

Vision HC Remote Series

Installation and User manual



Sustainable Hydrocarbon Cooling System

Original instructions

 **Read instructions before use**

Model numbers:

01-8600-xx	Vision 21 Integral
01-8700-xx	Vision 21 Water Cooled
01-8800-xx	Vision 15

Where xx can be any numeric character 00-99 signifying model variant(s)

Document number: PENDING

Approvals:



Refreshing the Experience

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Document history

<u>Revision number</u>	<u>Release Date</u>	<u>Description of changes</u>
01	05/01/2023	Initial release of document

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1 Safety

1.1 Safety Information Within This Document

Within this document additional information that is important to read and understand will be presented as a “Warning”, “Caution” or “Note”. The definition of each of these and an example of each is below.

An example of a “Warning” is as follows: **BOLD TEXT – UPPER CASE**

WARNING: A WARNING IS TO TELL THE END USER THAT THERE IS A POSSIBILITY OF INJURY TO THEMSELVES OR OTHER PEOPLE IN THE VICINITY, IF THE DESCRIBED COURSE OF ACTION IS NOT FOLLOWED. A “WARNING” WILL BE IN UPPER CASE & BOLD TEXT.



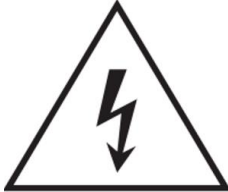

An example of a “Caution” is as follows: **Bold Text – Lower Case**




Caution: A Caution is to tell the end user that there is a possibility of damage to the equipment if the described course of action is not followed. A “Caution” will be in sentence case & bold text.

An example of a “Note” is as follows: *Italic Text – Lower Case*

NOTE: A Note is to advise the end user of important information that is related to or will assist them in the task or activity they are carrying out. A “Note” will be in sentence case & Italic text.

1.2 Labelling

	<p>Caution</p>
	<p>Operator's manual; operating instructions</p>
	<p>Caution – Risk of Electrical Shock</p>
	<p>Caution - Combustible and flammable materials</p>

	High Pressure
	Protective Earth
	Food Safe

Refrigerant 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 before and during work on the system (place it at a low level as HCs are heavier than air)
- Ensure there are no sources of ignition (flames or sparking electrical components) within 3 m (10 feet) of your work area.
- If replacing components use like for like replacements.
- Take great care when brazing to ensure all HC has been removed from the system.



Use refrigerant grade propane (R290 or CARE 40)

1.3 Warnings

WARNING: THIS APPLIANCE IS NOT TO BE USED BY PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION.

WARNING: THIS APPLIANCE IS UNSUITABLE FOR USE BY CHILDREN, AGED OR INFIRM PERSONS.

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

WARNING: ALL PERSONS LIFTING OR MOVING THIS EQUIPMENT MUST BE WEARING THE CORRECT PERSONAL PROTECTIVE EQUIPMENT (PPE).

WARNING: IT IS UNSAFE TO LIFT OR ATTEMPT TO MOVE THE APPLIANCE DURING CLEANING OR AT ANY OTHER TIME WHEN THE UNIT IS OPERATING.

WARNING: WELBILT (HALESOWEN) LIMITED HAVE DONE A COMPLETE QUALITY AND FUNCTIONAL CHECK ON EACH UNIT. NEVERTHELESS, LEAKAGES ON WATER LINES DURING OPERATION CAN NOT BE EXCLUDED TOTALLY. REGULARLY INSPECT THE EQUIPMENT FOR SIGNS OF LEAKAGE.

WARNING: KEEP ALL VENTILATION OPENINGS IN THE APPLIANCE 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 REFRIGERATION CIRCUIT.

WARNING: THE EVAPORATION TEMPERATURE WITHIN THE REFRIGERATION CIRCUIT CAN TYPICALLY BE -10°C. WITHOUT TAKING PREVENTATIVE STEPS THIS CAN BE A POTENTIAL SOURCE OF INJURY.

WARNING: THE COMPRESSOR, CONDENSER, HIGH PRESSURE REFRIGERATION TUBES AND MOTORS WILL BECOME HOT DURING OPERATION. CONTACT WITH THESE PARTS DURING OPERATION MUST BE AVOIDED.

WARNING: 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: DO NOT DISPOSE OF THE UNIT WITHOUT FIRST REMOVING ALL R290 REFRIGERANT. THIS PROCESS CAN ONLY BE PERFORMED BY AN ENGINEER OR TECHNICIAN QUALIFIED TO HANDLE HYDROCARBON REFRIGERANTS.

WARNING: ALL INSTALLATIONS MUST BE CHECKED THAT THEY MEET LOCAL ELECTRICAL REGULATIONS AND NATIONAL CODES BEFORE THE APPLIANCE IS TURNED ON.

WARNING: ALL UNITS ARE FITTED WITH A STANDARD EURO PLUG TO IEC83:1985 OR A UK PLUG. BEFORE COMMENCING ANY CLEANING, ENSURE THAT THE UNIT IS ELECTRICALLY ISOLATED BY:

- 1. SWITCH OFF THE SOCKET THAT THE PLUG IS INSTALLED INTO.**
- 2. REMOVE THE PLUG FROM THE SOCKET.**

WARNING: IF THE MAINS LEAD FITTED TO THIS EQUIPMENT IS IN ANY WAY DAMAGED IT MUST BE REPLACED BY WELBILT (HALESOWEN) LIMITED, OUR SERVICE AGENT OR A QUALIFIED ELECTRICAL ENGINEER OR TECHNICIAN. THE MAINS LEAD CONNECTION IS A 'Y' TYPE.

WARNING: THIS EQUIPMENT MUST BE EARTHED.

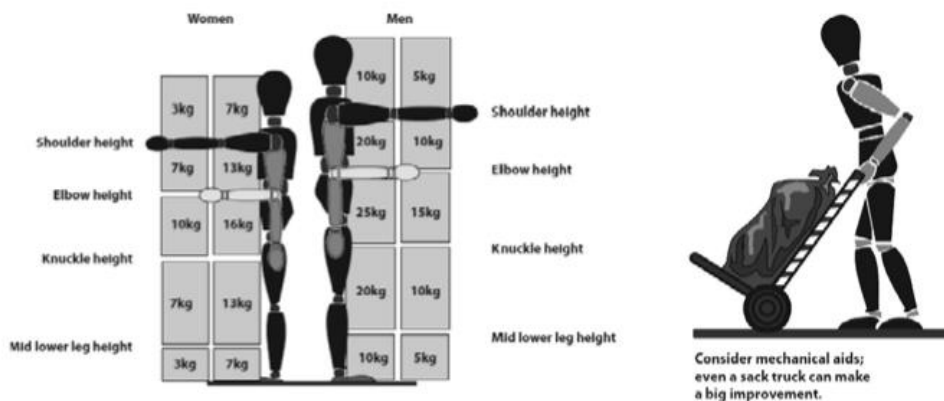
WARNING: IN ORDER TO REDUCE FLAMMABILITY HAZARDS THE INSTALLATION OF THIS EQUIPMENT MUST BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON.

WARNING: THE REFRIGERATION SYSTEM IS UNDER HIGH PRESSURE. DO NOT TAMPER WITH IT. CONTACT QUALIFIED SERVICE PERSONNEL BEFORE DISPOSAL.

1.4 Cautions

Caution: Although every care is taken during manufacture, damage to the metalwork during transport, installation and general use may occur. This may result in sharp or jagged edges. Avoid contact with metal edges or other potential hazards.

Caution: Refer to manual handling guidelines when lifting this equipment.



Caution: Before lifting or moving this equipment it is recommended that all persons performing these tasks should receive relevant training in safe handling.

Caution: To prevent personal injury, where practical, transportation of the unit over extended distances should be done using a mechanical aid.

Caution: Always transport the unit in the correct upright position, never on its side or upside down.

Caution: Only use this equipment for its intended use as described in this manual. There are no other recommended uses for this equipment. Unintended use of the equipment will invalidate your warranty.

Caution: Do not dispose of this equipment as unsorted municipal waste, contact your distributor or service agent for the collection and safe disposal of this equipment. Welbilt (Halesowen) Limited is a registered member of a WEEE Producer Compliance Scheme.

2 Before you begin

2.1 Introduction to / purpose of this installation and user guide

The Installation and User Guide contains all essential information for the user to make full use of the **Vision HC Remote Cooler** systems. This manual includes a description of the system functions and capabilities and step-by-step procedures for use.

2.2 How to read / apply this handbook

IMPORTANT

- Please read the Installation & User Guide and carefully before operating this unit.
- Please keep the Installation & User Guide safe and with the unit.
- Examine the equipment immediately after supply for transport damage. Contact your equipment supplier and / or carrier if necessary. Damage, which arises by inappropriate treatment or operation, is not subject to guarantee / warranty.
- Equipment manufactured or supplied by Welbilt (Halesowen) Limited complies with the current legislation and standards of the United Kingdom and EU and represents the current standard of technology. Safety during operation may only be assured by following the instructions in this guide.
- Reproduction of this document any kind without previously written permission of Welbilt (Halesowen) Limited is prohibited.
- Welbilt (Halesowen) Limited typically designs for a 5-10-year product lifetime dependent upon the type of equipment.

2.3 Disclaimer

WELBILT (HALESOWEN) LIMITED HAS MADE CONSIDERABLE EFFORTS TO ENSURE THE CONTENT OF THIS DOCUMENT IS CORRECT AT THE DATE OF PUBLICATION. HOWEVER, WELBILT (HALESOWEN) LIMITED MAKES NO WARRANTIES OR REPRESENTATIONS REGARDING THE CONTENT. WELBILT (HALESOWEN) LIMITED EXCLUDES LIABILITY, HOWSOEVER ARISING, FOR ANY INACCURACIES IN THIS DOCUMENT.

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2.5 Contact Details

Contact details for Welbilt (Halesowen) Limited are:

Telephone: +44 (0) 121 501 2566
Hours of work: Monday to Thursday 08:00 to 17:00 (UTC & DST)
Friday 08:00 to 16:00 (UTC & DST)

Email: mbs.uk@welbilt.com

Address: Chancel Way
Halesowen Industrial Park
West Midlands
B62 8SE
United Kingdom

2.6 Warranty

Equipment requiring attention under warranty must be returned to your equipment supplier. Unless otherwise specifically agreed in writing between you and Welbilt (Halesowen) Limited, if you purchased the equipment from a Welbilt (Halesowen) Limited company, the warranty provisions contained in Welbilt (Halesowen) Limited's CONDITIONS OF SALE apply. You should consult these conditions in order to find out the details of your warranty but, in summary, the main exclusions from the warranty are if the equipment has been:

- neglected, mishandled or
- inappropriately used; or modified or altered in any way except with the prior written agreement of Welbilt (Halesowen) Limited.

If you purchased the equipment from any other supplier, you should contact them to find out what repairs are covered by their warranty.

2.7 Changes to equipment

Welbilt (Halesowen) Limited reserves the right to change equipment specifications without notice.

2.8 Patents

None

2.9 WEEE directive

The use of this symbol on Welbilt (Halesowen) Limited products and/or accompanying documentation indicates that the product should not be mixed with general household waste upon disposal. It is the responsibility of the end user to dispose of this product at a designated collection point for waste electrical and electronic equipment (WEEE) to enable reuse or recycling. Correct disposal of this product will help to save valuable resources and prevent potential negative effects on the environment. For more information, please contact your local waste disposal service or Welbilt (Halesowen) Limited distributor.



2.10 EU Declaration of Conformity

Welbilt (Halesowen) Limited hereby declares that the **Vision HC Remote Coolers** are compliant with the essential requirements and other relevant provisions of Directives 2006/42/EC, 2014/30/EU & 2011/65/EU.

Contact Welbilt (Halesowen) Limited for a replacement EU Declaration of Conformity if required.

2.11 UKCA Declaration of Conformity

Welbilt (Halesowen) Limited hereby declares that the **Vision HC Remote Coolers** are compliant with the essential requirements and other relevant provisions of UK Statutory Instruments (and their amendments): 2008 No. 1597, 2016 No. 1091 & 2012 No. 3032
Contact Welbilt (Halesowen) Limited for a replacement UKCA Declaration of Conformity if required.

2.12 REACH

Registration, Evaluation, Authorisation & restriction of **CH**emicals.

In accordance with Article 33(1) of Regulation (EC) No 1907/2006, in the event that an article supplied by Welbilt (Halesowen) Limited contains a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0,1 % weight by weight (w/w), Welbilt (Halesowen) Limited is required to provide its customers with sufficient information, available to Welbilt (Halesowen) Limited, to allow safe use of the article supplied. This information must, as a minimum, include the name of the substance.

Welbilt (Halesowen) Limited continues to work with its suppliers to identify the presence of SVHCs in articles and materials used in its products. In the event that Welbilt (Halesowen) Limited becomes aware of the presence of a substance meeting the criteria above, whether through its own evaluation and test processes or through notification by an upstream Actor in the supply chain, Welbilt (Halesowen) Limited will issue appropriate notifications via our website together with any amendments to product literature.

2.13 Food Safety

Welbilt (Halesowen) Limited hereby declares that the **Vision HC Remote Coolers** are compliant with the essential requirements and other relevant provisions of EU Directives 1935/2004/EU & 10/2011/EU & UK Statutory Instruments (and their amendments) 2019 No. 704 & UK Statutory Instruments (and their amendments) 2011 No. 233.

3 Definitions

The following definitions are used throughout this document

Term	Definition
Ancillary Equipment	Any item which is required to complete the installation that is not included in the scope of supply.
Customer or End Unit	The person or company responsible for purchasing or using the equipment
Equipment	The scope of supply from Welbilt that the customer has purchased.
Must	Tasks, actions or activities that are essential for the safe operation of the system
Service Engineer	A Welbilt trained person who is qualified and experienced to the highest level in repairing the system.
Should	Tasks, actions or activities that are recommended for the safe operation of the system
Technician	An operator who is trained to change material parameters and fault find.
Trained Operator	An individual working for the customer or end user who is competent to operate, maintain and clean the equipment safely. This is because they have been formally trained and assessed in the individual tasks required.

4 Abbreviations

- EMC – Electromagnetic Compatibility
- REACH - Registration, Evaluation, Authorisation & restriction of CHemicals.
- SDS – Safety Data Sheet
- WEEE – Waste Electrical & Electronic Equipment
- WRAS – Water Regulations Advisory Service

5 Reference Documentation

In addition to this User Guide, also refer to the following documents for additional information about other aspects of the **Vision HC Remote Cooler** systems:

- PI53420 – User Guide (Generic)
- PI015362 – Heat Dump User Guide (Water-cooled remotes only)

6 Scope of Supply

6.1 Standard Equipment

The following equipment and services are supplied as standard when you purchase a **Vision HC Remote Cooler** system from Welbilt (Halesowen) Limited.

- **Vision 15** – Sustainable remote cooling system.
- **Vision 21 Integral** – Sustainable remote cooling system.
- **Vision 21 Water cooled** – Sustainable remote cooling system.

6.2 Mandatory Items

The unit should always be fitted with the mains lead that is supplied with the unit. There are two variants:

- UK Plug
- Euro Plug

Vision 21 Water cooled

The water-cooled unit version should always be used in conjunction with the following equipment:

- Heat Dump Module

6.3 Spare consumables

None

6.4 Optional Items

Python
Dispense head

7 Introduction

7.1 Summary

The **Vision HC Remote Coolers** are sustainable cooling systems that has been developed and designed to improve reliability and lower customer service costs by using energy efficient, natural refrigerants. Combining the natural refrigerants with sustainable parts within, the unit has helped improve performance and reduce the customers "Total Life" cost.

Key features and benefits include:

- HFC-free R290
- Sustainability
- Improved serviceability
- Energy efficient controls
- Modular cooling platform
- Increased insulation - leading to increased energy savings

7.2 Machine Description

The **Vision HC Remote Coolers** have been designed to combine, in one unit, a cooler that can be used as a standard ice bank cooler, with the options of modifying the programmable control to enable the use as a glycol cooler.

The coolers have a pump-motor to recirculate bath water, in order to provide python cooling.

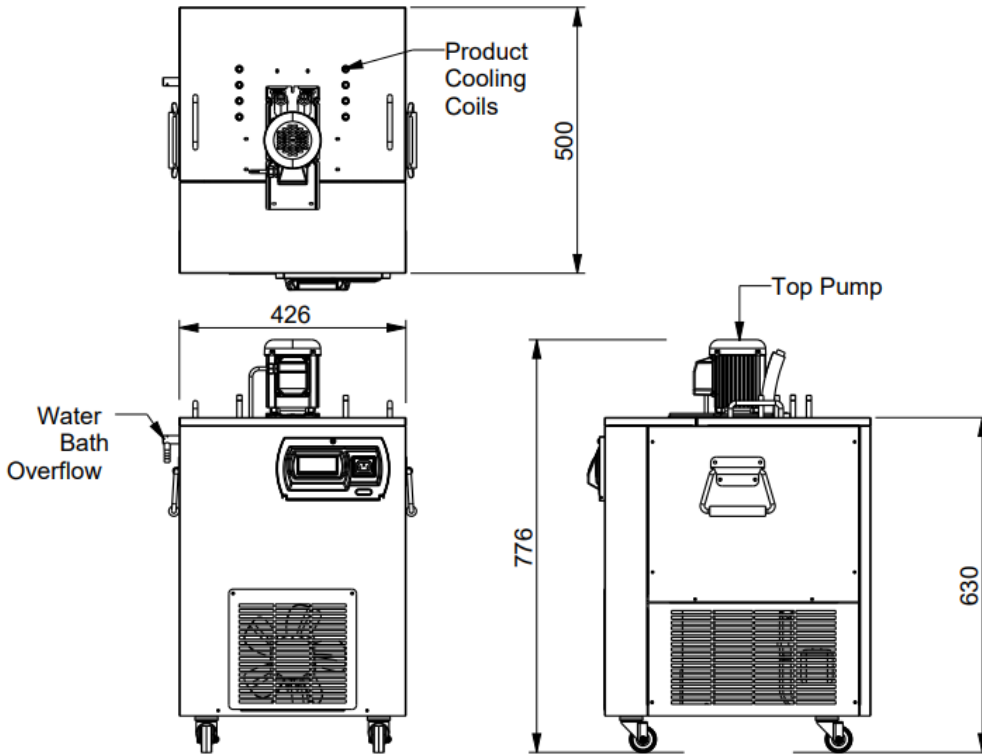
The **Vision 21** can take up to 14 product coils. The coils are of the cassette type and are available in different lengths.

The **Vision 15** has 4 fixed product coils, which are built into the lid assembly. A variation without coils is also available for applications such as python cooling.

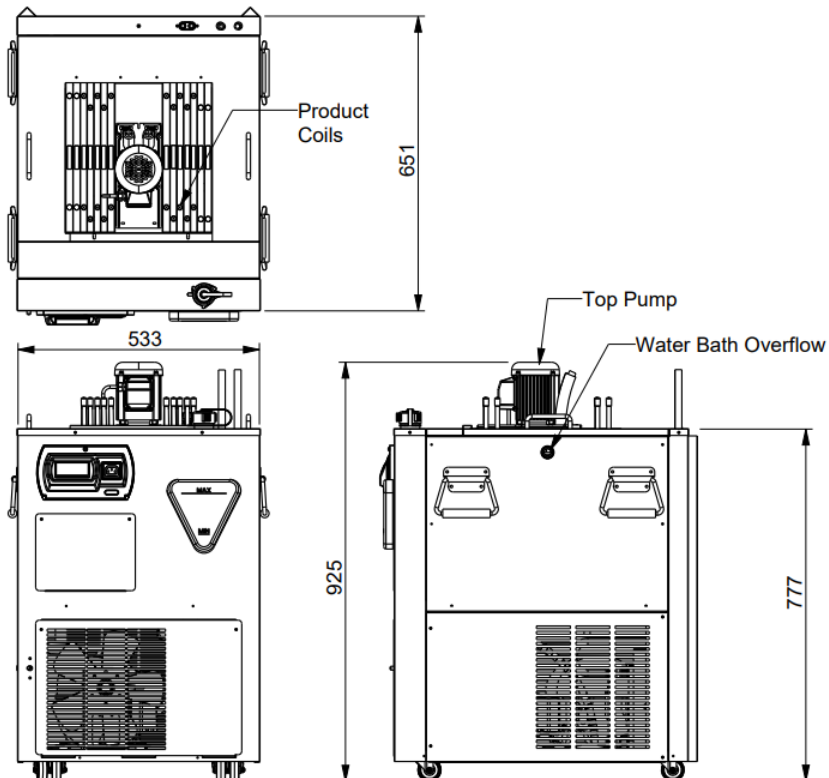
This **Vision 15 & 21** are designed to be installed in cellars, ventilated storerooms. There are NO other recommended uses for this equipment.

7.3 Graphical Description

Vision 15



Vision 21 (Water Cooled Model Shown)



7.4 Intended use and materials/products that can be processed

This equipment should be used only in accordance with these instructions; it should not be used for any other purpose.

Vision HC Remote Coolers are intended for use as a cooling unit to cool beers, lagers and ciders to the correct serving temperature. It is designed to be installed in the system between the bulk storage facility and the dispense point with the product(s) passing through the cooling coils of the unit.

The equipment should be used only in accordance with the instructions; it should not be used for any other purpose.

7.5 Specific applications that are prohibited

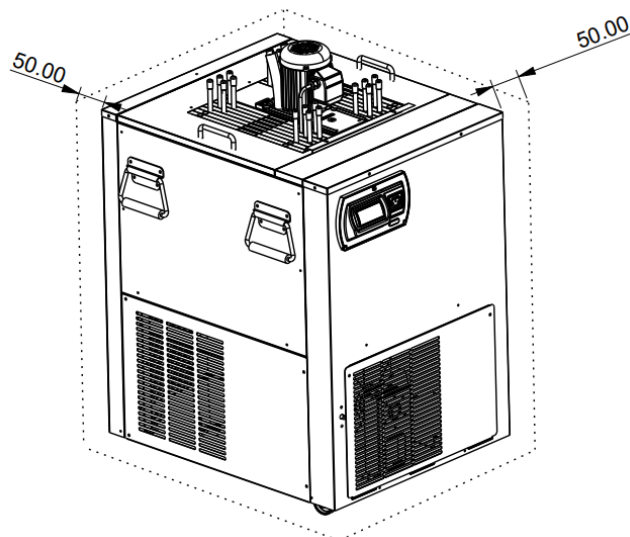
The equipment is NOT intended for:

- Installation in small, enclosed spaces such as cupboards or pantries, where fresh air flow is restricted.
- Operation of the equipment in a wet environment.
- Installation near other heat rejecting equipment as this may reduce performance.
- Use with carbonated soft drinks.
- Use with fruit juice beverages.
- Use with milk-based beverages.

Always:

- Install in a well-ventilated area. The unit requires 50mm minimum clearance all around and to be open at front.

MAINTAIN MINIMUM AIR GAP SURROUNDING
ALL SIDES OF COOLER AT ALL TIMES

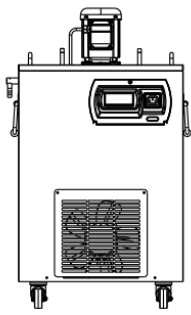


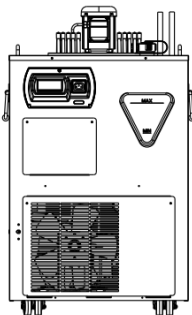
Keep the unit free from excessive heat and cold.
Minimum and maximum ambient temperatures are:

- Minimum: +12°C
- Maximum: +32°C
- Any spillage must be wiped dry immediately.

Caution: 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.

7.6 Key machine specifications

Vision 15		Vision 15 (01-8800-xx) INTEGRAL
Physical Data		
	Height	776 mm (Inc. Casters)
	Width	426mm
	Depth	500mm
	Dry Weight	41 kg
	Operating Weight	69 Kg
	Water Bath Volume	28 Litres
	Maximum Noise	70 dB(A)
	Climatic Class	3
Performance		
Ice Bank Pull Down Time @ 19°C Ambient		2hrs: 45 min
Ice Bank Weight		11 kg (Nominal)
Max. Operating Temperature		32°C
Electrical		
Mains Voltage		220 – 240 VAC, 50 Hz
Run Current (@ 32°C in the water phase)		3.1
Fuse Rating		10 Amps
Refrigeration		
Compressor Size		8.8 cc
Compressor manufacturers duty @ -10°C evaporating temp * Test condition - EN12900		670 Watts *
Refrigerant		R290 (GWP 3 CO ₂ e 0.405g)
Charge		105 grams
Controls		
Ice Bank Control		Electronic with temp display
System Protection		
Compressor		Windings protection - Thermal Switch (Auto reset)
Top Pump – Python Recirculation		Thermal Overload (Auto reset)
Coils		
Plain Lid		No Coils
Standard Cooler		Qty.4 x 6m x 3/8" OD, 316 Stainless Steel

Vision 21		Vision 21 (01-8600-xx) INTEGRAL 12cc Compressor	Vision 21 (01-8600-xx) INTEGRAL 15cc Compressor	Vision 21 (01-8700-xx) Water Cooled 12cc Compressor	Vision 21 (01-8700-xx) Water Cooled 15cc Compressor
Physical Data					
	Height	925 mm			
	Width	540 mm			
	Depth	660mm			
	Dry Weight (No coils)	52 kg	53.5 kg	56 kg	57.5 kg
	Operating Weight (no Coils)	112	113.5	116 kg	117.5 kg
	Typical Coil Weight	0.6 kg			
	Water Bath Volume	60 Litres			
	Maximum Noise	70 dB(A)			
	Climatic Class	3			
	Electrical				
Mains Voltage	220 – 240 VAC, 50 Hz				
Run Current (@ 32°C in the water phase)	4.4 A	5.0 A	5.0 A	5.9 A	
Fuse Rating	10 Amps				
Refrigeration					
Compressor Size	12.6 cc	15 cc	12.6 cc	15 cc	
Compressor manufacturers duty @-10°C evaporating temp	949 watts	1047 watts	949 watts	1047 watts	
Refrigerant	R290 (GWP 3 CO ₂ e 0.405g)				
Charge	140 grams	150 grams	110 grams	125 grams	
Controls					
Ice Bank Control	Electronic with temp display				
System Protection					
Compressor	Windings protection - Thermal switch (Auto reset)				
Top Pump – Python Recirculation	Thermal overload (Auto reset)				
Coils – Cassette type					
	3 m	Max. Qty. 14	3/8" O.D. (9.5 mm) 316 Stainless Steel		
	3.8 m				
	5 m				
	10 m	Max. Qty. 8			
	12 m	Max. Qty. 6			

7.7 Climate Class - ISO 23953-2:2005(E)

Test Room Climate Class	Dry Bulb Temperature (°C)	Relative Humidity (%)	Dew Point (°C)	Water Vapour Mass In Dry Air (g/kg)
0	20.0	50.0	09.3	07.3
1	18.0	80.0	12.6	09.1
2	22.	65.0	15.2	10.8
3	25.0	60.0	16.7	12.0
4	30.0	55.0	20.0	14.8
5	27.0	70.0	21.1	15.8
6	40.0	40.0	23.9	18.8
7	35.0	75.0	30.0	27.3
8	23.9	55.0	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

7.8 Rating plate

Image of a "typical" rating plate.

Vision 15	Vision 21 Integral	Vision 21 Water Cooled

8 Transportation, handling and storage

8.1 Physical characteristics

8.1.1 Dimensions during transportation

Individually palletised dimensions:

	Vision 15	Vision 21 Integral	Vision 21 Water Cooled
Width	800 mm	800 mm	800 mm
Depth	800 mm	800 mm	800 mm
Height	900 mm	1000 mm	1100 mm

Palletised dimensions - 2 coolers per pallet:

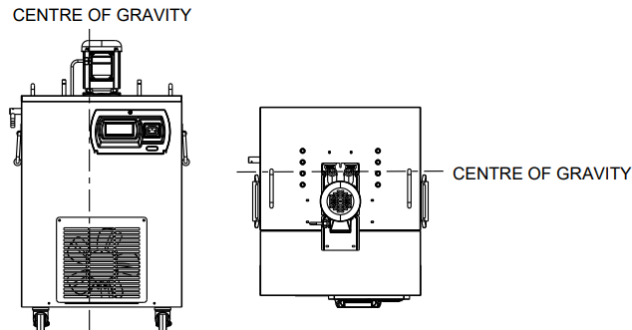
	Vision 15	Vision 21 Integral	Vision 21 Water Cooled
Width	1050mm	1200 mm	1200 mm
Depth	800 mm	1000 mm	1000 mm
Height	950 mm	1000 mm	1100 mm

8.1.2 Mass of the machine

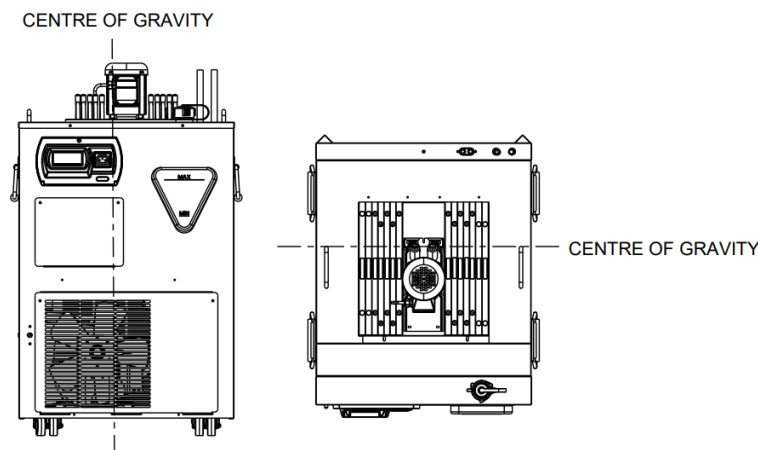
	Vision 15	Vision 21 Integral	Vision 21 Water Cooled
Individually palletised Weight	46 kg	59 kg	64 kg
2 coolers per pallet	101 kg	121 kg	131 kg

8.1.3 Centre of gravity of the machine

Vision 15



Vision 21



8.1.4 Gripping/lifting points to be used.

- Individual coolers have 4 handles, 2 on either side of the unit. These should be used for lifting.
- Palletised coolers should be moved using a pump truck or similar device that is suitable to lift the specified weight.

8.2 Recommended transportation

8.2.1 Handling method

- Individual units should be lifted using the handles on either side of the unit.
- The weight of the units are indicated by the table in section 8.1.2. As such they should be lifted by two persons.
- Use lifting equipment if available.
- Knowledge of manual handling techniques and safe working practice is a recommended requirement when lifting units.
- Individual units should be lifted one at a time from the pallet.

8.3 Environmental conditions for storage

- Units should be stored in temperature conditions above 0°C and below +40°C.
- Relative humidity conditions do not affect storage.
- Units must always be kept dry.

- Direct sunlight does not affect the storage of the unit provided it is dry and within storage temperature limits.

9 Assembly, installation & commissioning

9.1 Assembly of the Vision HC Remote Cooler

WARNING: IN ORDER TO REDUCE FLAMMABILITY HAZARDS THE INSTALLATION OF THIS EQUIPMENT MUST BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON.

WARNING: THE REFRIGERATION SYSTEM IS UNDER HIGH PRESSURE. DO NOT TAMPER WITH IT.

Unpack the unit from its transportation packing and visually check for any signs of damage. If there are any signs of damage, contact Welbilt (Halesowen) Limited immediately.

No special tools are required to assemble **Vision HC Remote Cooler** units.

The unit requires fitting with a correctly fused and wired 13A plug, fitted with a 10A fuse or alternatively a standard "Euro Plug" to IEC 83:1975.

The installation should only use food grade tubing to interconnect appliances within the system.

All waste packaging and preservation products must be disposed of in a safe and environmentally friendly manner in accordance with local regulations.

9.2 Positioning of the Vision HC Remote Cooler

Site the unit in a convenient location in the cellar or room that is well ventilated, as close to the point of dispense as possible, ensuring that there is enough space to work around the unit for installation and cleaning.

When locating the unit, ensure that it is on a level surface, and does not overhang.

Make sure that a mains electricity supply is within two meters (2m) of the unit and without obstructions to the condenser (front of the unit) or side and rear panel ventilation slots.

WARNING: ENSURE THAT THERE IS FREE CIRCULATION OF AIR IN THE AREA AROUND THE UNIT.

WARNING: THE UNIT SHOULD ALWAYS USE THE MAINS LEAD THAT IS SUPPLIED WITH THE UNIT.

Note: Welbilt do not recommend installing the equipment near other heat rejecting equipment as this may reduce performance.

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

- Vision 15 and 21 HC Remote Coolers - 10 Amp Fuse

For Water Cooled Units Only:

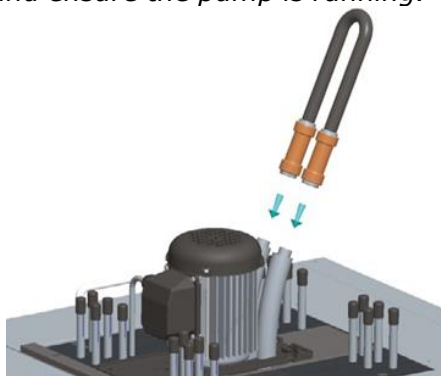
Water cooled units should be located as close as possible to the Heat Dump unit. Please refer to the Heat Dump manual (PI015362) for guidelines on the units siting, installation, and maintenance.

9.3 Installation of Vision units

9.3.1 Connecting to the product lines and python

1. Connect the re-circulation top pump power cable to the socket on the front of the base unit.

Note: If the fridge unit is operated whilst the installation is being completed, fit a short loop to the recirculation pump lines and ensure the pump is running.



2. If the unit is a water-cooled version, the heat dump must be installed and connected as detailed in the heat dump installation guidelines before commissioning the complete system.
3. Remove the inspection panel from the lid and fit a length of 15mm tube to the bath overflow. Route the overflow pipe to a drain. Using a funnel, fill the water bath with fresh clean, cold water, preferably below 20°C, until water just trickles from the overflow (approx. 28 litres for Vision 15, and 60 litres for Vision 21). Any excess water will now be routed to drain.
4. If required, dose the water with provided biocide control agent in accordance with the instructions supplied on the bottle, taking note of the health and safety instructions.
5. Connect the python product tubing to the product coils and python cooling lines to the re-circulation top pump.
6. Connect the other end of the python to the relevant dispense heads.
7. Check that the connections are made correctly and are well insulated with closed cell foam insulation to prevent condensation before beginning to prime the system.
8. Plug the **Vision** unit into the mains supply and switch the unit on. There is an approximate 1-minute delay from switching on to the cooler's compressor starting.

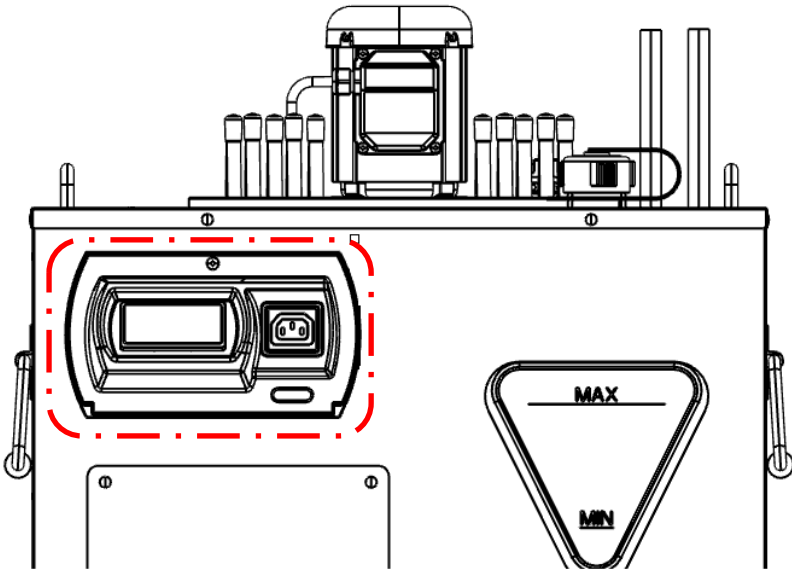
Note:

Ensure the recirculation run is not excessive, and the python is routed away from external heat sources. The maximum lift for the Vision 15 & 21 recirculation pump is 9 meters. The maximum recommended run for the Vision 15 & 21 is 40 metres.

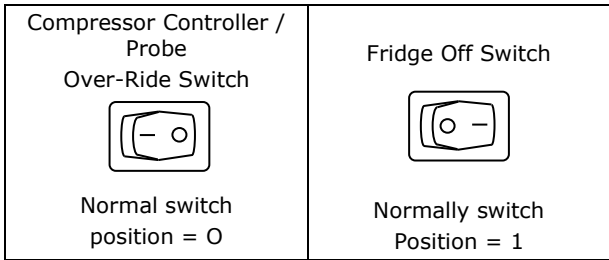
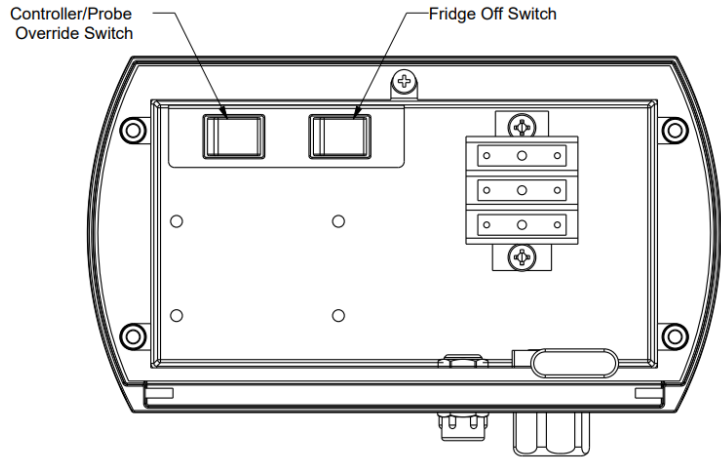
Any unused product coils should remain capped both for personal protection and to prevent the ingress of debris

If the unit is a water-cooled version, ensure the glycol lines prime correctly and that the glycol bottle is topped up to the correct level. Refer to section 9.4.2.

9.3.2 Vision 15 & 21 Control Positions

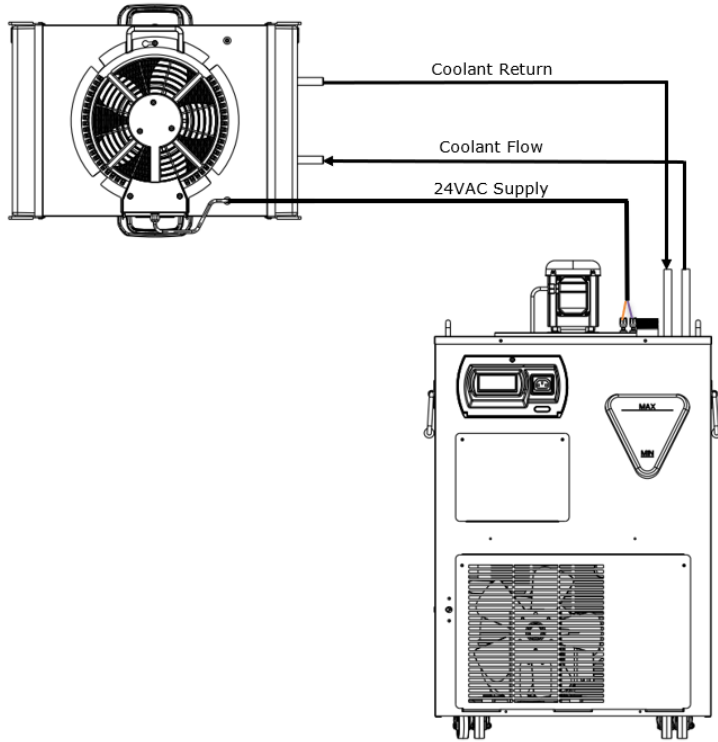


View from inside of the electrics box



9.4 Vision 21 Water-Cooled

9.4.1 Heat Dump Connections



9.4.2 Heat Dump Installation – General Guidelines

Caution: Please refer to the Heat Dump manual (PI015362) for full detail

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.

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

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 recirculated.

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

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

The heat dump must be connected using a minimum of 1.5mm² two core cable. If a smaller cable is used, a voltage drop will occur which will cause the fan to run at a lower speed. It does not matter which way the wires are connected as they are not polarised.

If the unit is to be installed in a building or room, ensure there is adequate ventilation within the room to enable the heat to be dissipated effectively. Temperatures within the room should not exceed 32°C.

Do not kink the flow and return tubes which would restrict the coolant flow.
Do not insulate the flow and return lines.

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

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

9.4.3 Filling the Glycol Circuit (Water Cooled units only) – General Guidelines

Fill the glycol module reservoir tank with a quantity of Monopropylene glycol coolant mixed 30% glycol to 70% water, ensuring a quantity remains for topping the system up when priming. Once primed ensure the reservoir is topped up to its maximum level.

A 30% glycol / 70% clean water mix will protect the system down to -13°C. To calculate of glycol required for the system - add 2.5 pints (1.4 Litres) for the glycol tank to the length of pipe work as shown in the following tables:

Meters	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48
Litres	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8

Feet	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
Pints	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0

* based on the use of the correctly specified tube with an internal bore of 10mm

Once primed, the refrigeration system can be operated.

When the refrigeration system operates, the glycol pump in the base of the Vision will start together with the heat dump fan.

Ensure the system has no air locks and that the coolant is recirculating freely to the header tank.

9.5 DFX Series 1 - Controller and Probe

9.5.1 DXF Series 1 - Settings and Adjustment Instructions

The controller is electronic and is supplied with a temperature probe. The Cut-Out and Cut-In temperatures are factory set at Welbilt (Halesowen) Limited and should not require any adjustment.

They are as follows:



Cut-Out: -2.0°C

Cut-In: Customer Specific




Adjustment Guide:

NOTE: The Cut-Out (1) and Differential Temperature (2) are factory set at Welbilt (Halesowen) Limited. Any adjustment to these settings may affect the performance, energy saving characteristic and ice weight of the unit. It is not recommended that either of these parameters is adjusted without consultation with Welbilt (Halesowen) Engineering Department.

9.5.1.1 To adjust the Cut-Out Temperature - DXF Series1:

- A. Carefully remove the lens from the front of the controller.
- B. Press and hold the set button . Release after 2 seconds.
- C. The display will change from the 'Current Temperature' to 'Current Set-Point'.
- D. Adjust the temperature up or down using the (+) or (-) buttons.
- E. To store the new set-point, press the set button .
- F. The display will then show the differential temperature'. If no differential adjustment is necessary, replace the lens. The unit will revert to the 'Current Temperature' after 30 seconds.

9.5.1.2 To adjust the Differential (Cut-In) Temperature - DXF Series1:

- A. Follow steps (a) and (b) above.
- B. The display will change from 'Current Temperature' to 'Current Set-Point'.
- C. Press the set button again .
- D. The display will change from 'Current Set-Point' to 'Current Differential'.
- E. Adjust the temperature up or down using the (+) or (-) button.
- F. To store the new differential, press the set button .
- G. Press the set button  again to revert to the 'Current Temperature' or after 30 seconds it will automatically revert to the 'Current Temperature'.

Example: If the Cut-Out Temperature is set at -2.0°C, the Differential Temperature must be set to 2.5°C to cause the unit to cut-in at 0.5°C.

To adjust the opening and closing hours:

No other adjustments should be necessary. Please contact Welbilt (Halesowen) before changing any other parameters, as they may impact on energy savings, performance and ice build.

9.6 Eliwell EWPLUS 971 EO Controller and Probe

9.6.1 Eliwell Basic Settings, Adjustment Instructions & Fault Codes

The Eliwell EWPLUS 971 controller is electronic and is supplied with a temperature probe. The cut-out and cut-in temperatures are factory set at Welbilt (Halesowen) and should not require any adjustment.

WARNING: ANY ADJUSTMENT TO THESE SETTINGS MAY AFFECT THE PERFORMANCE, ENERGY SAVING CHARACTERISTICS AND ICE WEIGHT OF THE UNIT. IT IS NOT RECOMMENDED THAT EITHER OF THESE PARAMETERS ARE ADJUSTED WITHOUT CONSULTATION WITH WELBILT (HALESOWEN) ENGINEERING DEPARTMENT.

The controller has six in-built pre-set programmes which are factory set dependent on customer requirements when the unit is manufactured.





There are trading hours on two of the pre-set programs.

All the pre-set programs are shown below in the table, together with how to change the pre-set program if required.

If however, the set point and / or differential need to be changed then this can be done individually by accessing the programming menu as described in sections 9.6.1.2 & 9.6.1.3.


9.6.1.1 To change a pre-set program setting - Eliwell:






To access any of the pre-set programmes below, follow the instructions 1-5.

1. With the controller powered up, the probe temperature will be displayed. Press and hold the down arrow button  for 5 seconds.
2. The display will show AP0 (program 0)
3. Press down  or  button to select the desired program (AP0-AP5 see table below for setpoints for each program)
4. Press  button to confirm the selection
5. The controller will load the selected program and will exit the standby mode

Program Name	Ice Bank Control		Trading Hours (24hr)	
	Set Point (Cut Out)	Differential (Cut In)	On	Off
Program 0	(-2.0°C)	(+1.5°C)	ON 24/7	
Program 1	(-2.0°C)	(+2.5°C)	08:00	23:59
Program 2	(-2.0°C)	(+1.5°C)	11:00	02:00
Program 3	(-3.3°C)	(+0.5°C)	ON 24/7	
Program 4	(-2.0°C)	(+2.5°C)	ON 24/7	
Program 5	(-2.0°C)	(+1.5°C)	ON 24/7	

9.6.1.2 To adjust the set point (cut out) setting - Eliwell:

1. To access the programming menu press and hold the  key for 5 seconds
When accessed the screen will display: **SEt**
This is the ice bank compressor cut out temperature








2. Press the  key again to see the current value of the Set point
Then use the  or  arrow buttons to change the set point value
Press the  key again to save the setting
3. Press  once to return to the temperature screen

NOTE: The controller will automatically revert to displaying the temperature after approximately 15 seconds







9.6.1.3 To adjust the differential setting - Eliwell:

Note: The differential determines the compressor cut in temperature

Example: Cut out = -2.0°C Differential = 2.5°C Cut in = +0.5°C

1. To access the programming menu press and hold the  key for 5 seconds
When accessed the screen will display: **SEt**
2. Press the  button to access the differential screen: **diF**
Press the  key to display the differential value
Then use the  or  arrow buttons to change the set point value
Press the  key again to save the setting
3. Press  once to return to the temperature screen

9.6.1.4 To adjust the day/date/time setting - Eliwell:




1. Press  once, momentarily (do not hold button down) this will display: **rtC**
2. Press  button this will display: **dAy**
3. Press  again to go to set the day of the month (e.g. 21st, 22nd...)
4. Use  and  arrows to change the day
5. Press  button once more to return to the previous screen: **dAy**
6. Press the up & down arrows to toggle through the menu as shown below:

dAy = Day of the month
nth = Month
yEr = Year
EE = Day of the week (E00 = Mon to E06=Sun)
h = Hour
' = Minutes






7. Repeat steps 3 to 6 to set the above: **month, year, day, hour and minutes**


8. Press  twice to exit the parameters menu and return to the temperature screen

9.6.1.5 To adjust the trading hours On/Off times in the parameters menu - Eliwell:


1. With the controller powered up, press & hold the  key for 5 seconds until the word **SEt** is displayed.
2. Press the down arrow button  once and **PA** will be displayed.
3. Press  to access the parameters menu.


Scroll through the menu using  or  buttons until **SdA** is displayed. (This is the parameter for setting the ON time)

4. Press  again and **h** will be displayed.
5. Press  and the ON time hour will be displayed. (eg 11:00)
6. Adjust the ON time by pressing the  or  buttons and press  to save.

7. Press  to return back to the **SdA** parameter.


Then press  again to display **h**


Then press the  once to display the minute ' ' symbol


8. Press  to display the ON time minutes.

Then adjust the time using the  or  buttons


Then press  to save.

9. Press  to return back to the **SdA** parameter.

Then press the  button once to display **Sni**. This is the OFF time setting.

10. Press  and h will be displayed as in step 4.

Now follow the same procedure from step 5. through to step 8. to set the OFF time.

11. Press  until the temperature is displayed again.

The trading hours are now set and will be the same for each day of the week.


9.6.1.6 Fault Codes

There are two fault codes that are in built into the controller that can become active should a fault occur. These are described below.

Display Code	Description	Cause	Effects	Remedy
E1	Probe Error	Probe error – Short Circuit / Open Circuit	Label E1 displayed Compressor will switch off. Recirc pump will remain on.	Check probe wiring for loose connection. Replace probe
E10	Clock Alarm	RTC not working	Functions associated with clock not available	Replace controller

9.6.1.7 Energy Saving Mode and Override Function - Eliwell

If one of the pre-set programmes with energy saving mode is selected this will switch the compressor off overnight. Should this function need to be overridden, please follow the instruction below.

Energy saving override is activated by pressing the upper left-hand arrow key  for two seconds. This will put the cooler into day mode until the next off time is reached.

9.6.1.8 Anti-Slush Feature (Deep Cooling) and mode of Operation - Eliwell

The controller has an inbuilt pre-programmed feature that is designed to prevent the unit from cutting out when the unit first pulls down or loses its icebank due to heavy draw. Under certain circumstances, the cooler can reach the cut-out set point of the controller causing it to cut-out before going into the ice phase or the “slush phase”. If this happens, the cooler will not re-start until the water bath temperature increased to the cut-in point and the process starts again. This process could also happen more than once resulting in the cooler having no ice in readiness for the trading period.

The Eliwell controller “DEEP COOLING” program operates when the water bath temperature measured by the controller reaches 4°C. At this point it can be assumed that there is no ice in the water bath. The cooler then continues to pull down until a temperature of -0.5°C is reached at which point an internal timer starts for a period of 25 minutes and the normal cut out point of -2.0°C is ignored. During these 25 minutes, the cooler will continue to pull down until the 25 minutes has timed out. During which time, the unit will have powered through the slush phase avoiding it cutting out during this period. After the 25 minutes has timed out, the programme then operates as normal between the set point and differential.

9.7 DXF iLeaf Core Controller and Probe

9.7.1 DXF iLeaf - Settings and Adjustment Instructions

The controller is electronic and is supplied with a temperature probe. The Cut-Out and Cut-In temperatures are factory set at Welbilt (Halesowen) Limited and should not require any adjustment.

They are as follows:

- Cut-Out: -2.0°C
- Cut-In: Customer Specific

Adjustment Guide:

NOTE: The Cut-Out (1) and Differential Temperature (2) are factory set at Welbilt (Halesowen) Limited. Any adjustment to these settings may affect the performance, energy saving characteristic and ice weight of the unit. It is not recommended that either of these parameters is adjusted without consultation with Welbilt (Halesowen) Engineering Department.






9.7.1.1 DXF iLeaf 2 Core Display Symbols





	Compressor Running
	Warning: Temperature is too warm (display flashing) Fault if service is illuminated
	Service Required / in settings mode
	Standby


9.7.1.2 To adjust the Cut In-Cut Out Temperature – DXF I Leaf Core:

1. Press for 3 seconds and release to configure.
2. The cut out set point is displayed **t-2.0** use the up / down arrows to adjust.
3. Press to proceed.
4. The hysteresis set point is displayed **h 1.5** use the up / down arrows to adjust.

5. Press  twice to proceed and  will be displayed. If required use the arrow key  to reset the control to it's default settings.
6. The screen will display  when completed.
7. Press  to revert back to displaying the current temperature or it will revert back automatically after 30 seconds.

9.7.1.3 Clean Mode – DXF I Leaf Core

Press  for 2 seconds to place in standby (where the compressor is switched off) for 2 hours. The standby symbol  will be displayed on the screen during this period.

Press  to exit the Clean Mode at any time during the 2 hour period.

9.8 Commissioning

9.8.1 Checking and testing of safety systems

WARNING: ENSURE THAT YOU HAVE FAMILIARISED YOURSELF WITH THE CONTROLS AS DESCRIBED IN SECTIONS 9.5, 9.6 & 9.7.

WARNING: CHECK FOR AUDIBLE LEAKS AND RECTIFY BEFORE SWITCHING THE MACHINE ON.

WARNING: CHECK FOR AUDIBLE METALLIC CONTACT (EXAMPLE: FAN BLADE CONTACT) THAT MAY HAVE OCCURRED THROUGH COMPONENT MOVEMENT DURING TRANSIT.

WARNING: THE EC FAN MOTOR FITTED TO THIS UNIT ROTATES CLOCKWISE WHEN VIEWED FROM THE DRIVE END FOR 180 SECONDS AND THEN REVERTS TO COUNTERCLOCKWISE EACH TIME THE COMPRESSOR SWITCHES ON. THIS IS TO HELP KEEP THE CONDENSER FREE OF DUST AND DEBRIS.

Switch the unit ON at the mains power supply to allow the ice bank to build.

Important: For Water Cooled Versions

Ensure that the glycol lines prime correctly, the heat dump fan operates and that the glycol tank is topped up to the correct level.

9.9 Original equipment manufacturer settings

None

9.10 Operation

Once installed and commissioned, the **Vision Units** are not intended to be switched off. Apart from cleaning, the **Vision** does not need any user interaction.

9.11 Product or capacity changeover

None

9.12 Inspection, Testing & Maintenance

WARNING: SERVICE & MAINTENANCE OF THE EQUIPMENT SHOULD ONLY BE CARRIED OUT BY WELBILT (HALESOWEN) LIMITED TRAINED, COMPETENT, TECHNICIANS, ABIDING BY ALL THE RELEVANT STATUTORY REGULATIONS AND INDUSTRY RECOMMENDATIONS.

The intended lifetime for the machine and its components is typically 7 years.

Refer to Chapters 9.8 & 9.8.1 for checking and testing of safety systems.

Refer to Chapters 10.1 & 10.2 for all cleaning and sanitizing instructions.

Refer to Chapter 11 for fault finding and trouble shooting.

Refer to Chapter 13.1 for the list of spare parts.

Refer to Chapter 13.2 for wiring and schematic diagrams.

No special tools are required to maintain the **Vision Units**.

10 Cleaning and sanitizing (Trained Engineer and Technicians Only)

WARNING: SERVICE & MAINTENANCE OF THE EQUIPMENT SHOULD ONLY BE CARRIED OUT BY WELBILT (HALESOWEN) LIMITED TRAINED, COMPETENT, TECHNICIANS, ABIDING BY ALL THE RELEVANT STATUTORY REGULATIONS AND INDUSTRY RECOMMENDATIONS.

WARNING: BEFORE REMOVING THE PANELS FROM THE EQUIPMENT THE MAINS SUPPLY MUST BE DISCONNECTED, EITHER BY REMOVAL OF THE PLUG FROM THE WALL SOCKET, OR IN THE CASE OF HARD-WIRED EQUIPMENT, SWITCHED OFF AT THE ISOLATOR. IN BOTH CASES THE EQUIPMENT MUST BE LOCKED OFF TO PREVENT THE EQUIPMENT INADVERTENTLY BEING POWERED UP.

WARNING: LIVE TESTING MUST BE AVOIDED WHEREVER POSSIBLE, IN MOST CASES COMPONENTS CAN BE TESTED WITH A MULTI-METER OR INSULATION TESTER. WHERE LIVE TESTING BECOMES NECESSARY, ALL POSSIBLE PRECAUTIONS TO PREVENT INJURY TO THE MAINTENANCE TECHNICIAN AND OTHER PEOPLE WITHIN THE VICINITY MUST BE TAKEN.

WARNING: IN THE EVENT OF THE UNIT FREEZING UP, DISCONNECT THE UNIT FROM THE MAINS POWER SUPPLY AND LEAVE THE UNIT TO DEFROST UNTIL ALL THE ICE IN THE WATER BATH HAS DISAPPEARED. CHECK THE PLUMBING ON THE UNIT FOR LEAKS, (IN THE EVENT OF A LEAK CALL YOUR SERVICE PROVIDER). IF THE UNIT HAS NO LEAKS, RECONNECT THE POWER TO THE UNIT AND LEAVE FOR THREE HOURS TO REBUILD THE ICE BANK. CHECK FOR NORMAL OPERATION OF

THE UNIT. IN THE EVENT THAT THE UNIT FREEZES UP A SECOND TIME OR FAILS TO OPERATE AS NORMAL YOU MUST NOTIFY YOUR SERVICE PROVIDER OF A FAULT WITH THE SYSTEM.

WARNING: PERSONS PERFORMING CLEANING / SANITIZING OPERATIONS MUST BE COMPETENT AND FULLY TRAINED IN SAFE METHODS OF USE OF CLEANING / SANITISING AGENTS AND THEIR APPLICATIONS.

WARNING: PERSONAL PROTECTIVE EQUIPMENT SHOULD ALWAYS BE USED.

WARNING: FLUSH SANITISING SOLUTION FROM THE UNIT THOROUGHLY. RESIDUAL CLEANING FLUIDS OR CHEMICALS LEFT IN THE SYSTEM COULD CREATE A HEALTH HAZARD.

WARNING: DO NOT USE A WATER JET OR STEAM HOSE TO CLEAN THE APPLIANCE AT ANY TIME.

WARNING: REFER TO LOCAL REGULATIONS REGARDING THE CLEANING AND SANITISING PROCEDURES.

WARNING: THE APPLIANCE MUST BE THOROUGHLY SANITISED UPON INSTALLATION AND BEFORE COMMISSIONING.

WARNING: FOR REASONS OF HYGIENE IT IS NECESSARY THAT THE SYSTEM BE FLUSHED THOROUGHLY AFTER EXTENDED PERIODS WITHOUT USE.

10.1 Cleaning

Basic inspection checks by the end user.

ISOLATE MACHINE

1. Switch off the unit at the plug socket.
2. Remove the plug from the socket.

10.1.1 Daily

1. Remove dispense nozzles from dispense taps and sanitise using unscented bleach or commercial sanitizer with hot water to a concentration of 100ppm available chlorine.
2. Empty drip trays and sanitise as above.
3. Remove any splashed product from the dispense area.

10.1.2 Weekly

There is no end user training required on this appliance other than understanding the weekly basic checks for safe unit operation. It is not recommended that the end user makes any adjustments or carries out any maintenance other than:

1. Visually check the condition of the mains lead and plug.
2. Visually check the unit and its pipework for evidence of leaks.
3. Visually check the water bath level, if low consult your service agent.
4. For water cooled units - Visually check the glycol tank level, if below the minimum level mark notify your service agent.
5. Check that where the bath overflow is plumbed to drain, the hose is undamaged, free flowing and kink free.

Welbilt recommend following the **brand owner** dispense system cleaning instructions. Guidance can also be sought from the brand owners technical service team, brewers association, pub group or the BFBi (Brewing, Food & Beverage Industry Suppliers Association). Alternatively Welbilt recommend a minimum of line cleaning every 7 days.

Line cleaning process:

1. Flush beer from each dispense tap with clean water, so leaks are detected before detergent is bought into the cleaning system and as a pre-rinse to flush out heavy soil.
 2. Half fill the cleaning bottle with cold water. Add the recommended volume of detergent (normally one pint in a 40 litre bottle) and top up with clean warm water if available – the temperature for detergent wash should be hand hot approximately 40 degrees Celsius.
- **NEVER EXCEED THE RECOMMENDED VOLUME OF DETERGENT.**
 - **ALWAYS USE THE RECOMMENDED PPE, WHICH CONSISTS OF WRAP ROUND GOGGLES, (NOT LIGHT EYE PROTECTION GLASSES) AND RUBBER GLOVES.**
 - **ENSURE A BREWERY RECOMMENDED DETERGENT IS USED**
3. Pull detergent through the beer lines.
 4. Leave lines to 'soak' for 10 minutes, then draw fresh solution through the entire system. e.g.: If line capacity is 2 pints then draw 2 pints through. During soak, flush detergent through fob detectors and electric pump bleed points
 5. After 20 minutes draw another fresh solution of detergent through the lines
 6. After 30 minutes the line cleaning cycle should be completed. Never exceed a 60 minute detergent soak time as excess soak time can cause tainted beer lines.
 7. Replace the cleaning bottle used for the detergent (remember this is a mild caustic solution), with a clean bottle not used with detergent previously and fill with clean water and reconnect to the system.
 8. Draw sufficient water through taps to flush out all traces of detergent, ensure all other components within the dispense system are flushed also.
 9. Check clarity and aroma of flush water from the tap. If acceptable, disconnect line cleaning system and reconnect beer supply.

10.1.3 Seasonal Accounts – dispense line hygiene

Where an outlet ceases trading for a period of time longer than one month it is necessary to carry out a "Closedown Procedure". This will reduce the risk of line taints and subsequent replacement of python/dispense equipment:

- Ensure that all the beer lines have been properly cleaned
- Empty and rinse cleaning bottle
- Use a proprietary line sterilising agent
- Connect to cleaning system and bleed through fob detectors.
- Open dispense taps and pull through.
- Remove nozzles from taps, clean and store hygienically.
- If dispense equipment is exposed to adverse weather conditions it could cause damage to the equipment when sterilising agent and water is left in the lines, clear the lines out with regulated CO2 or Nitrogen via the cleaning ring main.

When re-opening outlet:

- Empty and rinse cleaning bottle
- Fill with clean warm water

- Connect to cleaning system and bleed clean water through the bleed valves on the fob detectors
- Reinstall nozzles on dispense taps
- Open the dispense tap and flush through the volume within the line + 1 gallon of water (e.g. if the line contains 3 pints then 11 pints of water is required through the tap).

10.1.4 Monthly

1. Isolate the appliance from the mains power supply when maintaining the equipment by turning the unit off at the socket and removing the plug.
2. Remove any extraneous debris from the unit or its casing using a vacuum cleaner or brush.
3. Reconnect the appliance to the mains power supply.

10.1.5 Bi-Annually (WHERE USED IN A PRECHILLER APPLICATION):

1. Isolate the appliance from the mains power supply when maintaining the equipment by turning the unit off at the socket and removing the plug.
2. Clean and sanitize the product lines following the service providers instructions. Cleaning with an off the shelf proprietary agent should have a 30-minute soak time minimum.
3. Reconnect the appliance to the mains power supply.

10.1.6 Annually

1. Clean the condenser
2. Have the appliance serviced by a factory approved trained technician.
3. Dose the water bath with a bacterial growth inhibitor such as Aquacid, as per the growth inhibitor manufacturer's instructions.

10.2 Sanitizing

Refer to cleaning section 10

10.3 Prevention of Freezing / Action required if freezing occurs

It is recommended that the unit is sited in such a way as not to expose it to temperatures likely to cause freezing i.e. below 0°C. If the unit is to be sited in an unheated area then it would be wise to insulate all pipework and provide some form of emergency heating, which should be controlled by a frost thermostat and sited in the proximity to the unit.

In the event of Freeze Up occurring the following action is recommended: -

- Isolate the unit from Mains Electricity Supply.
- Isolate Product Supply from unit.
- Vent Pressure from Lines by opening Product Tap.
- Apply gentle warmth to the general area of the unit and its pipework.
- Check for obvious leaks.
- Reconnect product supply.
- Reconnect Mains Electricity supply.

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.

11 Fault finding / troubleshooting and repair

11.1 Account / End User – Fault Finding Flow Charts

Note: It is advised that the basic checks are followed to prevent unnecessary service call outs before calling a Service Technician

11.1.1 Warm Drinks

- Check that the cooler is switched on at the mains plug.
- Check that the recirculation top pump is powered up from the socket on the front of the control box
- Check that the unit is not in an enclosed space and has a good supply of fresh cool air and that the condenser grille at the front is not blocked by any obvious obstruction.

11.2 Engineer / Technician – Fault Finding Diagnostics

11.2.1 Warm Drinks Potential Cause 1 – No Ice / Refrigeration system fault

POTENTIAL CAUSES	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
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) Faulty capacitor / start relay Loss of coolant or air lock or kinked flow & return tubes to heat dump (Water Cooled) Faulty glycol module pump (Water Cooled) Faulty \ loose wiring to Glycol Module / Heat Dump Faulty 24V transformer to power heat dump fan Faulty heat dump fan motor (Water Cooled) Faulty\loose wiring to compressor / fan Faulty compressor Heat dump sited in excessive ambient (Water 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 Faulty probe:- 888 displayed on DFX controller E1 displayed on Eliwell controller	Rectify wiring / connections 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 Ice Bank controller	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 Ice bank controller

11.2.2 Warm Drinks Potential Cause 2 – No Python Recirculation

POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Lid Top Recirculation Pump is switched off	Check that the recirculation pump is powered up from the socket on the front of the control box	Reconnect the pump power lead to the socket on the front of the electrics box
Top Recirculation pump is powered up but the pump is not running.	Faulty / loose wiring to pump motor. Faulty pump or motor	Rectify wiring / connections referring to wiring schematic for detailed information Replace the pump
Blockage or gas pockets preventing recirculation	Kinked \ blocked tubing Frozen water bath Gas pockets	Remove kink or blockage De-ice unit & identify potential causes described in OVER ICE section Bleed gas pockets off through fittings

11.2.3 Warm Drinks Potential Cause 3 – No Agitation

POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Lid Top Recirculation Pump is switched off	Check that the recirculation pump is powered up from the socket on the front of the control box	Reconnect the pump power lead to the socket on the front of the electrics box
Top Recirculation pump is powered up but the pump is not running.	Faulty / loose wiring to pump motor. Faulty pump or motor	Rectify wiring / connections referring to wiring schematic for detailed information Replace the pump
Top pump motor powered up but no agitation	Propeller blade missing or broken Shaft or propeller physically jammed	Replace propeller Free up shaft, to ensure rotation

11.2.4 Warm Drinks Potential Cause 4 – Over Ice

POTENTIAL CAUSES	CHECK POINTS	CORRECTIVE ACTIONS
Ice bank controller probe has come out of it's thermostat tube	Check to see if the probe is located correctly in the thermostat tube	Replace the probe back into the thermostat tube
The cooler is only making ice on the lower evaporator coils, preventing ice growth around the thermostat tube	The cooler has lost refrigerant gas Cooler running in very cold ambient	Replace unit Increase local ambient or relocate unit
Faulty ice bank control	Check to see if the ice bank controller display is colder than the cut out temperature (typically -2°C) and the compressor is still running	Replace ice bank controller and Ice bank probe

12 Dismantling / Decommissioning

WARNING: THE REFRIGERATION SYSTEM IS UNDER HIGH PRESSURE. DO NOT TAMPER WITH IT. CONTACT QUALIFIED SERVICE PERSONNEL BEFORE DISPOSAL.

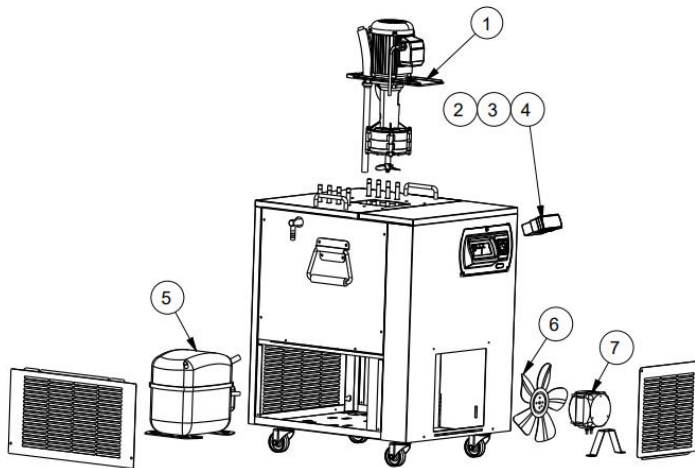
1. Isolate the unit from the mains electrical supply.
2. Purge the product lines following the instructions in paragraph 10.1.3.
3. Drain or pump out the water from the bath.
4. If there is ice in the bath, re-fill the bath with hot water and drain down when melted back.

WARNING: FAILURE TO REMOVE ALL ICE/WATER COULD RESULT IN SUBSTANTIAL AMOUNTS OF WATER BEING RELEASED FROM THE ICE. WHICH MAY BE DETRIMENTAL TO THE UNIT AND/OR ITS SURROUNDING AND INCREASE THE MAXIMUM WEIGHT OF THE UNIT.

13 Documents and Drawings

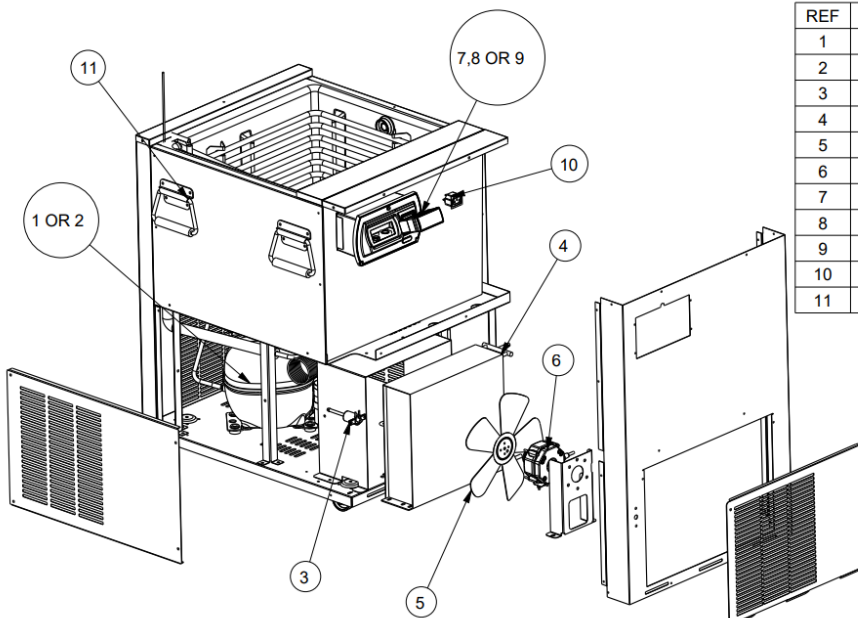
13.1 Spare Parts

13.1.1 Vision 15 Integral



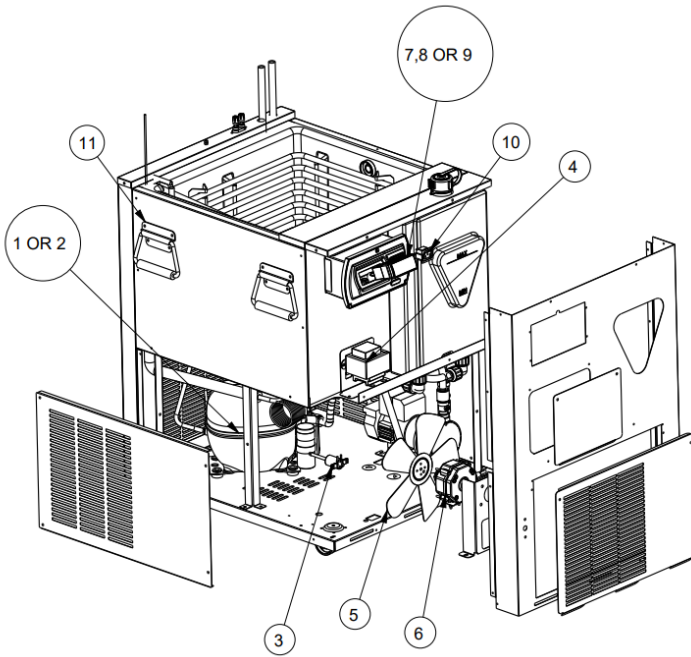
REF	PART NO	DESCRIPTION	QTY
1	PU55117	SPC18 LID PUMP (3 STAGE)	1
1	PU018499	MARCH MAY VSP 23/15 PUMP	1
2	PI56328	DXF LONG PROBE CONTROLLER	1
3	SA016842	ELIWELL CONTROLLER & PROBE	1
4	PI017772	iLEAF CORE CONTROLLER & PROBE	1
5	CM015482	SECOP NLE8.8 COMPRESSOR	1
6	PI015251	FAN BLADE	1
7	MO017137	WELLINGTON ECR01 FAN MOTOR	1

13.1.2 Vision 21 Integral



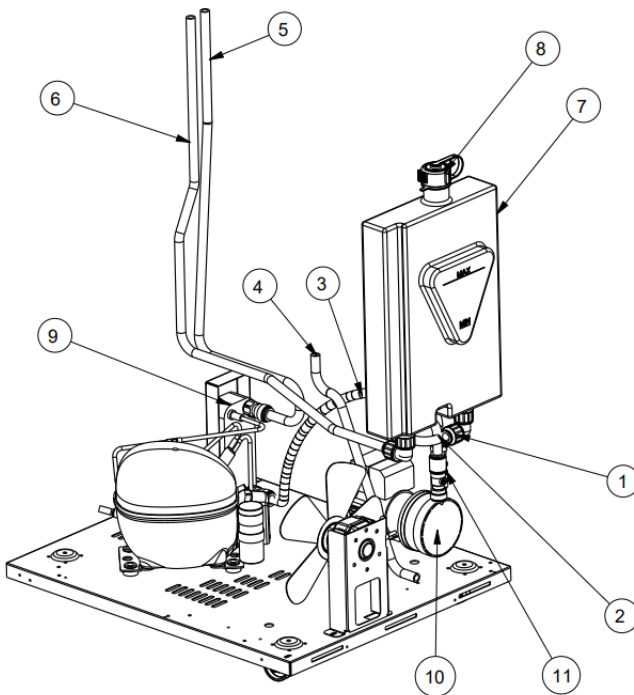
REF	PART No	DESCRIPTION	QTY
1	CM016010	SECOP NLE12.6MN COMPRESSOR	1
2	CM014812	SECOP 15MNX COMPRESSOR	1
3	PI016011	DANFOSS HPCO SWITCH	1
4	PI016021	CONDENSOR	1
5	OP71381	254MM FAN BLADE	1
6	MO017137	WELLINGTON FAN MOTOR	1
7	PI56328	DXF LONG PROBE CONTROLLER	1
8	SA016842	ELIWELL CONTROLLER & PROBE	1
9	PI017772	iLEAF CORE CONTROLLER-LONG PROBE	1
10	PI43513	IEC CONNECTOR	1
11	OP73884	ZINC PLATED LIFTING HANDLE	4

13.1.3 Vision 21 Water Cooled



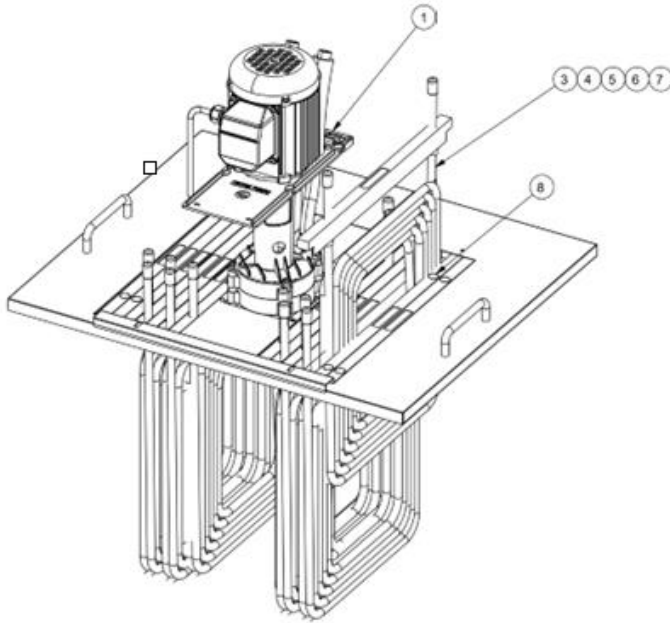
REF	PART No	DESCRIPTION	QTY
1	CM016010	SECOP NLE12.6MN COMPRESSOR	1
2	CM014812	SECOP 15MNX COMPRESSOR	1
3	PI016011	DANFOSS HPCO SWITCH	1
4	PI42544	90VA TRANSFORMER	1
5	OP71381	254MM FAN BLADE	1
6	MO017137	WELINGTON FAN MOTOR	1
7	PI56328	DFX LONG PROBE CONTROLLER	1
8	SA016842	ELIWELL CONTROLLER KIT	1
9	PI017772	i LEAF CORE CONTROLLER-LONG PROBE	1
10	PI43513	IEC CONNECTOR	1
11	OP73884	ZINC PLATED LIFTING HANDLE	4

13.1.4 Vision 21 Water cooled – Fridge Deck



REF	PART No	DESCRIPTION	QTY
1	OP73363	15MM JG ELBOW	2
2	PI016281	V21 WC TUBE KIT PART A	1
3		V21 WC TUBE KIT PART B	1
4		V21 WC TUBE KIT PART C	1
5		V21 WC TUBE KIT PART D	1
6		V21 WC TUBE KIT PART E	1
7	PI42299	V21 WC HEADER TANK	1
8	PI015815	HEADER TANK CAP	1
9	PI51293	14 PLATE HEAT EXCHANGER	1
10	PU72046-01	GP20/12 BASE PUMP	1
11	PI54443	15MM SERVICE VALVE	2

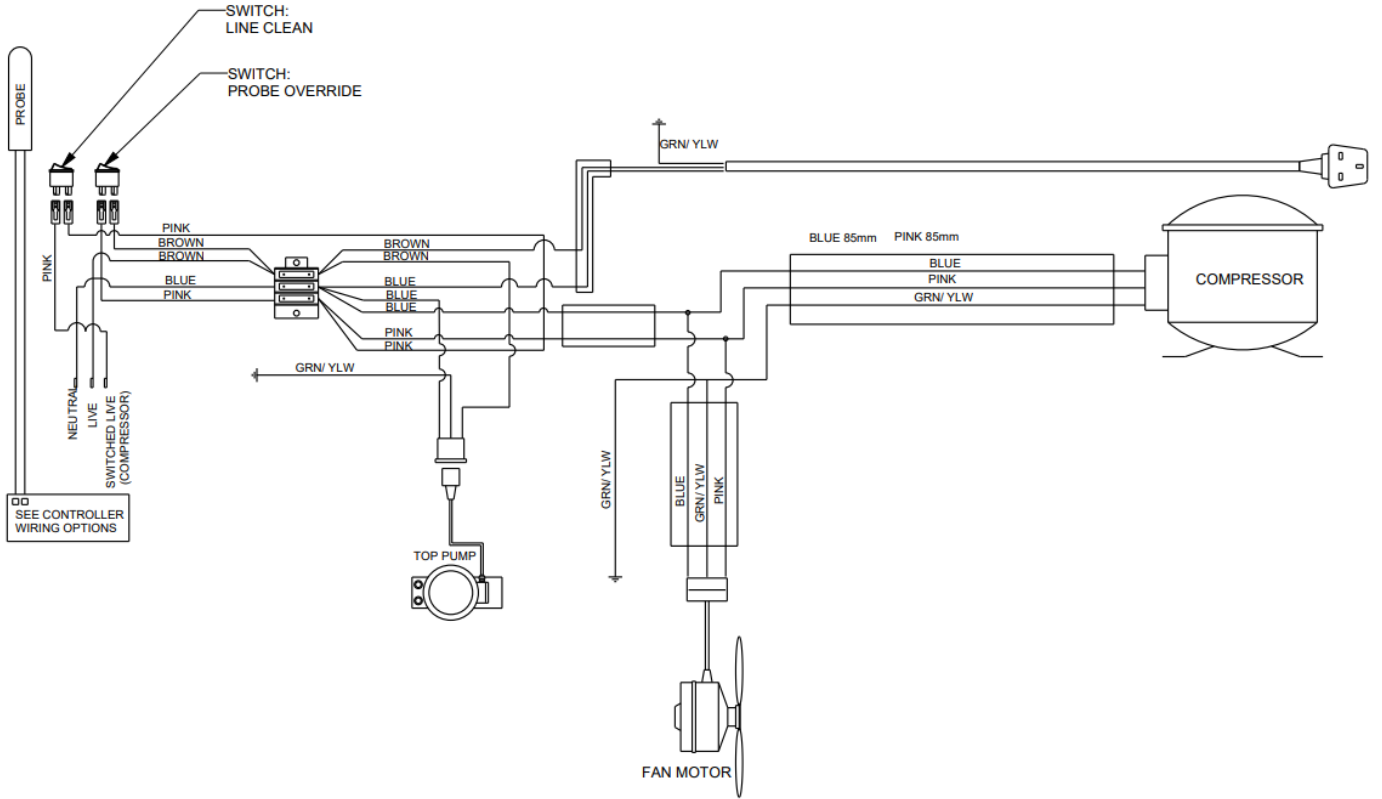
13.1.5 Vision 21 Lid assembly



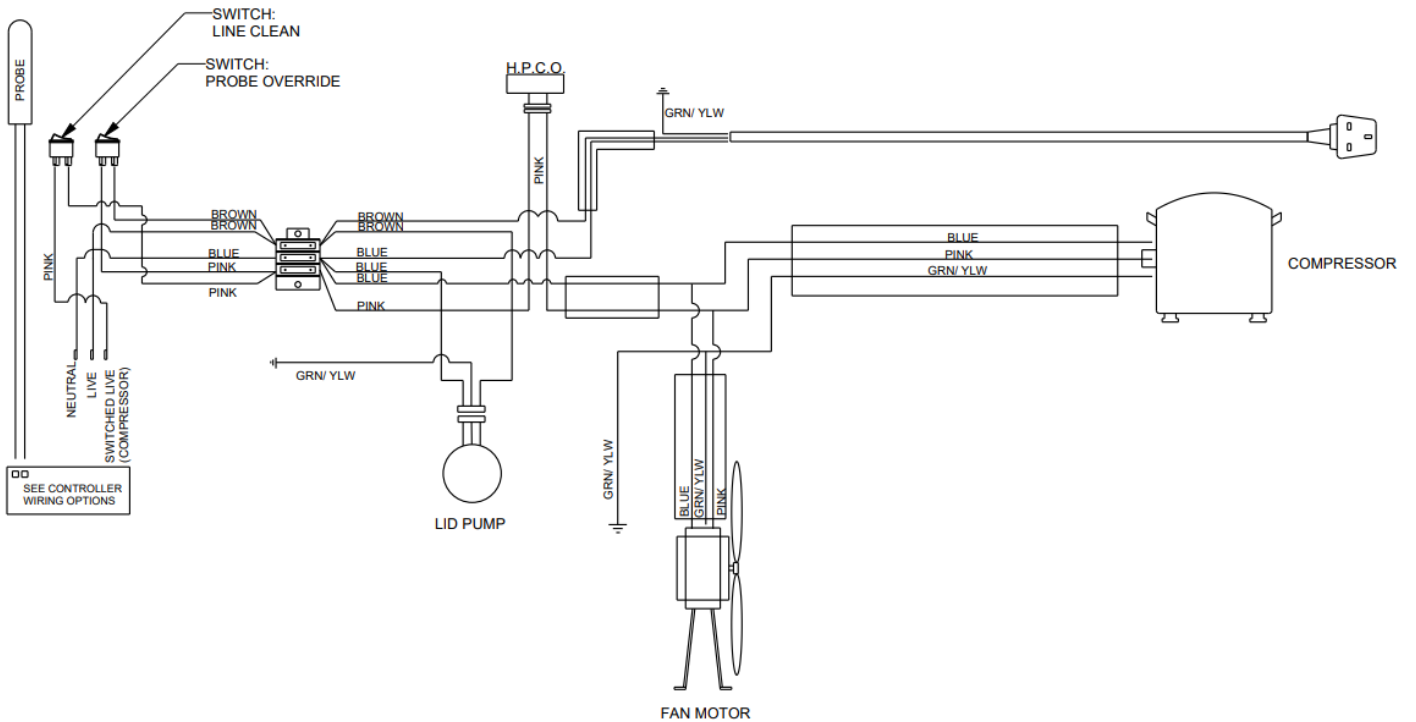
REF	PART NO	DESCRIPTION	QTY
1	PU55117	SPC18 LID PUMP (3 STAGE)	1
1	PU018499	MARCH MAY VSP 23/15 PUMP	1
1	PU55787	SPC54 LID PUMP (4 STAGE)	1
3	CA47178	SHORT COIL - 3M	14 MAX
4	CA47138	LONG COIL - 3.8M	14 MAX
5	CA47139	X LONG COIL - 5M	14 MAX
6	CA43479	XX LONG COIL - 10M	8 MAX
7	CAEX-F01B	SUPER LONG COIL - 12M	6 MAX
8	OP73714	COIL BLANK	14 MAX

13.2 Wiring Schematics

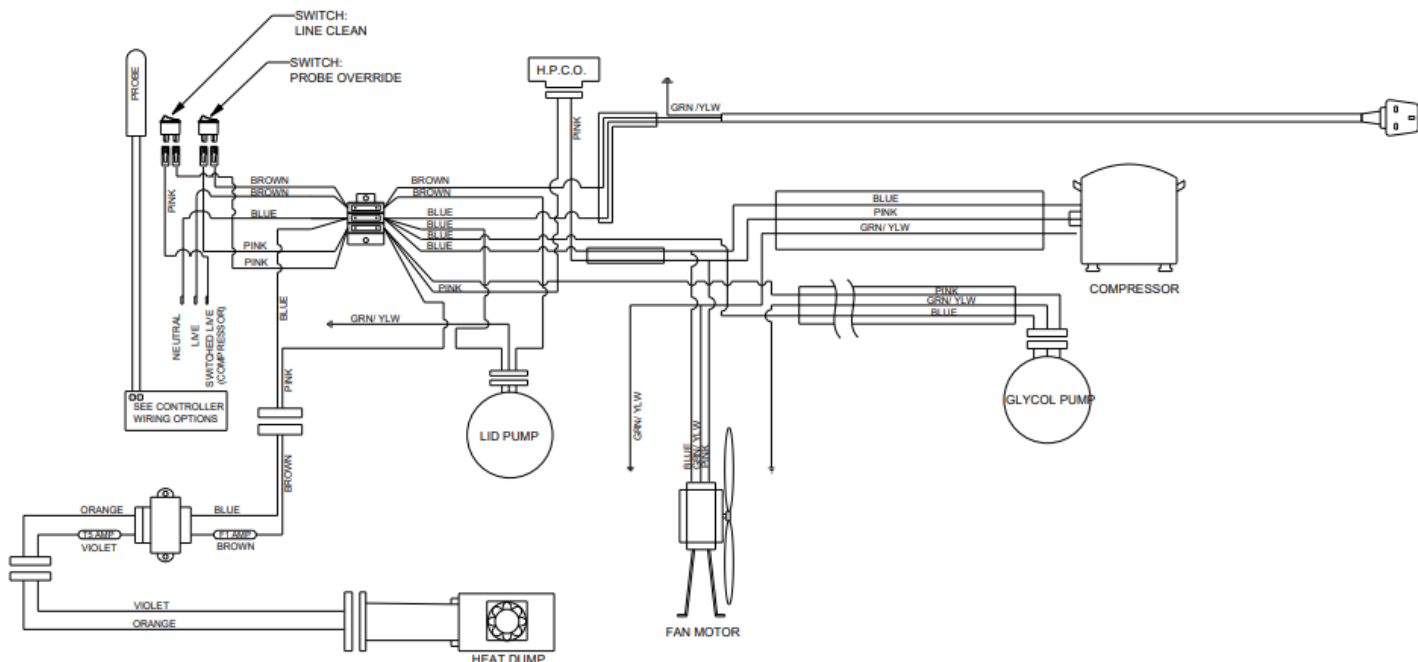
13.2.1 Vision 15 Integral Wiring Schematic



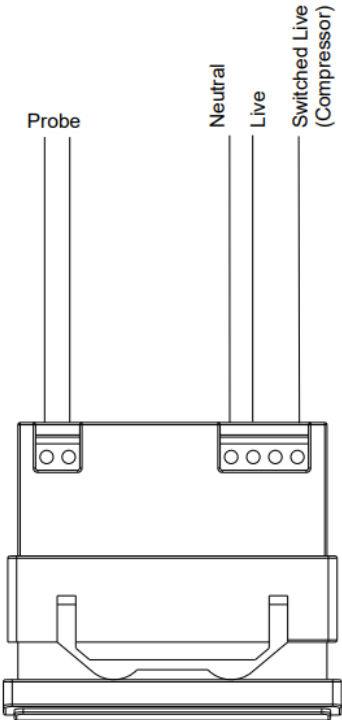
13.2.2 Vision 21 Integral Wiring Schematic



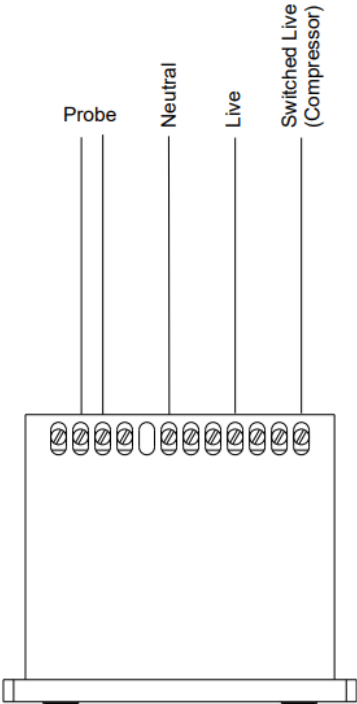
13.2.3 Vision 21 Water Cooled Schematic



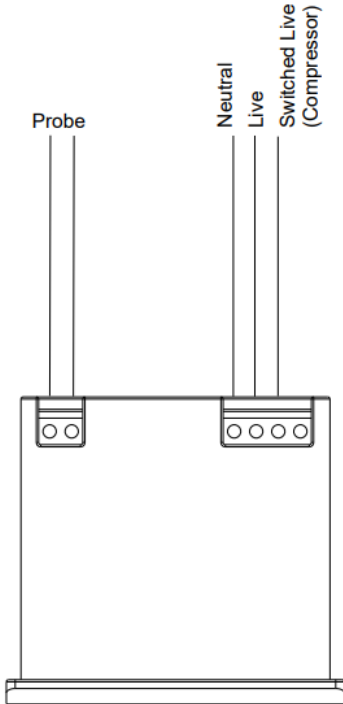
13.2.4 Vision 21 Ice Bank Controller Wiring Options



DFx Series 1



Eliwell EWPlus



DFx iLeaf CORE

END