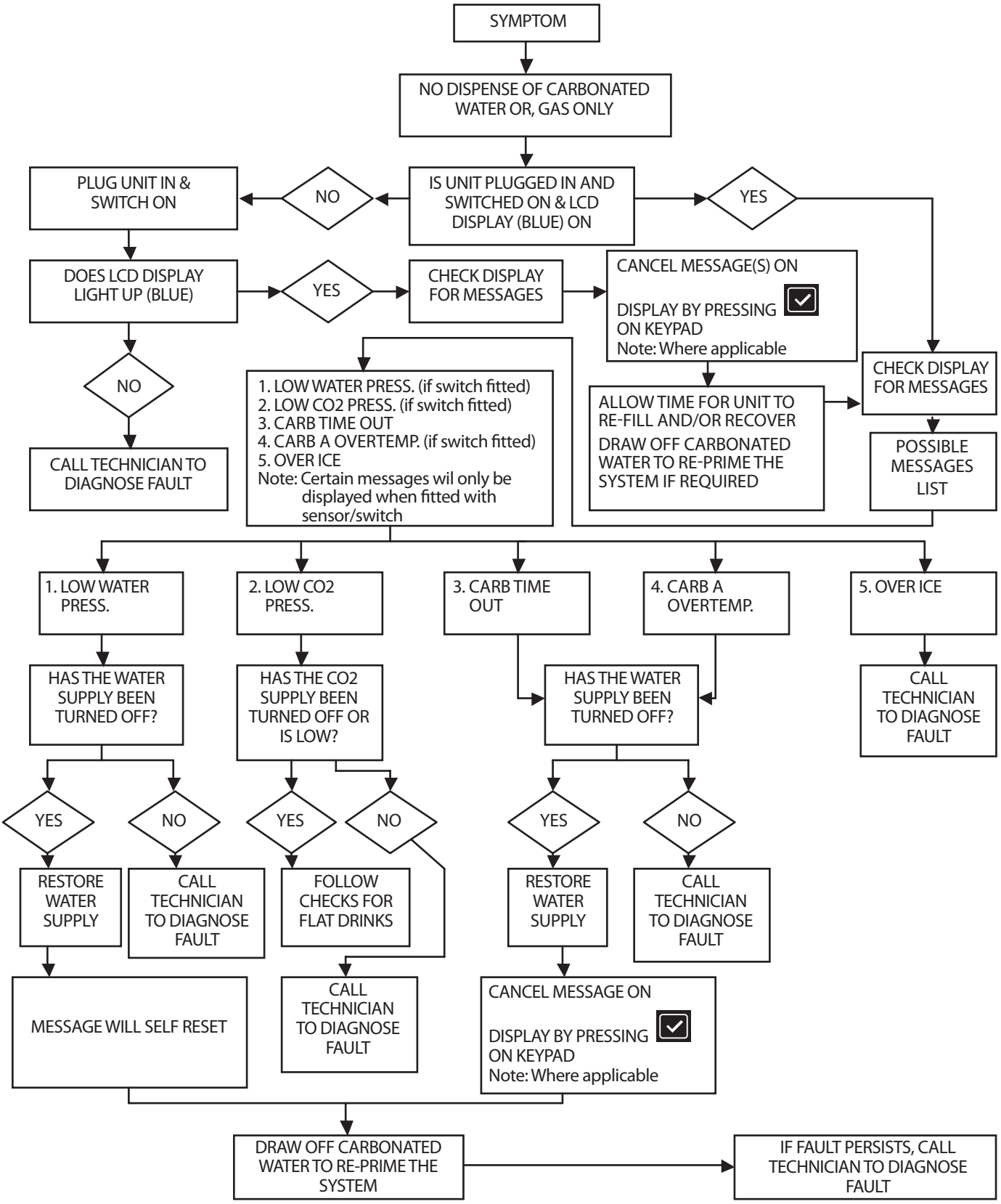
FLOW CHART 1
WARM DRINKS



FLOW CHART 2
FLAT DRINKS

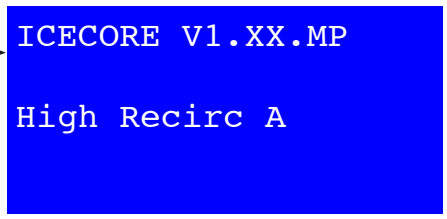


FLOW CHART 3
NO DISPENSE OF CARBONATED WATER OR GAS ONLY



ENGINEER/ TECHNICIAN FAULT FINDING DIAGNOSTIC GUIDE

DISPLAYED MESSAGE ON LCD →



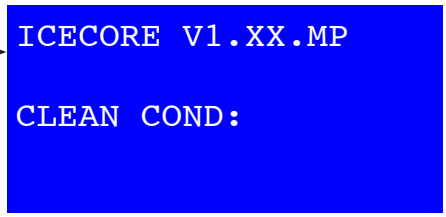
POTENTIAL CAUSES 1 - NO ICE	CHECK POINTS	CORRECTIVE ACTIONS
Unit in initial pull down	Verify unit is in initial pull down	Allow unit to make ice bank
Heavy product draw	Verify heavy product draw	Allow unit time to recover
Compressor output switched off	Check compressor output status on LCD screen is OFF	Switch compressor output to ON via keypad
Refrigeration system fault	Excessive operating ambient (40°C+) Blocked condenser Condenser fan motor failure Jammed fan blade Loss or refrigerant (Discharge line COLD when compressor running) Faculty capacitor\start relay Loss of coolant or air lock or kinked flow & return tubes to hear dump (W\Cooled) Faulty glycol module pump (W\Cooled) Faulty\loose wiring to module\H.Dump Faulty 24V transformer in Glycol module Faulty heat dump fan motor (W\Cooled) Faulty\loose wiring to compressor\fan Faulty compressor Heat dump sited in excessive ambient (W\Cooled)	Improve room ventilation Clean condenser Replace fan motor Remove & rectify cause Replace unit Replace capacitor\start relay Repair leak and\or re-prime\re-fill system & repair\replace kinked tubes Replace faulty pump Rectify wiring\connections Replace if no output when compressor on Replace faulty fan motor Rectify wiring\connections Replace unit Relocate heat dump to more suitable position to ensure dissipation of warm air
Ice bank probe fault	Faulty\loose wiring Probe tips out of water Probe tips corroded\scaled\bridged Faulty probe	Rectify wiring\connections Ensure bath is full to overflow Clean probe tips of debris Replace probe
Installation integrity	Poor python\tubing insulation Excessive python run(s) Python runs through areas with excessive ambient temp	Re-insulate where possible Re-site unit closer to dispense points if possible Re-locate or re-install python, improve python insulation
Faulty PCB	Check for power outputs to components where applicable using a known working component (Note: 230V can be detected, when measured with a multimeter; even if the output is "off" if no electrical load is applied)	Replace PCB

POTENTIAL CAUSES 2 – NO SODA RECIRCULATION	CHECK POINTS	CORRECTIVE ACTIONS
Soda recirc. Pump, output switched off	Check to see if soda recirc is switched OFF in the SET OUTPUTS MENU	Switch recirc pump output to ON via keypad
Soda recirc pump is set to ON in the SET OUTPUTS MENU but the pump is not running	Faulty\loose wiring to pump motor and\ or pump motor controller (TMFR) Faulty soda recirc pump and\or motor Faulty soda recirc pump controller (TMFR)	Rectify wiring\connections referring to wiring schematic for detailed information Replace pump and\or motor Replace TMFR controller
Blockage or gas pockets preventing recirculation	Kinked\blocked tubing Frozen soda recirc coil Gas pockets	Remove kink or blockage De-ice unit to identify potential causes described in OVER ICE section Bleed gas pockets off through dispense valves
Other system fault and recirc. shut down to protect pump	See LOW WATER PRESS. HIGH REFR PRESS. (R744 ONLY) CARB TIME OUT CARB A\B OVER TEMP.	See LOW WATER PRESS. HIGH REFR PRESS. CARB TIME OUT CARB A\B OVER TEMP.

POTENTIAL CAUSES 3 – NO AGITATION	CHECK POINTS	CORRECTIVE ACTIONS
Agitator motor not running, but output shown as ON, displayed on LCD screen	Faulty\loose wiring to agitator Faulty agitator motor	Rectify wiring\connections Replace agitator motor
Agitator motor running but no agitation	Propeller blade missing Shaft or propeller physically jammed	Replace propeller Free up shaft to ensure rotation

POTENTIAL CAUSES 4 – FAULTY SODA RECIRC PROBE	CHECK POINTS	CORRECTIVE ACTIONS
Faulty probe	Physically check probe for damage and broken wires	Replace probe if broken
Loose terminal in connector or to PCB	Check wiring into connector and connector is located into mating pins on PCB	Rectify where possible or replace

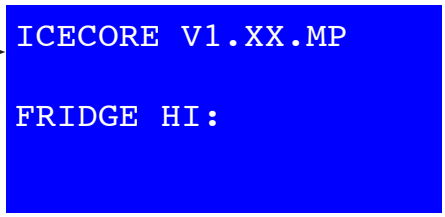
DISPLAYED MESSAGE ON LCD →



POTENTIAL CAUSES 1 – REFRIGERATION FAULTS(S)	CHECK POINTS	CORRECTIVE ACTIONS
High ambient temperature	Operating ambient above +40°C	Improve room ventilation
Blocked condenser	Check there are no obstructions (e.g. boxes) restricting airflow. Check the condenser fins are not blocked with debris	Remove obstructions and\or brush condenser clean
Condenser fan motor failure or loose wiring connection to fan	Check for loose wiring and operation of fan motor when compressor is running	Rectify any loose wiring. Replace fan motor
Jammed fan blade	Ensure free rotation of fan blade	Remove & rectify cause
Loss of coolant or air lock or kinked flow & return tubes to heat dump (W\Cooled)	Check coolant level in Glycol module. Check for kinked tubes and for flow of coolant through system	Repair leak and\or re-prime\refill system. Repair\replace kinked tubes
Faulty glycol module pump (W\Cooled)	Check pump runs when compressor is running	Replace pump if faulty
Faulty\loose wiring to module\H. Dump	Check wiring\connections	Rectify wiring\connections if faulty
Faulty 24V transformer in Glycol module	Check for 24V output when compressor is running	Replace transformer if faulty
Faulty heat dump fan motor (W\Cooled)	Check heat dump fan runs when compressor is running	Replace fan motor if faulty
Heat dump sited in excessive ambient (W\Cooled)	Check location & operating ambient of heat dump	Relocate heat dump to more suitable position to ensure dissipation of warm air

POTENTIAL CUASES 2 – FAULTY FRIDGE PROBE	CHECK POINTS	CORRECTIVE ACTIONS
Faulty probe	Physically check probe for damage and broken wires	Replace probe if broken
Loose connection in connector or to PCB	Check wiring into connector and connector is located into mating pins on PCB	Rectify where possible or replace

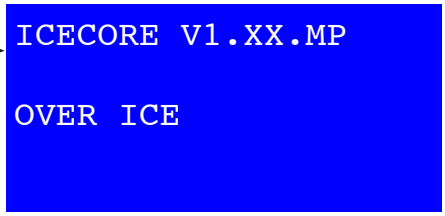
DISPLAYED MESSAGE ON LCD →



POTENTIAL CAUSES 1 – REFRIGERATION FAULTS(S)	CHECK POINTS	CORRECTIVE ACTIONS
Very high ambient temperature	Operating ambient above +40°C	Improve room ventilation
Blocked condenser	Check there are no obstructions (e.g. boxes) restricting airflow. Check the condenser fins are not blocked with debris	Remove obstructions and\or brush condenser clean
Condenser fan motor failure or loose wiring connection to fan	Check for loose wiring and operation of fan motor when compressor is running	Rectify any loose wiring. Replace fan motor if faulty
Jammed fan blade	Ensure free rotation of fan blade	Remove & rectify cause
Loss of coolant or air lock or kinked flow & return tubes to heat dump (W\Cooled)	Check coolant level in Glycol module. Check for kinked tubes and for flow of coolant through system	Repair leak and\or re-prime\refill system. Repair\replace kinked tubes
Faulty glycol module pump (W\Cooled)	Check pump runs when compressor is running	Replace pump if faulty
Faulty\loose wiring to module\H.Dump	Check wiring\connections	Rectify wiring\connections if faulty
Faulty 24V transformer in Glycol module (W\Cooled)	Check for 24V output when compressor is running	Replace transformer if faulty
Faulty heat dump fan motor (W\Cooled)	Check heat dump fan runs when compressor is running	Replace fan motor if faulty
Heat dump sited in excessive ambient (W\Cooled)	Check location & operating ambient of heat dump	Relocate heat dump to more suitable position to ensure dissipation of warm air

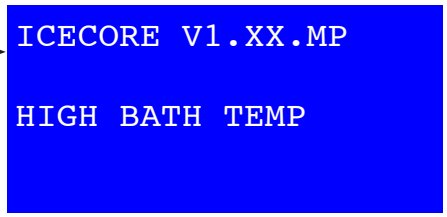
POTENTIAL CAUSES 2 – FAULTY FRIDGE PROBE	CHECK POINTS	CORRECTIVE ACTIONS
Faulty probe	Physically check probe for damage and broken wires	Replace probe if broken
Loose connection in connector or to PCB	Check wiring into connector and connector is located into mating pins on PCB	Rectify where possible or replace

DISPLAYED MESSAGE ON LCD SCREEN →



POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Faulty Ice Bank Probe	Probe tips bridged\cable shorted Probe dislodged out of bracket\position	Rectify wiring\connections Clean probe tips of debris Replace probe Refit probe correctly into bracket
Faulty water bath probe sensor	Physically check probe for damage and broken wires	Replace probe if broken
Loose terminal in connector or to PCB	Check wiring into connector and connector is located into mating pins on PCB	Rectify where possible or replace
Water bath contaminated with syrup or other chemicals	Check cleanliness of water and for discolouration due to contamination	Clean water bath and replace with fresh, clean, cold water
Agitator motor not running but output shown as ON displayed on LCD screen	Faulty/loose wiring to agitator Faulty agitator motor	Rectify wiring\connections Replace agitator motor
Agitator motor running but no agitation	Propeller blade missing Shaft or propeller physically jammed	Replace propeller Free up shaft, to ensure rotation
Faulty PCB	Remove probe from water bath and ensure compressor stops running	Replace PCB if compressor continues to run

DISPLAYED MESSAGE ON LCD SCREEN →



POTENTIAL CAUSES 1 - NO ICE	CHECK POINTS	CORRECTIVE ACTIONS
Unit in intial pull down	Verify unit is in initial pull down	Allow unit to make ice bank
Heavy product draw	Verify heavy product draw	Allow unit time to recover
Compressor output switched off	Check compressor output status on LCD screen is OFF	Switch compressor output to ON via keypad
Refrigeration system fault	Excessive operating ambient (40°C+)	Improve room ventilation
	Blocked Condenser	Clean Condenser
	Condenser fan motor failure	Replace fan motor
	Jammed fan blade	Remove & rectify cause
	Loss or refrigerant (Discharge line COLD when compressor running)	Replace unit
	Faulty capacitor\ start relay	Replace capacitor\ start relay
	Loss of coolant or air lock or kinked flow & return tubes to heat dump (W\Cooled)	Repair leak and\or re-prime\re-fill system & repair\replace kinked tubes
	Faulty glycol module pump (W\Cooled)	Replace faulty pump
	Faulty\ loose wiring to module\H.Dump	Rectify wiring\ connections
	Faulty 24V transformer in Glycol module	Replace if no output when compressor on
	Faulty heat dump fan motor (W\Cooled)	Replace faulty fan motor
	Faulty\loose wiring to compresor\fan	Rectify wiring\connections
	Faulty compressor	Replace unit
	Heat Dump sited in excessive ambient (W\Cooled)	Relocate heat dump to more suitable position to ensure dissipation of warm air
Ice bank probe fault	Faulty\loose wiring	Rectify wiring\connections
	Probe tips out of water	Ensure bath is full to overflow
	Probe tips corroded\scaled\bridged	Clean probe tips of debris
	Faulty probe	Replace probe
Installation integrity	Poor python\tubing insulation	Re-insulate where possible
	Excessive python run(s)	Re-site unit closer to dispense point if posible
	Python runs through areas with excessive ambient temp	Relocate or re-install python
Faulty PCB	Check for power outputs to components where applicable using a known working component	Replace PCB.

POTENTIAL CAUSES 2 – NO AGITATION	CHECK POINTS	CORRECTIVE ACTIONS
Agitator motor not running but output shown as ON displaced on LCD screen	Faulty\loose wiring to agitator Faulty agitator motor	Rectify wiring\connections Replace agitator motor
Agitator motor running but no agitation	Propeller blade missing Shaft or propeller physically jammed	Replace propeller Free up shaft, to ensure rotations

DISPLAYED MESSAGE ON LCD R744 UNITS ONLY →

```
ICECORE V1.XX.MP

High Refr. Press
/ Call Technician
```

POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Refrigeration system internal blockage	No visible checks other than message display	Unit must be returned to manufacturer or repaired by an engineer qualified to handle R744 refrigeration systems. Fault can only be reset in parameters (Pass code protected)

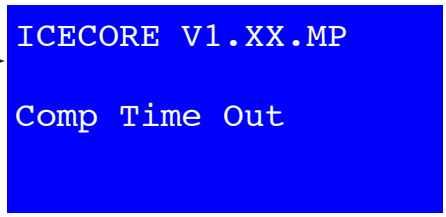
DISPLAYED MESSAGE ON LCD SCREEN →

```
ICECORE V1.XX.MP

CARB.T.OUT
```

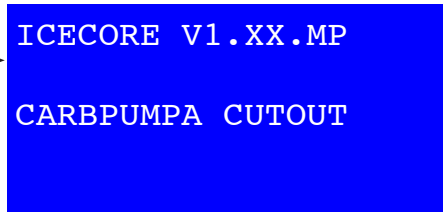
POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
No water supply or very low water pressure	Check water supply	Restore water supply and\or increase water pressure (max recommended 50 psi)
Disconnected or damaged carbonator probe lead causing pump to run constantly	Check for damaged or disconnected probe leads and connectors	Replace or repair as necessary
Faulty\loose wiring to carbonator pump	Check for loose or faulty wiring\ connectors	Replace or correct faulty wiring
Carbonator pump head or motor failure	Check for pump motor rotation. Check pump head is supplying required pressures to fill the carbonator bowl	Replace as necessary
Water starvation to pump inlet	Check for blocked inlet filter on carbonator pump head Check for kinked pipes between supply and pump inlet Check water supply has not been isolated	Repair as necessary
Faulty solenoid valve (flood or still water boost) wiring\connections to solenoid valve or solenoid valve not opening (if fitted)	Check wiring to solenoid valve and ensure valve is powered when carbonator pump switches on	Replace faulty solenoid or correct faulty wiring
Frozen Pre-chill coil	Check for excessive ice growth encapsulating the product coils	Melt back ice using hot water and investigate reason for excessive growth

DISPLAYED MESSAGE ON LCD SCREEN →



POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Excessive ambient temperature	Integral – check local ambient Water Cooled – check air on temperature to dump unit	Improve ventilation or move to a cooler location
Refrigeration fault	Loss of gas Compressor mechanical failure Compressor electrical failure Wiring fault to compressor Blocked condenser Condenser\heat dump fan failure	Repair or replace as required
Dispense demand out stripping cooler capacity	Check account through put	Replace with larger capacity cooler or add additional cooler if supplying two fonts

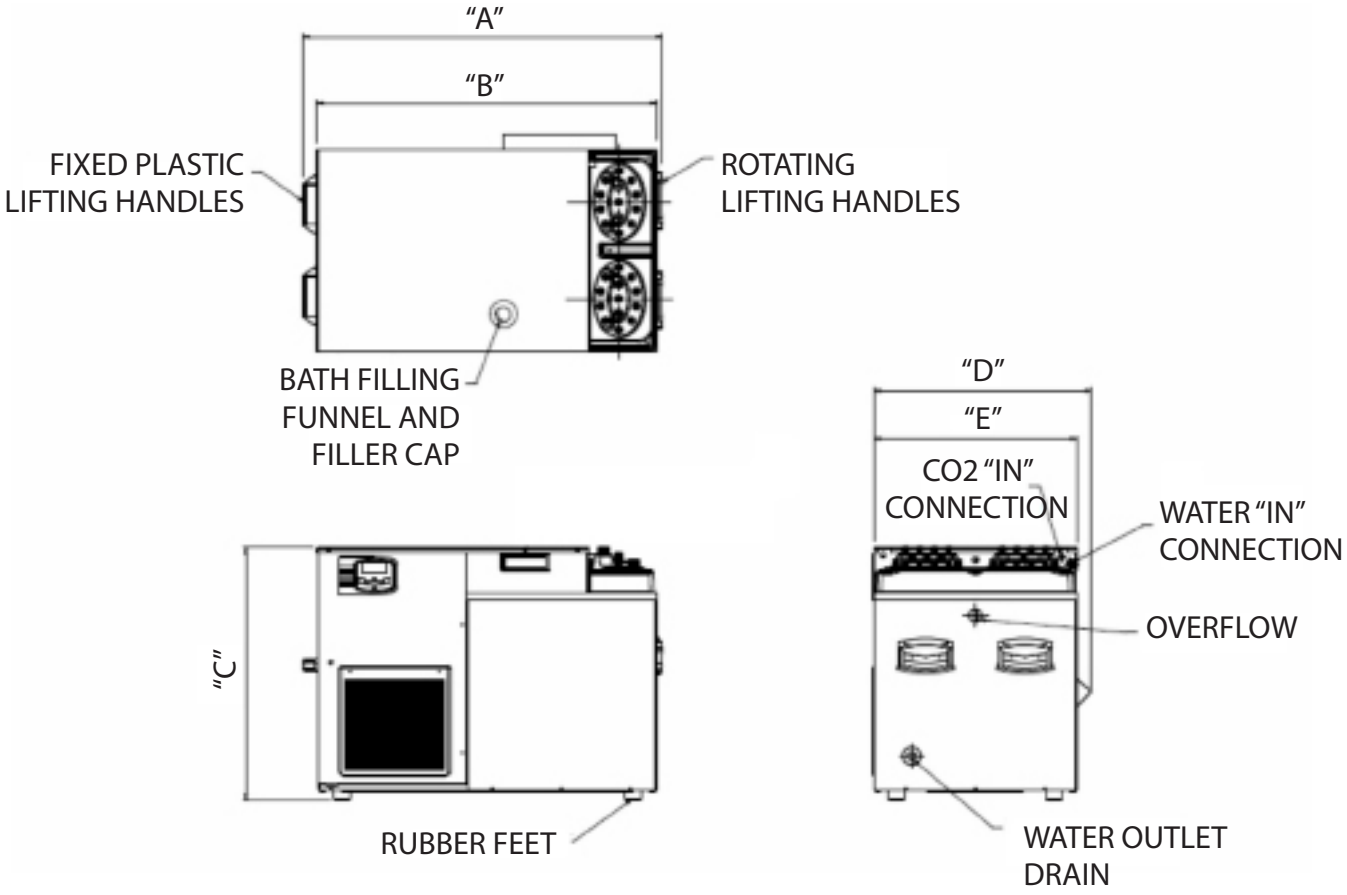
DISPLAYED MESSAGE ON LCD SCREEN →



POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Water starvation to pump inlet	Check for blocked inlet filter on carbonator pump head Check for kinked pipes between supply and pump inlet Check water supply has not been isolated	Repair as necessary.
Inlet filter blocked	Check pump inlet filter	Clean pump inlet filter
Pump head failure	Remove pump and check if it can rotate manually	Replace pump head
Missing shorting plugs on units Not fitted with a thermal switch	Ensure shorting plugs in place Check on THCOA and THCOB connections to board	Fit shorting plugs IF applicable

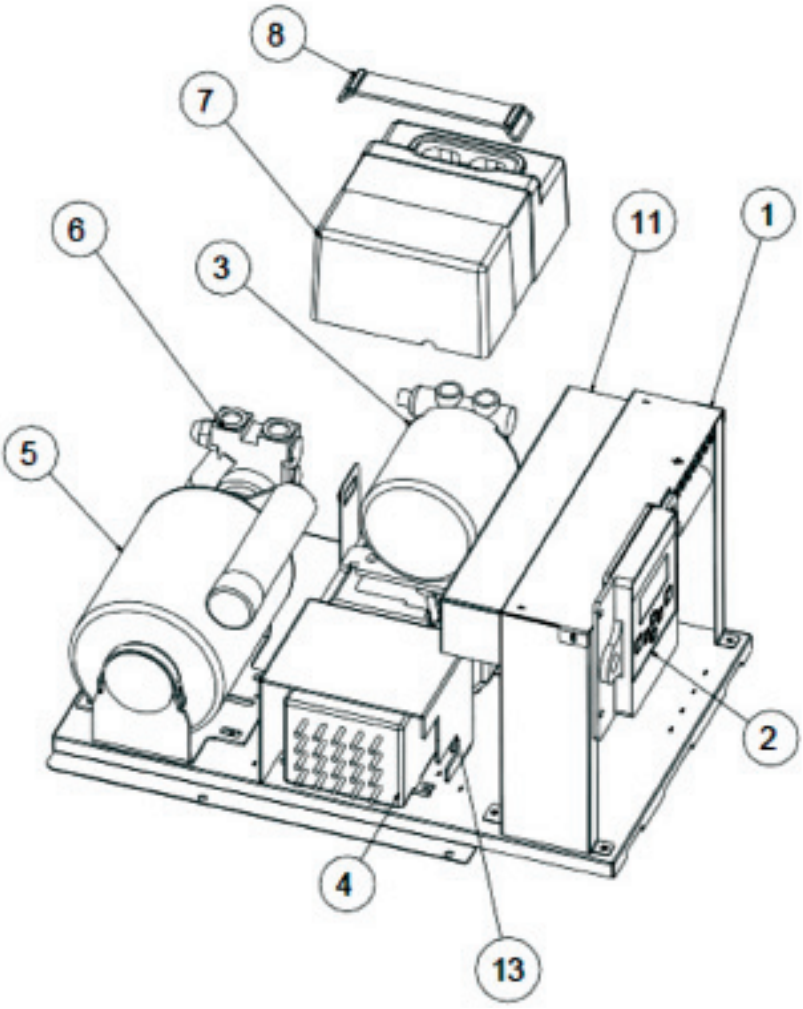
SECTION 8
EXPLODED VIEWS

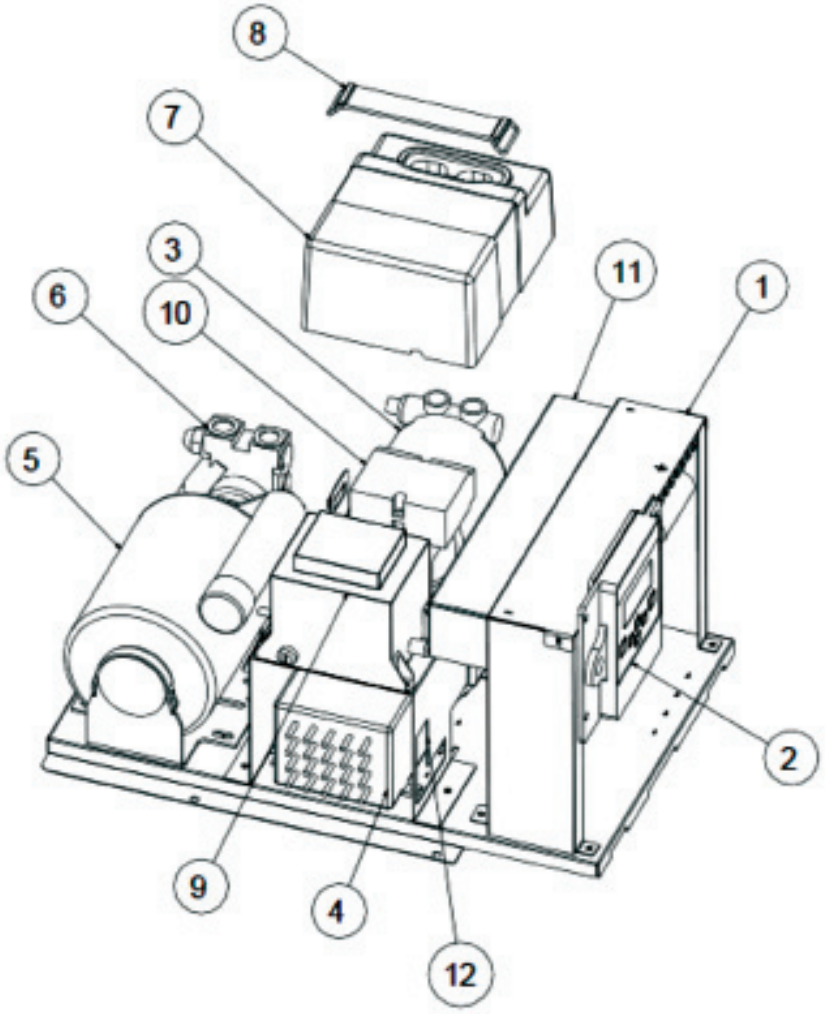
GENERAL LAYOUT



Dimensions	Icecore 15	Icecore 15
A	868MM	981mm
B	820mm	933mm
C	609mm – rubber feet 648mm – casters	639mm – rubber feet 678mm – casters
D	524mm	589mm
E	489mm	554mm

PUMP DECK ASSEMBLY





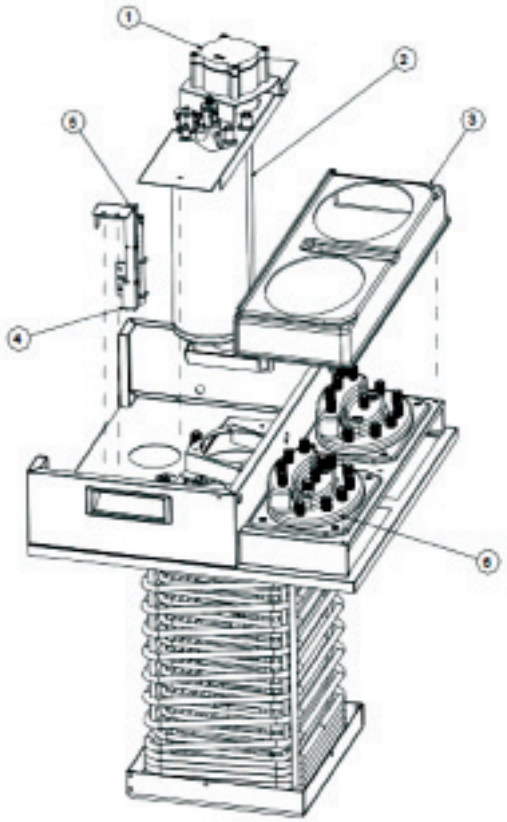
SHOWING OPTIONAL:

TRANSFORMERS AND STILL WATER BOOST ELECTRONIC CONTROL

PUMP DECK ASSEMBLY

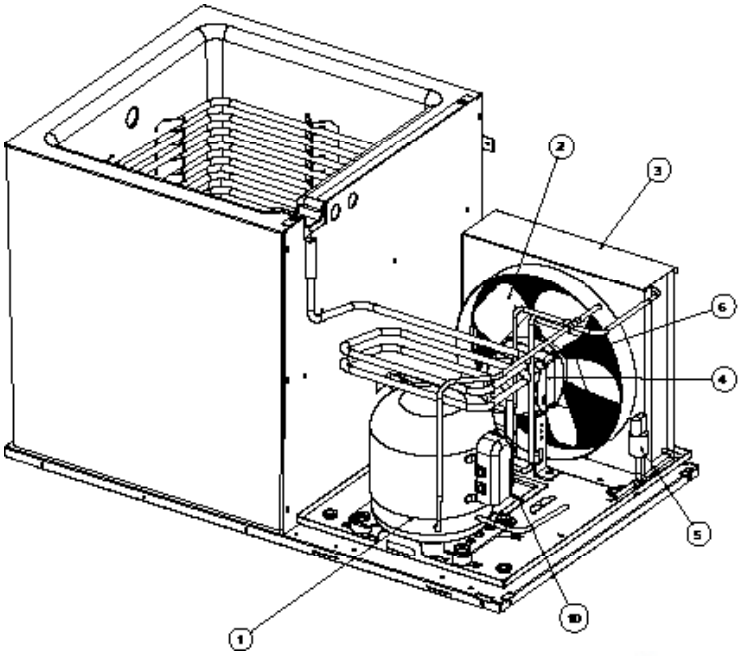
Item	Description	Fitting to:	Part No.
1	PCB Electrics box assembly Inc PCB, enclosure & harness	Icecore 15 Icecore 30	PI57474
	PCB board only V1.XX.MP		PI57317
2	LCD Display	Icecore 15 Icecore 30	SV000006729
3	TMFR Pump and Motor Encapsulated	Icecore 15 (option) Icecore 30 (option)	PU57966
	TMFR Pump Head (only)		PU57753
	TMFR Motor (only)		MO57754
	Recirc. Pump Motor RPM 180w (non eco)	Icecore 15 Icecore 30	SA015044
	Recirc. Pump Head (non eco)		PU70885-01
4	TMFR Control	Icecore 15 (option) Icecore 30 (option)	PI57311
5	Carb. Pump Motor Sisme 250w	Icecore 15 Icecore 30	MO74685
6	Carb. Pump Head 125 Gal/hr	Icecore 15 Icecore 30	PU57313
7	TMFR Insulation	Icecore 15 (option) Icecore 30 (option)	PI57629
8	Rubber Strap	Icecore 15 Icecore 30	PI57965
9	Transformer 24V 200VA	Icecore 15 (option) Icecore 30 (option)	SG-83-0751
10	Still Water Boost Control (Electronic)	Icecore 15 (option) Icecore 30 (option)	SG-83-0775-0500
11	Electrical terminal splash shelter clear polycarb. cover	Icecore 15 Icecore 30	MM57394
12	Transformer Bracket	Icecore 15 Icecore 30	MM57535
13	TMFR Controller Clear polycarb. cover	Icecore 15 Icecore 30	MM57295

COIL DECK ASSEMBLY

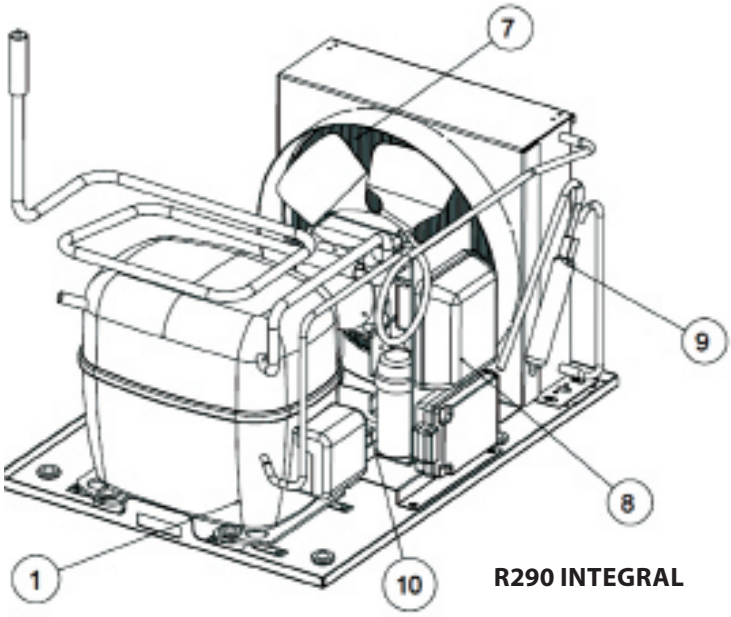


Item	Description	Fitting to:	Part No.
1 Agitator Assembly)	Agitator MVL (non eco)	Icecore 15 Icecore 30	SA57821 Silver Clad Brct.
			SA57821-SS Stainless Steel Brct.
	EC Agitator Elco 18 W		SA57755 Silver Clad Brct.
			SA57755-SS Stainless Steel Brct.
	EC Agitator Elco 40 W		SA57820 Silver Clad Brct.
			SA57820-SS Stainless Steel Brct.
1 Agitator Assembly)	Agitator MVL (non-eco) Motor Only	Icecore 15 Icecore 30	SG-85-0265-10
	EC Agitator Elco 18 W Motor Only		MO57312
	EC Agitator Elco 40 W Motor Only		MO57809
Not shown	3 Blade Propeller	Icecore 15 Icecore 30	PI48538
	4 Blade Propeller	Icecore 15 Icecore 30	SG-85-0256
2	Carbonator Bowl	Icecore 15 Icecore 30	CB57301 CB57302
3	Coil Manifold Cover	Icecore 15 Icecore 30	PI57264
4	Ice Probe Sensor	Icecore 15 Icecore 30	MX020002091
5	Water Bath Temperature Sensor	Icecore 15 Icecore 30	MX020002142
6	Coil Exit Molding	Icecore 15 Icecore 30	PI57181

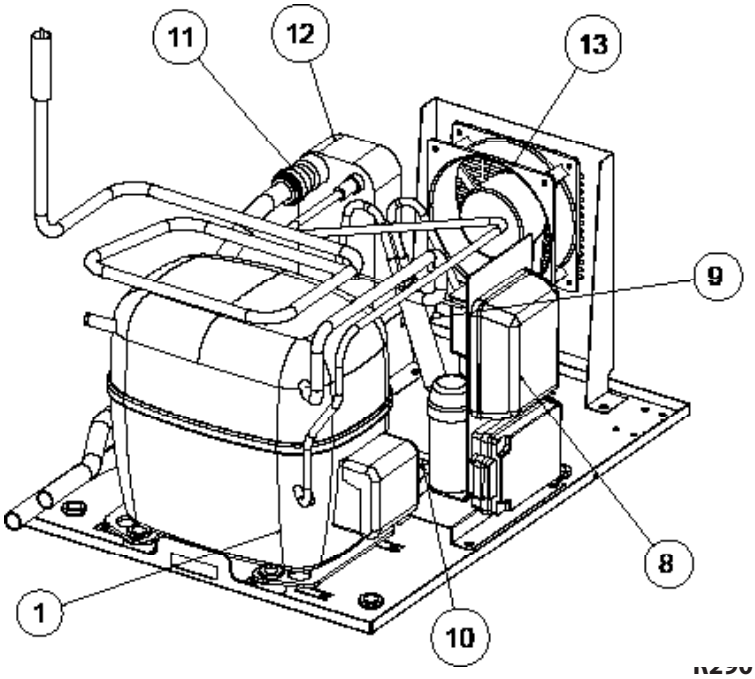
FRIDGE DECK ASSEMBLY



R744 INTEGRAL



R290 INTEGRAL

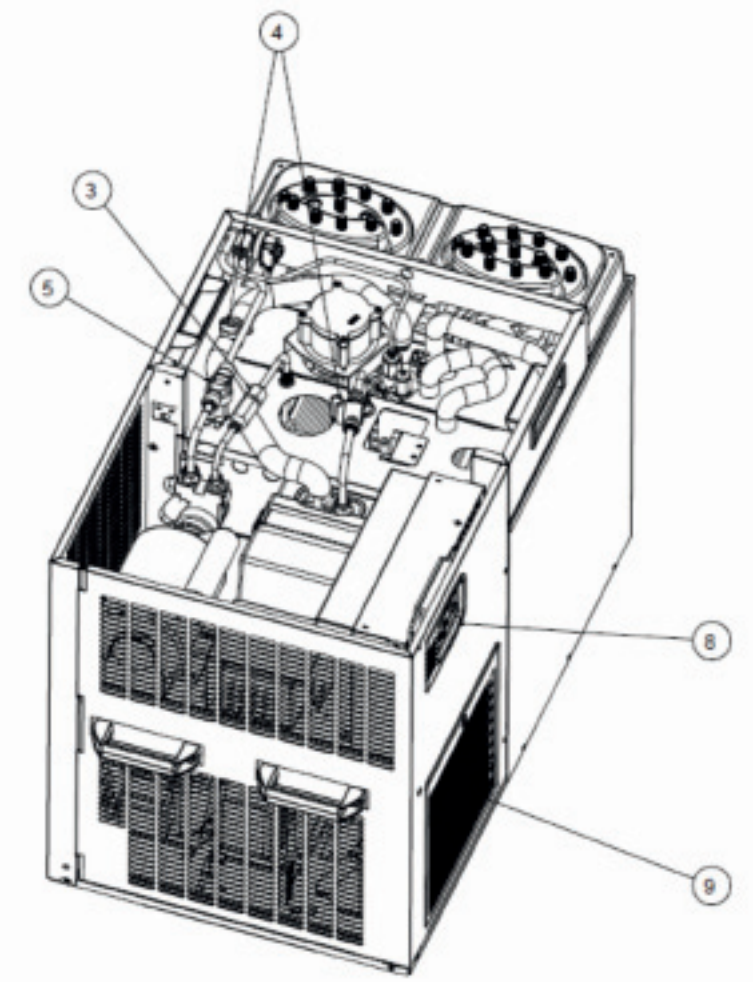


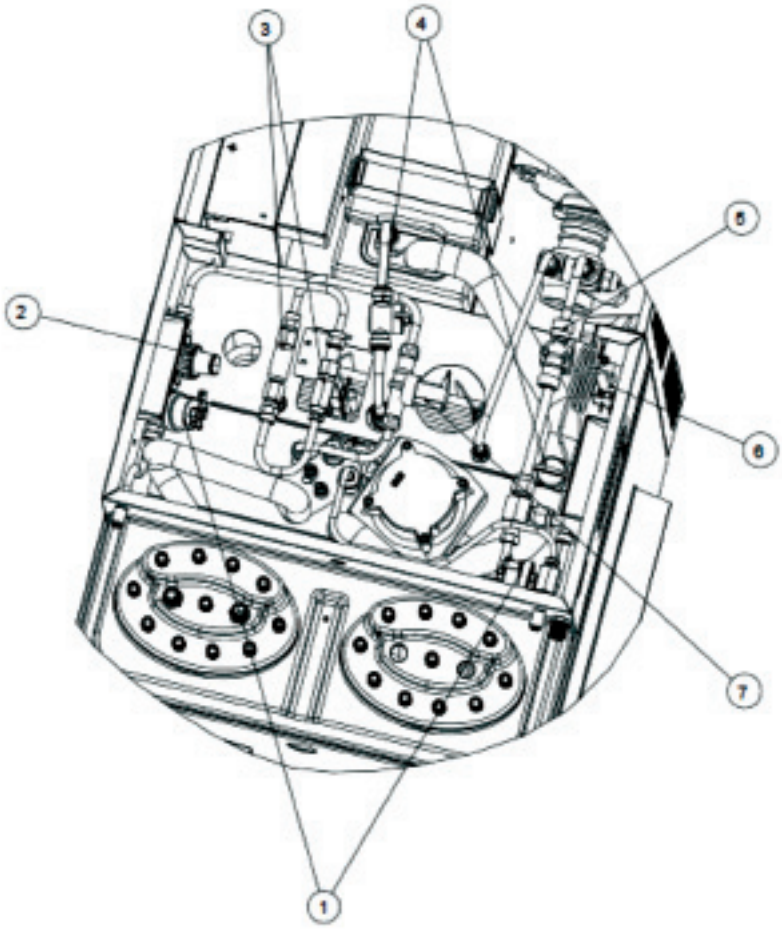
R290 WATER COOLED

FRIDGE DECK ASSEMBLY

Item	Description		Fitting to:	Part No.
1	Compressor & Capacitors – R744		Icecore 15 R744 Icecore 30R744	CM57349
	Compressor Danfoss SC12CNX – R290		Icecore 15 R290	CM56131
	Compressor Embraco NT6217U – R290		Icecore 30 R290	CM56748
2	Fan Blade 9" x (220mm) 31° Pitch/Suction		Icecore 15 R290	PI57433
	Fan Blade 10" (254mm) 28° Pitch/Suction		Icecore 15 R744 Icecore 30 R744 Icecore 30 R290	SG-85-0082
3	Fan Cowl Assembly To Suit 9" Fan Blade		Icecore 15R290	SA57811 Silver Clad
				SA57811-SS Stainless Steel
	Fan Cowl Assembly To Suit 10" Fan Blade		Icecore 15 R744 Icecore 30 R744 Icecore 30 R290	SA57812 Silver Clad
				SA57812-=SS Stainless Steel
4	Fan Motor EBM 1Q 3620 including connector		Icecore 15 Icecore 30	SA57798
	Fan Motor EBM (non eco units) including connector			SA57818
5	CO2 Safety Pressure Switch (R744 units only)		Icecore 15 Icecore 30	PI57350
6	Gas cooler (R744 units only)		Icecore 15 R744 Icecore 30 R744	CN57154
7	Condenser (R290 units only)		Icecore 15 R290	CN47900
			Icecore 30 R290	CN49700
8	Compressor Electrics Pack – Danfoss		Icecore 15 R290	PI57395
Not Shown	Compressor Electrics Embraco R290	Start Relay	Icecore 30 R290	PI57396
		Start Capacitor		PI57397
9	Drier Filter 15g (R290 units only)		Icecore 15 Icecore 30	OP73484
10	Boil off tray		Icecore 15 Icecore 30	PI57316
11	JG Tap Adaptor – 15mm x ½" BSP		Icecore 15 R290 W/C Icecore 30 R290 W/C	PI42706
12	Heat Exchanger – 14 Plate		Icecore 15 R290 W/C Icecore 30 R290 W/C	PI51293
13	Box Fan – NMB 4"		Icecore 15 R290 W/C Icecore 30 R290 W/C	MO46686

OTHER COMPONENTS STANDARD AND OPTIONAL





SHOWING OPTIONS:

STILL WATER BOOST
PUMP ISOLATION - JG BALL VALVES
FLOOD PROTECTION SOLENOID
LOW CO2 PRESSURE SWITCH
LOW WATER PRESSURE SWITCH

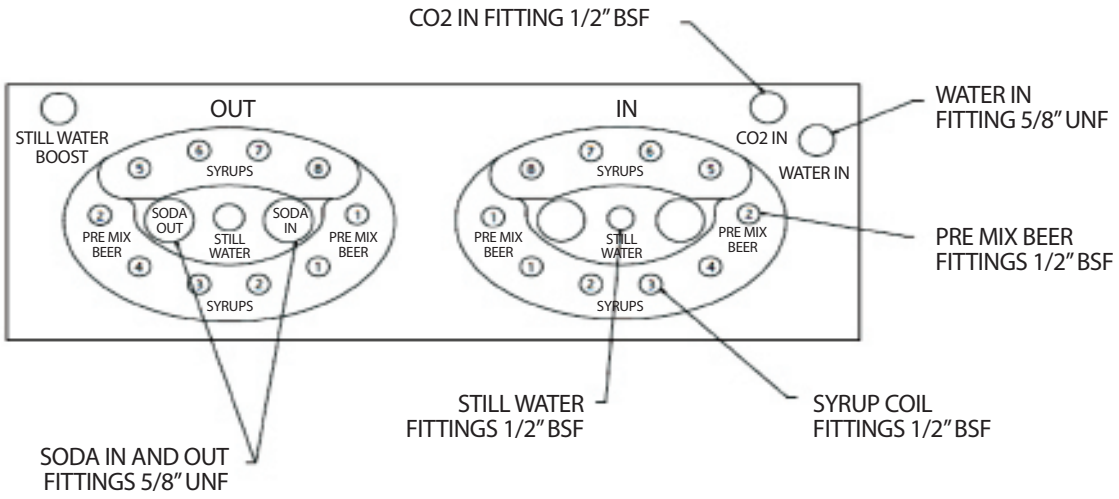
OTHER COMPONENTS STANDARD AND OPTIONAL

Item	Description	Fitting to:		Part No.
1	Low CO2 pressure sw./Still water boost pressure sw. GPI10	Icecore 15 Icecore 30	Option	SG-83-0868
2	Pressure reducing valve – Still water boost	Icecore 15 Icecore 30	Option	OP74246
3	Double non return valve	Icecore 15 Icecore 30	Standard - Carb. Pump out	SG-42-0857-100
			Option - Still water boost circuit	
4	JG 3/8" ball valve	Icecore 15 Icecore 30	Option	PI43762
5	Solenoid valve – JG ends (Flood Protection Solenoid)	Icecore 15 Icecore 30	Option	PI47525
6	Low water pressure switch – Ranco	Icecore 15 Icecore 30	Option	SG-83-001 5EK
7	Solenoid valve – Treaded ends Still water boost	Icecore 15 Icecore 30	Option	OP73971
8	Bezel – LCD Display	Icecore 15 Icecore 30	Standard	PI57390
9	Condenser grill	Icecore (R290)	Standard	MM57484 Silver Clad
				MM57484-SS Stainless Steel
		Icecore 15 (R744) Icecore 30 (R744) Icecore 30 (R290)	Standard	MM57488 Silver Clad
				MM57488-SS Stainless Steel

ADDITIONAL SPARES - NOT SHOWN

Description	Fitting to:		Part No.
Temperature Sensor (Recirculation and refrigeration)	Icecore 15 Icecore 30	Standard	MX020001991
Carbonator pump thermal protection switch	Icecore 15 Icecore 30	Option	SA57737
Mains lead with molded R/angle plug (UK 3 pin)	Icecore 15 Icecore 30	Option	PI55549
Mains lead with molded R/angle plug (Euro plug)			PI57719
Hi torque Screws M6 x 10	Icecore 15 Icecore 30	Standard	PI57399
Hi torque Screws M4 x 10		Standard	PI57398
Hi torque Screws M4 x 15		Standard	PI57491

WATER, CO2, SYRUP AND SODA CIRCUITS CONNECTIONS



ENGINEERING NOTES

MANUFACTURER INFORMATION

Manitowoc Beverage Systems Ltd

Chancel Way
Halesowen Industrial Park
Halesowen, West Midlands
B62 8SE, UK
Tel.: +44 (0)121 501 2566
Fax.: +44 (0)121 550 0873
www.manitowocbeverage.co.uk

CE

EU Declaration of Conformity
In accordance with the EC Guidlines

- EC Guideline Electro Magnetic Contract 2004/108/EC
- Machinery Directive 2006/42/EC
- Food safety 1935/2004/EC
- Good manufacturing practice for articles in contact with food 2023/2006/EC
- RoHS2 2011/65/EU
- WEEE 2002/96/EC
- REACH 1907/2006/EC

Marking of the equipment:

- 11-1501-xx Icecore 15 INT
- 11-1502-xx Icecore 15 WC
- 11-3001-xx Icecore 30 INT

The following coordinated standards have been applied:

- EN 378-1:2008 + A2:2012
- EN 378-2:2008 + A1:2009
- EN 55014-1:2006 + A1:2009 + A2:2011
- EN 55014-2:1997 + A1:2001 + A2:2008
- EN 60335-1:2012
- EN 60335-2-89:2010
- EN 61000-3-2:2006 + A1:2009 + A2:2009
- EN 61000-3-3:2008
- EN 62233:2008

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