Airedale by MODINE

# Ultima Compact™
# Air Cooled Liquid Chiller
# R32
# 30kW - 150kW


## Technical Manual
## Original Instructions

ecoDesign COMPLIANT

CE

bsi. ISO 9001 Quality Management FM00542 ISO 14001 Environmental Management EMS52086

## Customer Services

### Warranty, Commissioning & Maintenance

As standard, Airedale guarantees all non consumable parts only for a period of 12 months, variations tailored to suit product and application are also available; please contact Airedale for full terms and details.
To further protect your investment in Airedale products, Airedale can provide full commissioning services, comprehensive maintenance packages and service cover 24 hours a day, 365 days a year (UK mainland).
For a free quotation contact Airedale or your local Sales Engineer.
All Airedale products are designed in accordance with EU Directives regarding prevention of build up of water, associated with the risk of contaminants such as legionella.
For effective prevention of such risk it is necessary that the equipment is maintained in accordance with Airedale recommendations.

### ChillerGuard

In addition to commissioning, a 24 hour, 7 days a week on-call service is available throughout the year to UK mainland sites. This service will enable customers to contact a duty engineer outside normal working hours and receive assistance over the telephone. The duty engineer can, if necessary, attend site, usually within 24 hours or less.
Full details will be forwarded on acceptance of the maintenance agreement.

| | |
|---|---|
| **CAUTION⚠** | Warranty cover is not a substitute for maintenance. Warranty cover is conditional to maintenance being carried out in accordance with the recommendations provided during the warranty period. Failure to have the maintenance procedures carried out will invalidate the warranty and any liabilities by Airedale International Air Conditioning Ltd. |

### Spares

A spares list for 1, 3 and 5 years will be supplied with every unit and is also available from our Spares department on request.

### Training

As well as our comprehensive range of products, Airedale offers a modular range of Refrigeration and Air Conditioning Training courses, for further information please contact Airedale.

### Customer Services

For further assistance, please e-mail: connect@airedale.com or telephone:

| | | |
|---|---|---|
| UK Sales Enquiries | + 44 (0) 113 239 1000 | connect@airedale.com |
| International Enquiries | + 44 (0) 113 239 1000 | connect@airedale.com |
| Spares Hot Line | + 44 (0) 113 238 7878 | spares@airedale.com |
| Airedale Service | + 44 (0) 113 239 1000 | service@airedale.com |
| Technical Support | + 44 (0) 113 239 1000 | tech.support@airedale.com |
| Training Enquiries | + 44 (0) 113 239 1000 | training@airedale.com |

For information, visit us at our web site: www.airedale.com

## Health and Safety

### IMPORTANT

The information contained in this manual is critical to the correct operation and maintenance of the unit and should be read by all persons responsible for the installation, commissioning and maintenance of this Airedale unit.

### Safety

The equipment has been designed and manufactured to meet international safety standards but, like any mechanical/ electrical equipment, care must be taken if you are to obtain the best results.

| | |
|---|---|
| **CAUTION ⚠** | When working with any air conditioning units ensure that the electrical isolator is switched off prior to servicing or repair work and that there is no power to any part of the equipment.<br>Also ensure that there are no other power feeds to the unit such as fire alarm circuits, BMS circuits etc. |

Installation commissioning and maintenance work on this equipment should be undertaken by competent and trained personnel in accordance with local relevant standards and codes of practice.
A full hazard data sheet in accordance with COSHH regulations is available should this be required.

### Personal Protective Equipment

Airedale recommends that personal protective equipment is used whilst installing, maintaining and commissioning equipment.

### Manual Handling

Some operations when servicing or maintaining the unit may require additional assistance with regard to manual handling. This requirement is down to the discretion of the engineer. Remember do not perform a lift that exceeds your ability.

### Refrigerant Warning

The product range within this document utilises R32 refrigerant, which requires careful attention to proper storage and handling procedures. Use only manifold gauge sets designed for use with R32 refrigerant. Use only refrigerant recovery units and cylinders designed for use with A2L refrigerants. The refrigerant must be stored in a clean, dry area away from sunlight. The refrigerant must never be stored above 50°C.

### Pressure Equipment Directive (2014/68/EU)

### Minimum and Maximum Operation Temperature (TS) and Pressure (PS)

### Refrigeration

Allowable Temperature Range (TS), = Min -20°C* to Max 135°C**
Maximum Allowable Pressure (PS) = High Side 40.5 Barg, Low side 29 Barg
*Based on the refrigerant temperature in the unit off state in the lowest permitted ambient temperature.
**Based on the maximum allowable super heated refrigerant temperature.

### Waterside

Allowable Temperature Range (TS), = Min -20°C* to Max 40°C**
Maximum Allowable Pressure (PS), = 10 Barg
*Based on the waterside temperature in the unit off state in the lowest permitted ambient temperature.
**Based on the waterside temperature in the unit off state in the highest permitted ambient temperature.
The waterside temperature must not exceed the TS of +40°C.
The PRV will release at water temperatures >= 46.7°C.

### Pressure System Safety Regulations 2000

Refrigeration assemblies/systems may constitute a Pressure System as defined in the Pressure System Safety Regulations 2000.

### Global Warming Potential

The R32 refrigerant has a GWP of 675 (based on EN378-1:2016, 100 year life)

### Ecodesign Directive 2009/125/EC

The product range within this document is designed in accordance to the European Ecodesign Directive 2009/125/EC. The appendix at the rear section of the manual gives the product compliance metrics. Products sold outside of the EU are exempt from this directive.

### Dangerous Substances and Explosive Atmospheres Regulations

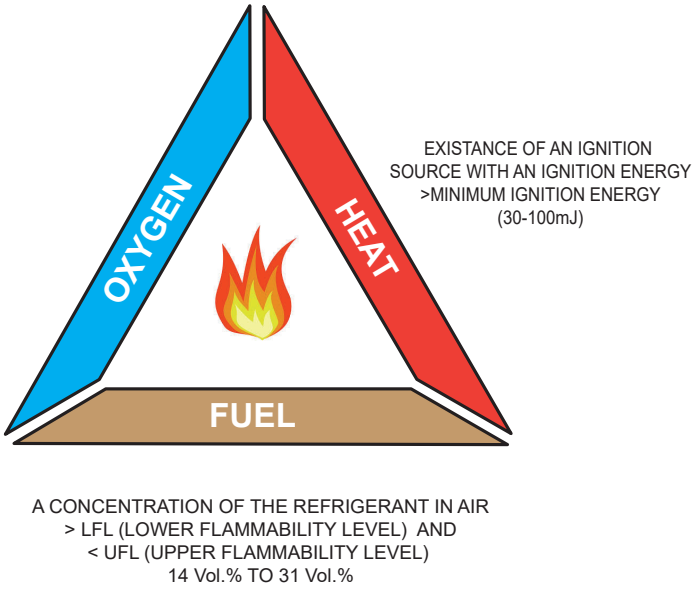
The completion of a DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) risk assessment must be completed as a legal requirement by the employer of the business where this equipment will be installed. This is not the responsibility of Airedale International Air Conditioning Ltd to undertake as the manufacturer of the equipment.

### Safe Operating Limits

The Ultima UCCL chiller has operating limits set to ensure that the refrigerant does not become unstable. Certain aspects of the installation and design must be considered. The unit is defined for open air use only. Access must be limited to supervised or authorised access only. The installation of the unit is subject to various design aspects, see below.

### Flammability

In the event of a leak the combination of the following 3 operating conditions detailed in the fire triangle MUST be avoided at all times. Failure to do this could cause a fire.




| | |
|---|---|
| **CAUTION ⚠** | This refrigerant is classified as lower flammability according to the international standard for refrigerant designation and safety classification, ISO 817:2014. |

No smoking or NAKED FLAME

| | |
|---|---|
| **CAUTION ⚠** | Site risk assesments including fire protocol must be carried out and clear safety instructions must be created for the event of a fire, and maintained by the site operator where the equipment is installed. R32 can produce toxic and corrosive gasses when burnt, such as hydrogen fluoride. Any burning refrigerant should not be approached. Details of fire protocol must be created and maintained by the site operator. |

| | |
|---|---|
| **CAUTION ⚠** | The ventilation fan must be clear from obstructions at all times. It is important that the ATEX rated panel ventilation fan is not facing any potential sources of ignition. In the event of a leak the ventilation fan's purpose is to reduce a potentially flammable concentration of refrigerant in the air, from the compressor enclosure to the atmosphere. Provision must be taken that any leaked refrigerant is not allowed to become stagnant within containment systems or drains. |

## Environmental Considerations

**Units with supply water temperatures below +5°C**

- Glycol is recommended when a supply water temperature of +5°C or below is required or when static water can be exposed to freezing temperatures.

**Units subject to ambient temperatures lower than 0°C**

- Glycol of an appropriate concentration (1) must be used within the system to ensure adequate freeze protection. Please ensure that the concentration is capable of protection to at least 3K lower than ambient.
- Water / glycol solution should be constantly circulated through all waterside pipework and coils to avoid static water from freezing.
- Ensure that pumps are started and running even during shut down periods, when the ambient is within 3K of the solution freeze point (1) (i.e. if the solution freezes at 0°C, the pump must be operating at 3°C ambient).
- Additional trace heating is provided for interconnecting pipework.

(1) Refer to your glycol supplier for details.

### Environmental Policy

It is our policy to:

- Take a proactive approach to resolve environmental issues and ensure compliance with regulatory requirements.
- Train personnel in sound environmental practices.
- Pursue opportunities to conserve resources, prevent pollution and eliminate waste.
- Manufacture products in a responsible manner with minimum impact on the environment.
- Reduce our use of chemicals and minimise their release to the environment.
- Measure, control and verify environmental performance through internal and external audits.
- Continually improve our environmental performance.

### CE Directive

Airedale certify that the equipment detailed in this manual conforms with the following EC Directives:

| | |
|---|---|
| Electromagnetic Compatibility Directive (EMC) | 2014/30/EU |
| Machinery Directive (MD) | 89/392/EEC version 2006/42/EC |
| Pressure Equipment Directive (PED) | 2014/68/EU |
| Ecodesign | 2009/125/EC |

To comply with these directives appropriate national & harmonised standards have been applied. These are listed on the Declaration of Conformity, supplied with each product.

### Occupancy Note

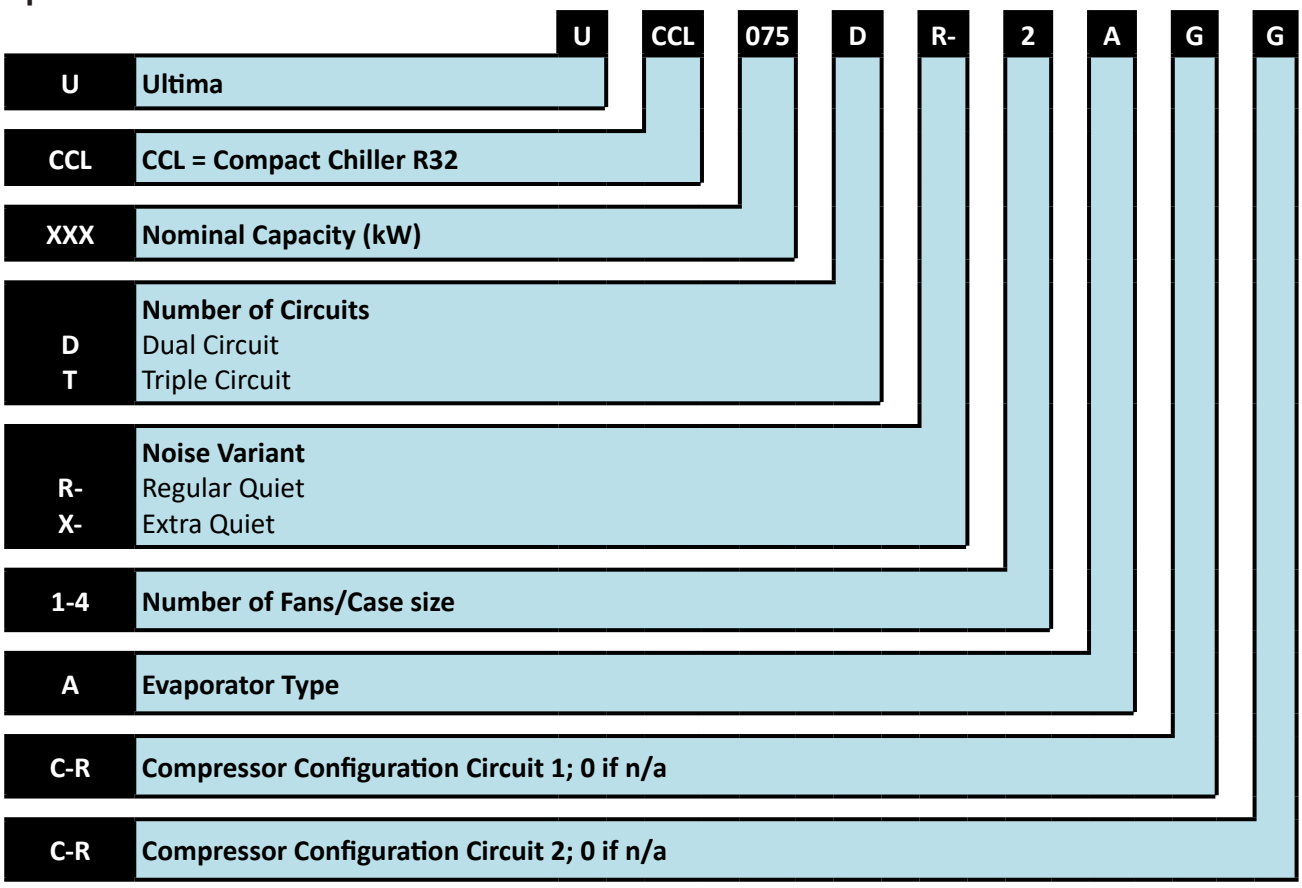
When placing a chiller the access category for the surrounding area needs to be classified in accordance with EN 378-1:2016 section 5.1.1.

Access to the Ultima range should be limited to supervised or authorised access only (access categories B and C) as described in EN378-1:2016 Table 4. This access level needs to be confirmed by the end user, and the location within which the product is to be installed needs to be defined. EN 378-1:2016 section 5.3 describes the four main types of location and the hazards associated with each. The Ultima Range has been designed to be installed in an open air environment (location class III) and shall not be applied in alternative locations.

As an air cooled Chiller typically in an ‘Authorized Access’ installation, located in open air, ‘Class III’ location, EN378-1:2016 Table C.2 states that there is ‘No charge restriction’ for these systems using R32 (A2L) refrigerant.

## Contents

## Specification




### Introduction

The Airedale range of Ultima Compact air cooled liquid chillers covers the nominal capacity range 30kW to 150kW. The range comprises of 44 units in 5 case sizes. The range is available with many optional variations including Regular Quiet (R) and Extra Quiet (X) sound levels. Attention has been placed on maximising the unit's performance while keeping the sound and vibration levels and footprint to an absolute minimum.

### Construction

The base is fabricated from galvanised steel to ensure a tough, durable, weatherproof construction. The superstructure is manufactured from galvanised sheet steel coated with epoxy baked powder paint to provide a durable and weatherproof finish. Standard unit colour is Light Grey (RAL 7035).

Compressors and evaporator are mounted on a rigid galvanised heavy-duty sub frame. Fully weatherproofed electrical panels are situated at one end of the unit. Access to the compressors is via side panels adjacent to the electrical control panel.

## Refrigeration

| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN |
| Refrigeration | Full Operating Charge of R32 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Scroll Compressor Arrangement | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Plate Evaporator | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Enhanced Refrigeration Condenser Coils | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Epoxy Coated RTPF Condenser Coils | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Ventilated Compressor Enclosure | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Electronic Expansion Valve | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Liquid Line Sight Glass | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Liquid and Discharge Line Ball Valve | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Large Capacity Filter Drier | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Manual Reset High Pressure Switch | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Auto Reset Low Pressure Switch (LP Via Microprocessor) | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Suction and Liquid Pressure Transducers | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Compressor Minimum Differential Pressure Protection | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Dual Pressure Relief Valve | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Refrigerant Leak Detection | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

● Standard Features ○ Optional Features – Feature Not Available

### Compressor

Scroll compressors comprising:

- Internal motor protection.
- Integrated Discharge Valve.
- External discharge temperature protection.
- Direct online start.
- Oil sight glass.
- 80W Sump heater.

Each Tandem/Trio set has an oil equalisation line.

The compressors shall be mounted to the rigid galvanised heavy duty sub-frame with the use of vibration reducing isolation.

### Evaporator

Stainless steel high efficiency brazed plate heat exchanger(s) will allow optimum heat transfer between media. Each heat exchanger shall be insulated with closed cell polyurethane foam to Class 1 fire rating.

A pad heater is fitted to the single evaporator and will protect against freeze up in ambient temperatures as low as -20°C. Internal water pipework is trace heated. Connections for External Trace Heating (240V/500W is available).

### Condenser

Large surface area coil(s) ideally positioned to optimise airflow and heat transfer, it shall be manufactured from refrigeration quality copper tubes with mechanically bonded aluminium fins.

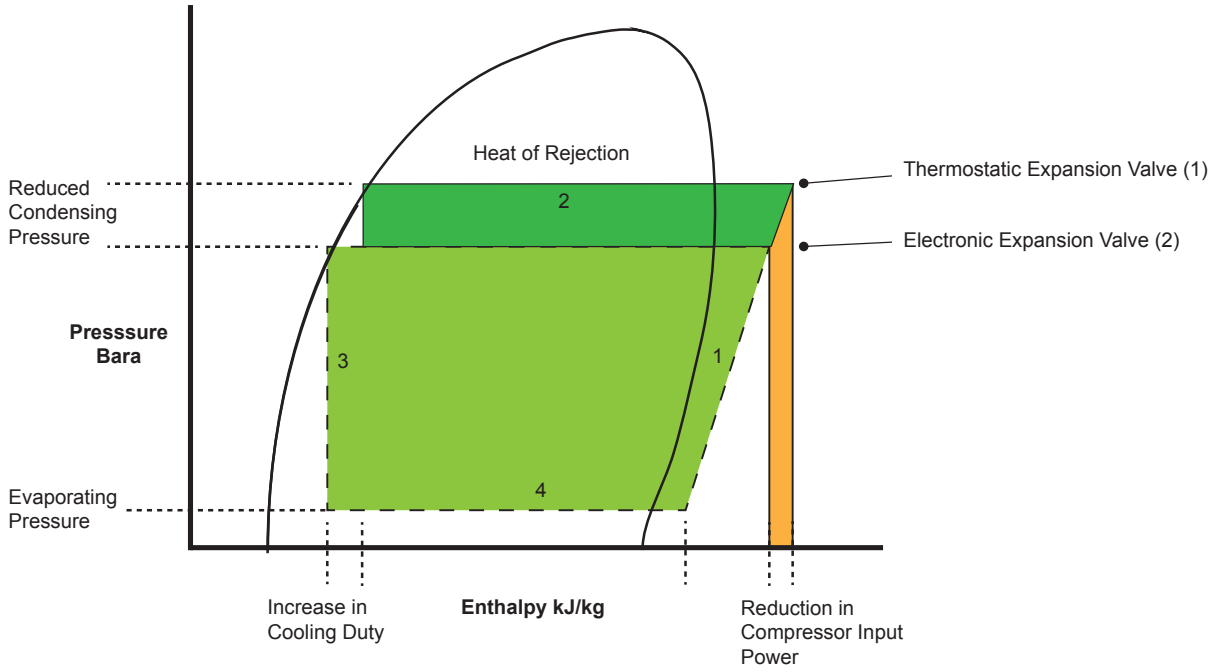
### Epoxy Coated Condenser Coil

In atmospheres where high corrosion is anticipated epoxy coated aluminium finned coils can be offered as an option.

### Electronic Expansion Valve

Electronic expansion valves differ to the normal thermostatic expansion valves in their ability to maintain control of the suction superheat at reduced head pressures. This can lead to significant energy savings particularly at minimum loading and low ambient temperatures.

Using an EEV allows for good refrigeration control with the chiller operating at part load and lower ambient conditions with a reduced condensing pressure. By fitting an EEV and adjusting the head pressure control setting, reduction in energy running values of up to 27% can be achieved. The Mollier diagram shown below helps to illustrate how this increase in efficiency is achieved.




**Key**

Cooling Cycle @ 22°C ambient with a conventional TEV fitted.

Cooling cycle @ 22°C ambient, demonstrating a typical EEV condensing temperature taking full advantage of lower ambient air temperatures (below 30°C).

### Dual Pressure Relief Valve

A 3-way dual shut-off valve that incorporates 2 relief valve assemblies per circuit. The valve allows the maintenance of individual pressure relief valves and rupture discs without the need for refrigerant evacuation. The Pressure relief valve protects the evaporator. The PRV opens at 29 barg (±3%).

### Refrigerant Leak Detection

A factory calibrated leak detection system shall be fitted as standard. A refrigerant sensor shall be fitted within the compressor enclosure and will raise an alarm on detection of refrigerant gas.

In the alarm state, the ATEX certified ventilation fan in the compressor compartment is enabled. The unit immediately shuts down, closes the EEV and the isolation contactor is actuated disabling all non-essential electrical circuits. The unit remains turned off (not pumped down) until it is manually reset; the unit can only be reset when the refrigerant level is below the trip setting.

## Electrical

| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN |
| Electrical | Door Interlocking Isolators | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Evaporator Pad Heater | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Trace Heating to Internal Pipework | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Connections for External Trace Heating | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Phase Rotation Protection | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Power Factor Correction | – | – | ○ | ○ | ○ | – | – | ○ | ○ | ○ |
| | Electronic Soft Start | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | UltraCap Power Backup | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Power Monitoring | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

● Standard Features ○ Optional Features – Feature Not Available

Dedicated weatherproof electrical power and controls panels shall be situated at the end of the unit and contain:

- Separate, fully accessible, controls compartment, allowing adjustment of control set points whilst the unit is operational.
- Circuit breakers for protection of all major unit components.
- Separate, permanent supply for controls/trace heating, 230V/50Hz/1Phase 16Amp. (max permanent cable size 4mm²).

The electrical power and control panel is wired to the latest European standards and codes of practice. A mains supply of 400V 3PH 50Hz, permanent supply of 230V 1PH 50Hz and control circuit of 24V/230VAC shall be accomodated.

This sytem has been designed to be connected to a TN type distribution system. For alternate distribution type systems, contact Airedale.

### Power Factor Correction

When applied to the motors of each compressor, the compressor power factor is controlled to a minimum operating value of 0.95 at the full operating capacity. This satisfies many supply authorities that may impose surcharges on equipment with power factor less than 0.95. (available on units UCCL085, UCCL100. UCCL125, UCCL150).

### Electronic Soft Start

The electronic soft start enables the compressor's motor to be ramped to speed with the minimum full load current. Further benefits include removal of nuisance tripping, supply voltage dips and motor overheating.

### Ultracap Uninterrupted Power Supply

The Ultracap module is an external backup device for the EVD Evolution used to close the valve in the event of mains power failures. The module guarantees temporary power to the EVD Evolution in the event of power failures, for enough time to immediately close the connected electronic valve. It avoids the need to install a solenoid valve in the refrigerant circuit or use the battery backup module.Ultracap storage capacitors (EDLC = Electric Double Layer Capacitor), which are recharged independently by the module. Ultracap capacitors ensure reliability in terms of much longer component life than a module made with lead batteries: the life of the Ultracap module is at least 10 years. In addition, not using lead batteries also means no special precautions are required regarding safety and pollution.

### Power Monitoring

A power meter shall be fitted to the unit. Voltages, currents and power inputs can be monitored and recorded giving power usage of the chiller. Current transformers are fitted to the unit's incoming supply.

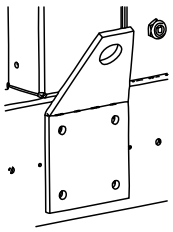
## General

| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCR085-150 4 FAN |
| General | Lifting Eye Bolts | – | – | ● | ● | ● | – | – | ● | ● | ● |
| | Lifting Lugs | ● | ● | – | – | – | ● | ● | – | – | – |
| | Condenser Fan Discharge Plenum | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Extended Height Fan Discharge Plenum | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Acoustically Lined Compressor Enclosure | – | – | – | – | – | ● | ● | ● | ● | ● |
| | Anti Vibration Mount - Spring Type | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Anti Vibration Mount - Pad Type | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Coil Guard | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

● Standard Features ○ Optional Features – Feature Not Available

### Lifting Eye Bolts/Lifting Lugs

Lifting eye bolts/lifting lugs shall be fitted for use with either slings or shackles.

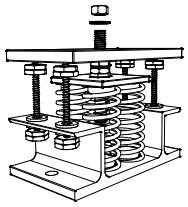


### Condenser Fan Discharge Air Plenum Extension

Constructed from galvanised sheet steel coated with epoxy baked powder paint, the factory fitted plenum directs discharge air vertically, thus limiting air re-circulation and provides a degree of acoustic reduction in the horizontal plane. Please contact Airedale for further details. Standard unit colour is Light Grey (RAL 7035). For further details refer to dimensions.

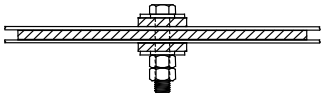
### Anti Vibration Mounts Spring Type

Spring vibration isolators can be supplied loose for on site fitting to the base frame of each chiller unit. The isolators are suitable for fitting to a concrete slab or structural steelwork providing the surface is level and of sufficient strength where a high level of vibration elimination is required.



### Anti Vibration Mounts Pad Type

Pad vibration isolators can be supplied loose for on site fitting to the base frame of each chiller unit. The isolators are suitable for fitting to structural steelwork providing the surface is level and of sufficient strength where a moderate degree of vibration elimination is required.



### Coil Guard

Guards can be fitted to each of the outer coils to protect against damage.

## Controls

| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN |
| Controls | Helix™ Microprocessor Controller | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Optimised Head Pressure Control | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Emergency Stop | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Remote Setpoint Adjust | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Sequence Controller | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | BMS Interface Card | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

● Standard Features ○ Optional Features – Feature Not Available

### Helix™ Microprocessor Controller

As standard, the Helix™ microprocessor controller can provide 2, 3 or 4 stages of capacity control, dependent upon model type.

Optionally, the controller is designed to provide capabilities for:

- Building Management Systems.
- Networking.
- Sequencing (Master/Slave and Run/Standby) to meet all your system requirements, please confirm at time of order. Please contact Airedale for further details.

### Optimised Head Pressure Control

The fan's speed is modulated to maintain an optimised condensing pressure, ensuring the unit is always operating in the most efficient way and down to temperatures as low as -20°C. Head pressure can be monitored and values viewed at the microprocessor display.

### Remote Setpoint Adjust

Allows the chilled water setpoint to be adjusted via an external 0-10V signal.

### Sequence Controller

For the efficient temperature and capacity operation of multiple units on a single site, the sequence controller will permit interlinked operation of the complete system thereby providing optimum temperature control and minimum power consumption. Included within this package is a site visit by Airedale Controls Specialists to set up multiple unit sequence control.

### BMS Interface Card

BMS cards provide an interface between the Airedale unit and the majority of BMS systems, they can be selected and factory fitted as a standard option (please contact Airedale). A wide range of protocols can be accommodated which include the following standard protocols; ModBus; Carel; SNMP; LonWorks; Metasys and BACnet.

Alternatively Airedale's Ethernet TCP/IP based plug-in card, the pCOWEB, offers BACnet IP, Modbus IP and SNMP features.

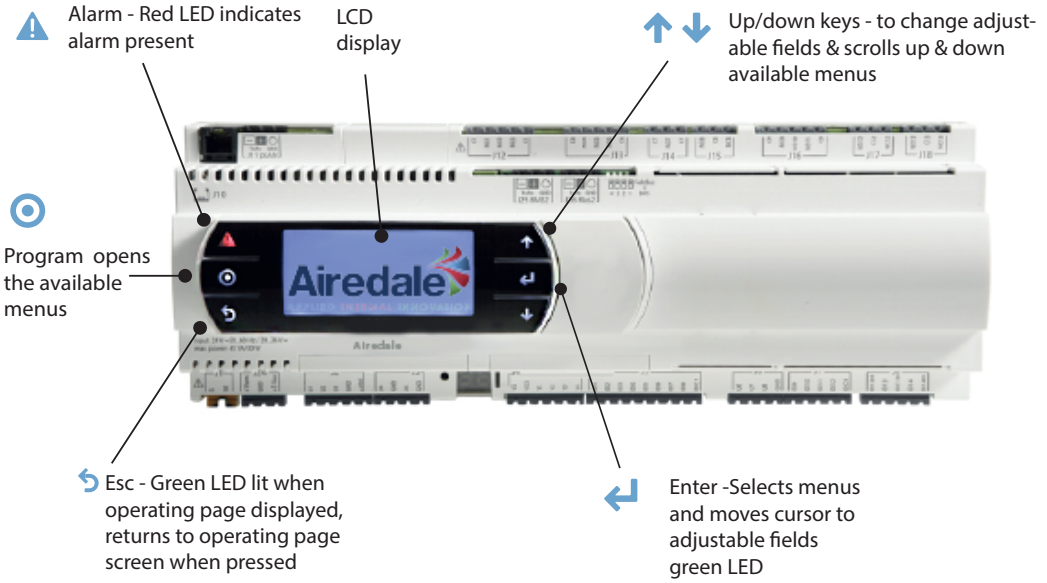
| | |
|---|---|
| **CAUTION ⚠** | When adding to an existing controls scheme, please consult Airedale Controls to ensure strategy compatibility. |

## Controls

### General Description

The Helix™ microprocessor controller offers powerful analogue and digital control to meet a wide range of monitoring and control features including a real time clock, industry standard communication ports and network connections.

The controller's inbuilt display is used for viewing the unit operating status and making adjustments to control parameters by allowing the operator access to a series of display pages. It features a visual alarm and the facility to adjust and display control settings by a local operator for information and control.



### Temperature Control

The microprocessor controller shall monitor the return and supply temperatures. The return temperature is used to generate cooling demand based on the supply temperature setpoint, and the specified unit TD. Using the return gives smoother control by leveraging the volume of water in the system as a temperature buffer (supply temp tends to jump up and down quickly when compressors are enabled or disabled). Further calculations are then made to determine the optimum compressors to be selected and their individual cooling demands. These calculations ensure the unit efficiency is maximised under all load conditions. As standard, the microprocessor controller can provide up to 4 cooling stages between between minimum unloading capacity and 100%, depending upon component selection and operating conditions. Refer to mechanical data tables for unit specific control ranges.

### Monitoring

The microprocessor shall also monitor and display the following measured parameters:

- Supply water temperature.
- Return water temperature.
- Liquid pressure.
- Suction pressure.
- Evaporator differential water pressure.

### Alarm Handling

The controller shall log and allow viewing of the last 150 conditions recorded in descending chronological order through the keypad display.

The following conditions shall be detected, triggering a visual display:

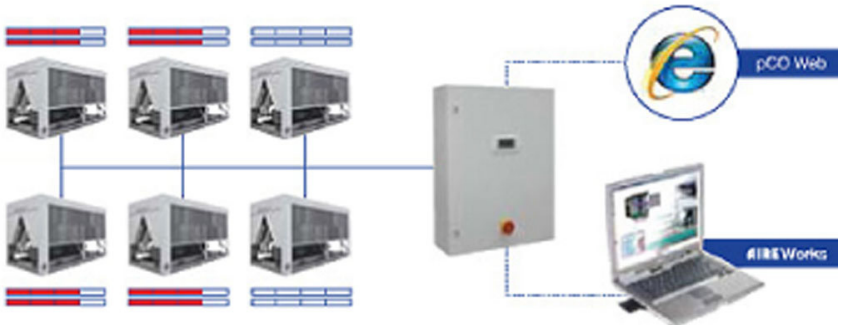
- High compressor discharge temperature (per compressor).
- Low supply temperature.
- Phase rotation.
- Emergency stop.
- Evaporator flow failure.
- Low pressure safety switch.
- Low suction pressure (per compressor).
- High liquid pressure.
- Refrigerant leak detection.
- Compressor 1 contactor status.
- Compressor 2 contactor status. (dependant on model).
- Compressor 3 contactor status (dependant on model).
- Compressor 4 contactor status (dependant on model).
- Volt free contact non-critical alarm indication.
- Volt free contact critical alarm indication.

### Building Management Systems (BMS)

BMS systems allow remote interrogation of parameters from within the unit, including but not limited to; probe readings, alarms and unit status.

### Chiller Sequence Manager

For the efficient temperature and capacity operation of multiple units on a single site, the sequence manager will permit interlinked operation of the complete system thereby providing optimum temperature control and minimum power consumption. Up to 6 units can be sequenced. Included within this package is a site visit by an Airedale control specialist to set up multiple unit sequence control. The chiller sequence manager is supplied as a separate control panel to be mounted remotely in an indoor location, such as a plant room.



### Unit Remote ON/OFF

Disables / Enables the unit remotely.

### Compressor Anti Cycle Control

Automatic via the Microprocessor.

### Compressor Load Limit

This feature limits the condensing pressure to 37 Barg by unloading the compressor.

### Low Suction Trip

The relevant circuit turns off when the suction pressure gets too low, to prevent hitting the LP switch.

### Supply Temperature Limiting

Based upon the freezing point of the water/ glycol solution, the unit operation is limited to a 3K differential. Cooling is reduced as the temperature approaches the freezing point (below this differential). The differential is the difference between actual temperature and the freezing point of the solution.

### Pump(s) Remote ON/OFF

Disables / Enables the pump(s) remotely.

### Evaporator Differential Pressure Sensor

Shall facilitate low flow limiting and pressure drop monitoring via the microprocessor.

### Remote Setback Temperature Set-point Switch

A setback set-point for supply water temperature shall be selected to suit summer / winter conditions or night setback.

### Remote Set-point Adjust

Shall allow the chilled water set-point to be adjusted via an external 0-10V signal.

### Compressor Hours Run

Displays hours run of each compressor.

### Optimised Head Pressure Setpoint Management

The combination of variable speed compressor, EC fan and interactive control logic allows fans to be slowed down to give the optimum head pressure setpoint in relation to combined power draw of compressor and fans. The fan speed shall automatically modulate to achieve the best energy balance for all normal operating conditions. Reducing the head pressure setpoint decreases the compressor input power at the expense of the fan input power.

| | |
|---|---|
| **CAUTION ⚠** | Password Protection<br>The control system integrity shall be maintained by restricting access with a password PIN number. |
| **IMPORTANT ⚠** | To change the PIN number; please contact Airedale at time of order with the preferred 4 digit number. |

## Airflow

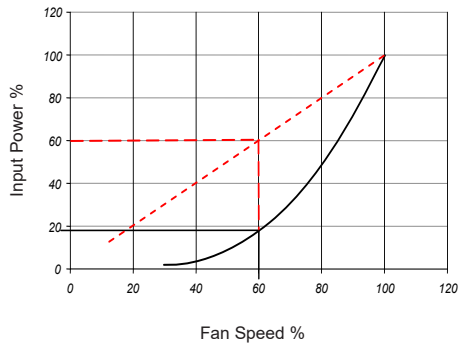
| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN |
| Airflow | EC Condesner Fans 960 rpm | ● | ● | — | — | — | — | — | — | — | — |
| | EC Condenser Fans 1030 rpm | — | — | ● | ● | ● | — | — | — | — | — |
| | EC Condenser Fans 750 rpm | — | — | — | — | — | ● | ● | ● | ● | ● |
| | AC Condener Fans 960 rpm | ○ | ○ | ○ | ○ | ○ | — | — | — | — | — |
| | AC Condenser Fans 750 rpm | — | — | — | — | — | ○ | ○ | ○ | ○ | ○ |

● Standard Features ○ Optional Features – Feature Not Available

### Energy saving Electronically Commutated (EC) Fan Motor

Each fan incorporates on board electronics with AC/DC conversion and inverter driven DC motor control to offer unparalleled high efficiency levels combined with smooth step-less speed control and quiet operation. Sickle blades reduce air turbulence to minimise sound levels and power consumption whilst maximising performance. The long bell mouth design provides improved aerodynamics, up to 10% more air movement, and an extended vertical throw of air to reduce the chance of air re-circulation. As standard the enclosure is complete with an integral finger proof grille. The fans offer maximum airflow performance while keeping sound levels to a minimum.

The in built EC fan control module allows for fan speed modulation from 15-100%, a standard AC fans modulating range is typically 40-100% of full fan speed. The EC fan presents superior energy efficiency at full and reduced fan speed compared to the equivalent AC fan motor, offering efficiency savings anywhere between 30 to 100% compared with an AC fan. Fan speeds are factory set depending on sound level variant. Standard voltage regulated (VR) fan speed controllers offer a linear response. By comparison the EC fan is adjusted on demand via the unit microprocessor with precision, offering substantial energy savings. The following illustration shows a comparison of the typical power input required by each method.




EC (Electronically Commutated) Fan Speed Control

Voltage Regulated Fan Speed Control

### Condenser Fans - AC

Axial fan assemblies with fingerproof grille and incorporating external rotor motor technology to provide highly accurate discreet speed control. The fans offer maximum performance while keeping sound levels to a minimum. Electrical supply dependent upon model size, refer to Electrical Data for more information.

## Waterside

| | Features | System Configuration | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R Type | | | | | X Type | | | | |
| | | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN | UCCL030-75 1 FAN | UCCL030-75 2 FAN | UCCL085-150 2 FAN | UCCL085-150 3 FAN | UCCL085-150 4 FAN |
| Waterside | Flow Switch* | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Differential Water Pressure Transducer* | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Pump Interlock* | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Water Filter | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Water Inlet/Outlet Threaded Connection | ● | ● | – | – | – | ● | ● | – | – | – |
| | Flanged Connections | – | – | ● | ● | ● | – | – | ● | ● | ● |
| | Water Drain/Air Bleed | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | Flush Bypass Kit (standard) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Flush Bypass Kit (regulating) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Single Head Pump | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Single Head Run/standby Pump | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Twin Head Pump | – | – | ○ | ○ | ○ | – | – | ○ | ○ | ○ |
| | Twin Head Run/standby Pump | – | – | ○ | ○ | ○ | – | – | ○ | ○ | ○ |

● Standard Features ○ Optional Features – Feature Not Available

### Flow Switch*

The flow switch will protect the chiller against low water flow. Factory fitted if pumps are selected. For no pump option the flow switch shall be supplied loose for on-site fitment.

### Differential Water Pressure Transducer*

An evaporator differential pressure sensor shall be fitted to ensure the correct unit water flow. The sensor facilitates low flow limiting and pressure drop monitoring, relaying a flow rate via the microprocessor.

### Pump Interlock*

Provision for a pump interlock is available within the control panel.

| | |
|---|---|
| **IMPORTANT ⚠** | *Each feature acts as a flow proving device. 2 out of the 3 devices should be fitted to any unit to validate warranty. |

### Water Filter

A 20 mesh water filter shall be factory fitted on the inlet water pipework to protect the evaporator from clogging by sediment.

### Water Inlet/Outlet Threaded Connection

BSP brass male taper threaded connections shall be factory fitted.

### Flanged Connections

PN16 Flanged connections shall be factory fitted.

### Evaporator Water Drain/Air Bleed

A 1/2” water drain/bleed shall be fitted to the evaporator.

### Flushing Bypass Kit (Standard)

Comprises:

- Shut off valves.

Factory fitted to enable the water system to be purged before running to protect the evaporator from system sediment.

### Flushing Bypass Kit (Regulating)

Comprises:

- Shut off valves.
- Double regulating valve.

Factory fitted to enable the water system to be purged before running to protect the evaporator from system sediment The regulating Flushing Bypass Kit additionally allows the chiller to run with a lower $\Delta T$ (typically for chilled beam and/or high water temperature applications).

### Internal Pump Packages

Integral pumps may be fitted, standard or larger sizes selected to suit installed system requirements. The following configurations are available:

### Single Head Pump

Factory fitted with electrical switchgear and isolating valve.

### Single Head Run/Standby Pumps

Factory fitted dual pumps with shut off valves on the inlet and outlet and non-return valves on the outlet in automatic changeover configuration. Supplied with electrical switchgear and isolating valve. The microprocessor can be programmed to automatically rotate usage of the run/standby pumps to a set period. For further details, refer to “Pump Options - Flow Schemes” on page 24.

### Twin Head Pump

Factory fitted with common inlet and outlet connections, twin motor and pump impellers. Featuring automatic changeover via a paddle switch, electrical switchgear and isolating valve.

## Design Features & Information

### Specific Heat Capacity (SHC)

| % Ethylene Glycol Concentration | | 0% | 10% | 20% | 30% | 40% |
|---|---|---|---|---|---|---|
| Specific Heat Capacity (kJ/kgK) | (1) | 4.190 | 4.115 | 3.901 | 3.686 | 3.474 |

| % Propylene Glycol Concentration | | 0% | 10% | 20% | 30% | 40% |
|---|---|---|---|---|---|---|
| Specific Heat Capacity (kJ/kgK) | (1) | 4.190 | 4.139 | 4.033 | 3.903 | 3.749 |

(1) Data quoted for water/glycol solutions at a nominal temperature of 10°C.

| | |
|---|---|
| **CAUTION ⚠** | Only use the SHC data when calculating fluid volume. Use figure for 0% concentration (100% water). When calculating volumes of glycol solutions, refer to glycol data correction factors and convert the water volume. |

### Minimum System Water Volume Calculations

**METHOD 1**

**(Preferred Method)**

Where the system permanent heat load is known, the minimum water volume in litres $\mathbf{V_{min}}$ is:

$\mathbf{V_{min}}$ **=** Water Flow Rate (litres/min) x Minimum Compressor Run Time (min) x Chiller Loading Factor (CLF)

Where

$\mathbf{V_{min}}$ is the minimum water volume in litres

Minimum Compressor Run Time is 6 minutes

$$CLF = \frac{\text{Minimum Turndown x Cooling Duty x 1.2}}{\text{Permanent Heat Load}}$$

**Example: 150kW Cooling Duty at 35°C Ambient and 7/12°C Water**

**Permanent Heat Load:** 75kW

**Minimum Turndown =** 0.25 (4 Compressors = 25%)

$$\mathbf{V_{min}} = \frac{150 \times 60}{4.19 \times 5} \times 6 \times \frac{0.25 \times 150 \times 1.2}{75} = 1546.5 \text{ Litres}$$

**METHOD 2**

Where the system permanent heat load is unknown:

$$\mathbf{V_{min}} = \frac{\text{Water Flow Rate (litres/hour) x Min. Turndown x 1.2}}{\text{Maximum number of Compressor starts(per hour)}}$$

$$\mathbf{V_{min}} = \frac{\frac{\text{Cooling Duty x 3600}}{\text{Cp x } \Delta t} \times \text{Min Turndown} \times 1.2}{\text{Maximum number of Compressor starts(per hour)}}$$

Please refer to Mechanical Data for information for Minimum Turndown for each model.

**Example: 150kW Cooling Duty at 35°C Ambient and 7/12°C Water**

**Minimum Turndown =** 0.25 (25% : 4 Compressors)

$$\frac{\frac{150 \times 3600}{4.19 \times 5} \times 0.25 \times 1.2}{10} = 773.3 \text{ Litres}$$

## Design Features and Information

### Sound Data

### Measurement of Sound Data

All sound data quoted has been measured in the third-octave band limited values, using a Real Time Analyser calibrated sound pressure meter in accordance with BS EN ISO9614:2009. **The Global sound data quoted is valid for noise emitted in the horizontal plane in all directions.**

All Sound Power Levels quoted are calculated from measured sound presure according to BS EN ISO9614:2009.

Sound Pressure Levels are calculated from sound power using the expanded parallelpiped method according to BS EN ISO9614:2009.

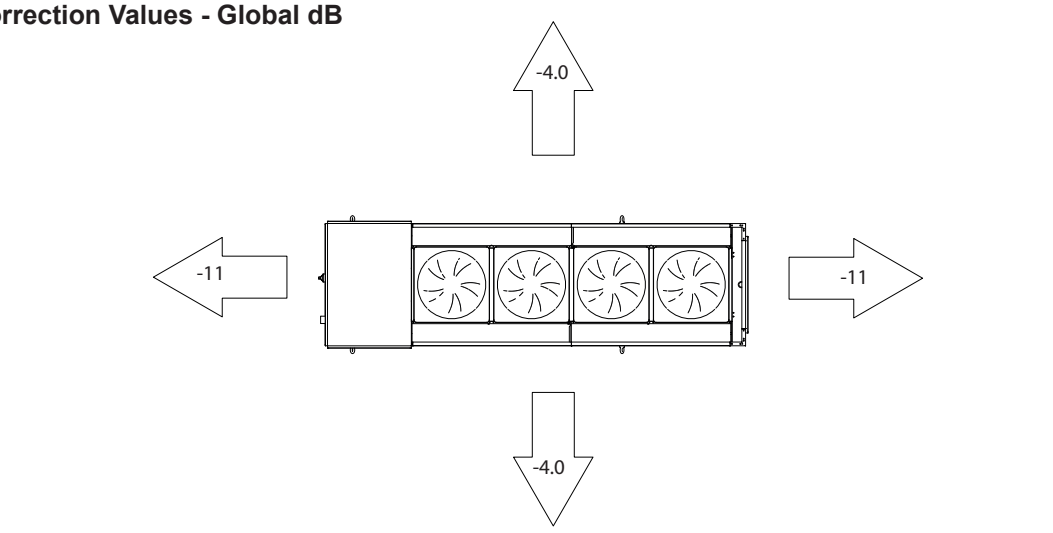
Resultant performance figures obtained from test will be proven to not differ from the claimed figures by more than the allowable deviations specified in table 7 of section VII of Eurovent RS 6/C/003-2016 (A-weighted sound power; +3dBA).

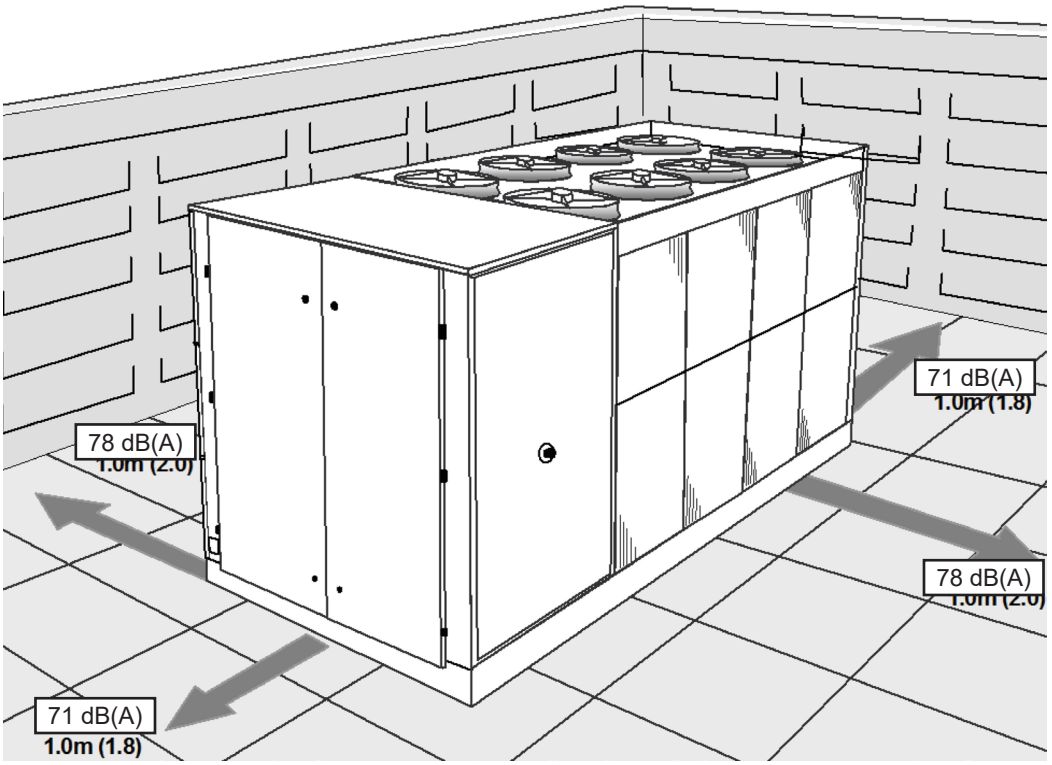
### Sound Directivity

The global sound measurements quoted in the following tables **do not** incorporate any directivity or denote any sound level heard at any given position surrounding the chiller, rather they represent the total sound level radiating from the chiller in **all directions in the horizontal plane** from source.

Using the adjustment factors from the map below, specific directional sound power levels can be derived from the global sound power data.

### Base Correction Values - Global dB



## Design Features & Information

### Operating Limits

| Standard Unit | |
|---|---|
| Minimum ambient air DB(1) | -20°C |
| Maximum ambient air DB at full load operation | 40°C |
| Minimum supply water temperature (2) | 5°C |
| Maximum return water temperature (3) | 26°C |
| Maximum supply water temperature (2) | 18°C |
| Minimum / maximum ΔT | 4K / 8K |

(1) Temperatures lower than those stated can be obtained with the addition of glycol.
(2) Please refer to Airedale for conditions outside those quoted.
(3) With an 8K ΔT

### ESEER Calculations

The quoted EER figures cover the performance of the unit ONLY at the standard rating conditions of 7/12°C water, 35°C ambient. The ESEER (European Seasonal Energy Efficiency Ratio) calculation method has been developed by Eurovent to give a single value that is a realistic indication of the efficiency of the chiller across the year round range of operation. The ESEER value is calculated from the unit's performance at 20, 25, 30 and 35°C ambient temperatures for 25, 50, 75 and 100% loading stages respectively, and with a fixed 7°C supply temperature.

The calculation below uses the Eurovent weighting coefficients and the part load EERs are determined in accordance with EN14825:2018 Clause 4.4.

$$ESEER = A \bullet EER_{100\%} + B \bullet EER_{75\%} + C \bullet EER_{50\%} + D \bullet EER_{25\%}$$

A, B, C and D are weighting factors 0.03, 0.33, 0.41 and 0.23.

| | A | B | C | D |
|---|---|---|---|---|
| Temperature | 35°C | 30°C | 25°C | 20°C |
| Capacity Requirement | 100% | 73.7% | 47.4% | 21.1% |
| Weighting (Eurovent) | 0.03 | 0.33 | 0.41 | 0.23 |

| | |
|---|---|
| **CAUTION ⚠** | The waterside temperature should not go above the TS of +40°C. The PRV will release at water temperatures >= 46.7°C. |

## Installation

### Water System

Chilled water pipework and ancillary components must be installed in accordance with:

- National and local water supply company standards.
- The manufacturer's instructions when fitting ancillary components.

It is also required:

- That the system water is treated to prevent corrosion and algae forming.
- In ambients of 0°C and below, where static water can be expected, or when water supply temperatures of +5°C or below is required, the necessary concentration of Glycol or use of an electrical trace heater must be included.
- The schematic is referred to as a guide to ancillary recommendations.

| | |
|---|---|
| **CAUTION ⚠** | The unit water connections are NOT designed to support external pipework, pipework should be supported during installation. |

The water flow commissioning valve set is not shown in the diagram overfeaf, as the valve can be fitted elsewhere within the chilled water circuit.

### Component Recommended Requirements

The recommended requirements to allow commissioning to be carried out correctly are:

- The inclusion of binder points adjacent to the flow and return connections, to allow temperature and pressure readings.
- A flow switch or equivalent, fitted adjacent to the water outlet side of the chiller.

| | |
|---|---|
| **CAUTION ⚠** | Constant water flow MUST be maintained. Variable water volume is NOT recommended and may invalidate warranty.<br>The correct operation of the flow switch is critical if the chiller warranty is to be valid. |

- A 20 mesh strainer fitted prior to the evaporator inlet.
- A water-flow commissioning valve set fitted to the system.
- In multiple chiller installations, 1 commissioning valve set is required per chiller. Air vents are to be installed at all high points and where air is likely to be trapped at intermediate points.
- Drain points are to be installed at all low points in the system and in particular adjacent to the unit for maintenance to be carried out.
- Isolating valves should be installed adjacent to all major items of equipment for ease of maintenance.
- Balancing valves can be installed if required to aid correct system balancing.
- All chilled water pipework must be insulated and vapour sealed to avoid condensation.
- If several units are installed in parallel adjacent to each other, reverse return should be applied to avoid unnecessary balancing valves.

### Pump Statement

When installing circulating water pumps or equipment containing them, the following rules should be applied:

- Ensure the system is filled with water then vented and the pump primed with water before running the pump. This is required because the pumped liquid cools the pump bearings and mechanical seal faces.
- To avoid cavitation a minimum of 0.5m NPSH (Net Positive Suction Head) must be available at the pump inlet during operation.

### Interlocks and Protection

Always electrically interlock the operation of the chiller with the pump controls and water flow switch for safety reasons. Failure to do this will invalidate the chiller warranty. Do not rely solely on the BMS to protect the chiller against low flow conditions. An evaporator pump interlock and flow switch MUST be directly wired to the chiller, refer to Interconnecting Wiring diagram.

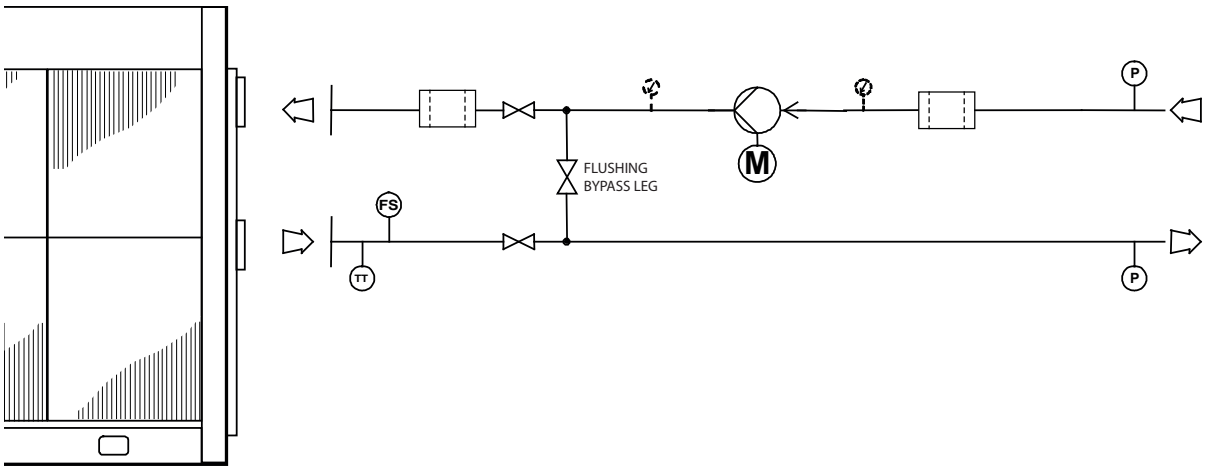
## Installation

### Water System

**Key**

| | | | |
|---|---|---|---|
| | Water In | TT | Temperature Sensor |
| | Water Out | | Drain |
| | Filter | | Bleed Valve |
| | Pump | | Isolation Valve |
| P | Pressure Sensor | | Check Valve |
| FS | Flow Switch | | Bypass Valve |
| | Shut Off Valve | | Pressure Guage |

### Standard Recommended Installation (Parts Supplied By Others)

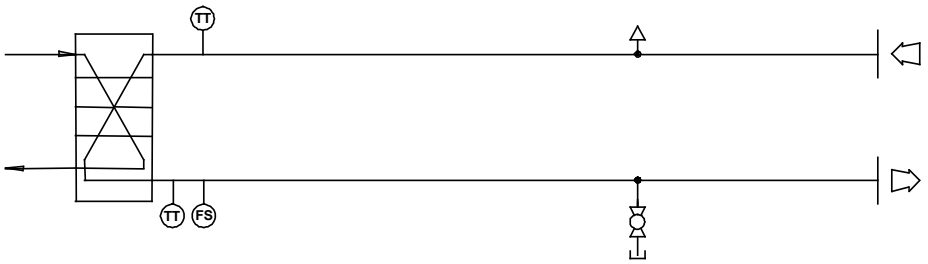



### Flow Schemes

**Basic Supplied Water Schematic**

Optional Extras:

- Flow Switch.



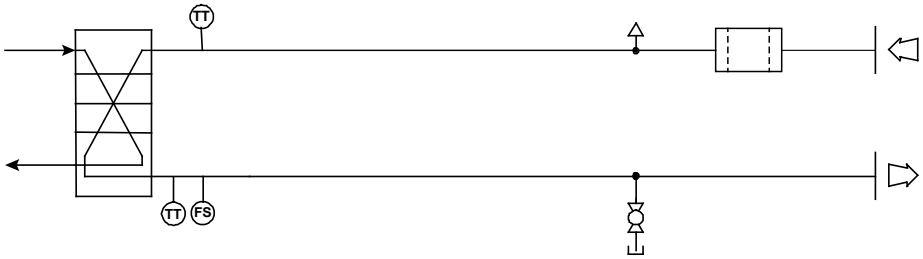

### Optional Flow Schemes

**Filter Only Scheme - Comprises:**

**Standard Circuit plus:**

Optional Extras:

- Flow Switch.
- 20 Mesh Water Filter.



## Installation

### Water System

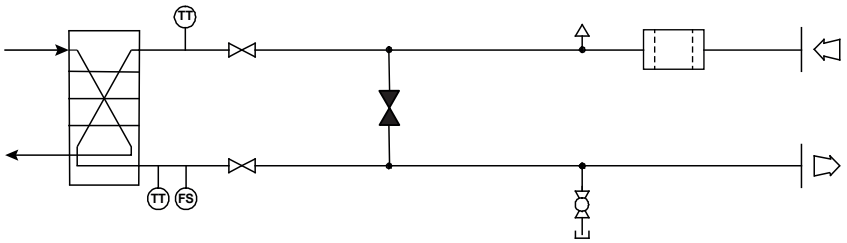
### Pump Options - Flow Schemes

**Filter - Flushing Bypass Scheme - Comprises:**

**Standard Circuit plus:**

Optional Extras:

- Flow Switch.
- 20 Mesh Water Filter.
- Flushing Bypass Circuit.

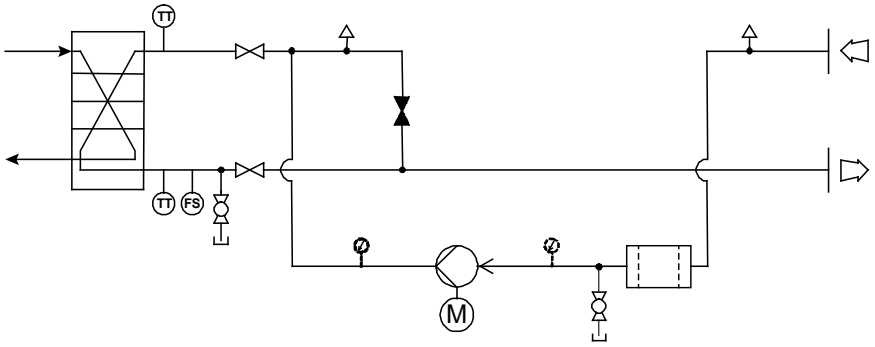



**Single Head Pump Scheme - Comprises:**

**Standard Circuit plus:**

Optional Extras:

- Flow Switch.
- 20 Mesh Water Filter.
- Flushing Bypass Circuit.
- Single Head Pump.

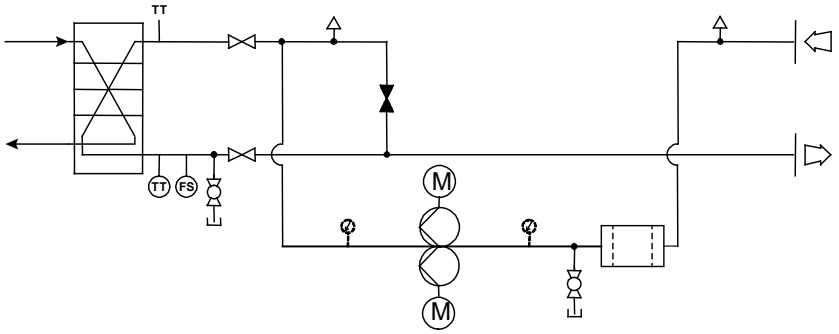



**Twin Head Pump Scheme - Comprises:**

**Standard Circuit plus:**

Optional Extras:

- Flow Switch.
- 20 Mesh Water Filter.
- Flushing Bypass Circuit.
- Twin Head Pump.

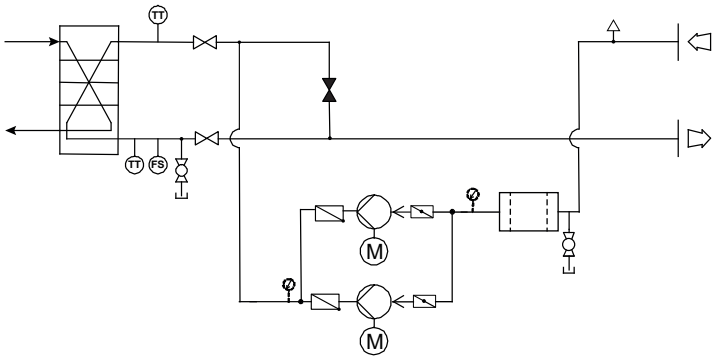



**Single Head Run/Standby Pump Scheme - Comprises:**

**Standard Circuit plus:**

Optional Extras:

- Flow Switch.
- 20 Mesh Water Filter.
- Flushing Bypass Circuit.
- Single Head Run/Standby Pump.



## Technical Data R Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL030SR-1AE0 | UCCL030SR-2AE0 | UCCL040SR-1AH0 | UCCL040SR-2AH0 | UCCL040DR-1ACC | UCCL040DR-2ACC | UCCL050SR-2AJ0 |
|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 26.4 | 27.8 | 37.0 | 40.2 | 38.3 | 41.9 | 48.2 |
| Nominal Input - Cooling Only | | kW | 10.2 | 9.2 | 16.8 | 14.5 | 16.8 | 14.4 | 17.3 |
| EER | (2) | | 2.60 | 3.03 | 2.20 | 2.77 | 2.28 | 2.91 | 2.78 |
| ESEER (Gross) | | | 3.11 | 3.67 | 3.22 | 3.58 | 2.74 | 3.36 | 3.73 |
| ESEER (Nett) | | | 3.16 | 3.73 | 3.32 | 3.78 | 2.82 | 3.51 | |
| Minimum Turndown (Capacity) | (3) | kW | 26.4 / 100% | 27.8 / 100% | 20.6 / 55% | 21.2 / 55% | 18.3 / 50% | 19.8 / 45% | 25.6 / 55% |
| **Capacity Steps** | | % | 100 | 100 | 55-100 | 55-100 | 50-100 | 45-100 | 55-100 |
| **Minimum Turndown Ratio** | | | 1.00 | 1.00 | 0.56 | 0.53 | 0.48 | 0.47 | 0.53 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | |
| **Length** | | mm | 1650 | 2500 | 1650 | 2500 | 1650 | 2500 | 2500 |
| Machine Weight | (4) | kg | 463 | 591 | 520 | 649 | 524 | 652 | 666 |
| Operating Weight | | kg | 468 | 600 | 526 | 657 | 530 | 661 | 675 |
| **Evaporator** | | | | | | | | | |
| Maximum Waterflow | | l/s | 2.4 | 2.5 | 3.3 | 3.6 | 3.5 | 3.8 | 4.3 |
| Minimum Waterflow | | l/s | 1.0 | 1.0 | 1.0 | 1.0 | 1.8 | 1.8 | 1.3 |
| **Condenser** | | | | | | | | | |
| Face Area (Total) | | $m^2$ | 1.7 | 3.4 | 1.7 | 3.4 | 1.7 | 3.4 | 3.4 |
| Nominal Airflow - EC Fans | | $m^3/s$ | 3.1 | 4.8 | 3.1 | 6.1 | 3.1 | 6.2 | 6.2 |
| **Condenser Fan & Motor** | | | | | | | | | |
| Quantity | | | 1 | 2 | 1 | 2 | 1 | 2 | 2 |
| Diameter | | mm | 630 | 630 | 630 | 630 | 630 | 630 | 630 |
| Maximum Speed - EC Fans | | rpm | 960 | 960 | 960 | 960 | 960 | 960 | 960 |
| **Compressor Configuration** | | | Single | Single | Tandem | Tandem | Single + Single | Single + Single | Tandem |
| Quantity of Compressors | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| Oil Charge Volume (Total) | | l | 1 x 3.3 | 1 x 3.3 | 2 x 3 | 2 x 3 | 1 x 3 + 1 x 3 | 1 x 3 + 1 x 3 | 2 x 3.3 |
| **Refrigeration** | | | | | | | | | |
| Charge (Total) | | kg | 8.5 | 15 | 8.5 | 15 | 4.5 + 4.5 | 7.5 + 7.5 | 15 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 5.74 | 10.13 | 5.74 | 10.13 | 6.08 | 10.13 | 10.13 |
| **Water System** | | | | | | | | | |
| Water Inlet / Outlet | | | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 2" BSP |
| Water Volume | | l | 5.7 | 8.4 | 5.7 | 8.4 | 5.7 | 8.4 | 9.3 |
| Minimum System Water Volume | (5) | l | 549 | 579 | 429 | 445 | 382 | 416 | 536 |
| **Electrical Data** | | | | | | | | | |
| Nominal Run Amps | (6) | A | 22.7 | 26.0 | 33.2 | 36.5 | 33.2 | 36.5 | 42.3 |
| Maximum Start Amps | | A | 145 | 149 | 116 | 120 | 116 | 120 | 166 |
| Recommended Mains Fuse Size | | A | 32 | 32 | 40 | 50 | 40 | 50 | 50 |
| Max Mains Incoming Cable Size | | $mm^2$ | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| **Evaporator** | | | | | | | | | |
| Pad Heater Rating | | W | 100 | 100 | 100 | 100 | 80 | 80 | 100 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | |
| Full Load Amps | | A | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| Motor Rating | | kW | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| **Compressor - Per Compressor** | | | | | | | | | |
| Nominal Run Amps | (7) | A | 22.7 | 26.0 | 33.2 | 36.5 | 33.2 | 36.5 | 42.3 |
| Quantity | | | 1 | 2 | 1 | 2 | 1 | 2 | 2 |
| Motor Rating | (7) | kW | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Start Amps | (8) | A | 142 | 142 | 98 | 98 | 98 / 98 | 98 / 98 | 142 |

(1) Based on units performance at 12/7°C return/supply temperature, 35ºC ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.
(2) EER is Cooling duty / (Compressor input power + Fan input power).
(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.
(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.
(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.
(6) EC fans and no pumps.
(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.
(8) Starting amps refers to the direct on line connections.
Pump electrical data is available from Airedale upon request.

## Technical Data R Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL050DR-2ADD | UCCL060SR-2AK0 | UCCL060DR-2AEE | UCCL070SR-2AL0 | UCCL070DR-2AFF | UCCL075SR-2AM0 | UCCL075SR-2AP0 |
|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 49.0 | 53.5 | 54.4 | 60.4 | 61.2 | 67.1 | 82.7 |
| Nominal Input - Cooling Only | | kW | 17.1 | 20.5 | 20.2 | 23.3 | 22.9 | 28.2 | 39.3 |
| EER | (2) | | 2.86 | 2.61 | 2.70 | 2.59 | 2.67 | 2.38 | 2.10 |
| ESEER (Gross) | | | 3.30 | 3.62 | 3.16 | 3.58 | 3.10 | 3.43 | 3.35 |
| ESEER (Nett) | | | | | 3.28 | 3.71 | 3.21 | 3.55 | 3.57 |
| Minimum Turndown (Capacity) | (3) | kW | 23.3 / 50% | 28.6 / 55% | 26.0 / 50% | 32.7 / 55% | 29.3 / 50% | 37.0 / 55% | 32.8 / 40% |
| **Capacity Steps** | | % | 50-100 | 55-100 | 50-100 | 55-100 | 50-100 | 55-100 | 40-75-100 |
| **Minimum Turndown Ratio** | | | 0.48 | 0.54 | 0.48 | 0.54 | 0.48 | 0.55 | 0.40 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | |
| **Length** | | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Machine Weight | (4) | kg | 666 | 670 | 672 | 680 | 680 | 686 | 686 |
| Operating Weight | | kg | 675 | 684 | 684 | 695 | 693 | 701 | 701 |
| **Evaporator** | | | | | | | | | |
| Maximum Waterflow | | l/s | 4.4 | 4.8 | 4.9 | 5.4 | 5.5 | 5.9 | 7.2 |
| Minimum Waterflow | | l/s | 1.8 | 1.5 | 2.1 | 1.7 | 2.3 | 1.9 | 1.9 |
| **Condenser** | | | | | | | | | |
| Face Area (Total) | | $m^2$ | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Nominal Airflow - EC Fans | | $m^3/s$ | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 |
| **Condenser Fan & Motor** | | | | | | | | | |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Diameter | | mm | 630 | 630 | 630 | 630 | 630 | 630 | 630 |
| Maximum Speed - EC Fans | | rpm | 960 | 960 | 960 | 960 | 960 | 960 | 960 |
| **Compressor Configuration** | | | Single + Single | Tandem | Single + Single | Tandem | Single + Single | Tandem | Trio |
| Quantity of Compressors | | | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
| Oil Charge Volume (Total) | | l | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 3 x 3.3 |
| **Refrigeration** | | | | | | | | | |
| Charge (Total) | | kg | 7.5 + 7.5 | 15.5 | 8 + 8 | 15.5 | 8 + 8 | 16 | 16 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 10.13 | 10.46 | 10.80 | 10.46 | 10.80 | 10.80 | 10.80 |
| **Water System** | | | | | | | | | |
| Water Inlet / Outlet | | | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP |
| Water Volume | | l | 8.4 | 13.7 | 12.7 | 14.6 | 13.1 | 15.0 | 15.0 |
| Minimum System Water Volume | (5) | l | 488 | 603 | 547 | 686 | 615 | 776 | 690 |
| **Electrical Data** | | | | | | | | | |
| Nominal Run Amps | (6) | A | 42.3 | 45.3 | 45.3 | 48.6 | 48.6 | 53.9 | 69.6 |
| Maximum Start Amps | | A | 166 | 168 | 168 | 175 | 175 | 188 | 196 |
| Recommended Mains Fuse Size | | A | 50 | 63 | 63 | 63 | 63 | 63 | 80 |
| Max Mains Incoming Cable Size | | $mm^2$ | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| **Evaporator** | | | | | | | | | |
| Pad Heater Rating | | W | 80 | 100 | 80 | 100 | 80 | 100 | 100 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | |
| Full Load Amps | | A | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| Motor Rating | | kW | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| **Compressor - Per Compressor** | | | | | | | | | |
| Nominal Run Amps | (7) | A | 42.3 | 45.3 | 45.3 | 48.6 | 48.6 | 53.9 | 69.6 |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Motor Rating | (7) | kW | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Start Amps | (8) | A | 142 / 142 | 142 | 142 / 142 | 147 | 147 / 147 | 158 | 147 |

(1) Based on units performance at 12/7°C return/supply temperature, 35ºC ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.
(2) EER is Cooling duty / (Compressor input power + Fan input power).
(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.
(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.
(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.
(6) EC fans and no pumps.
(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.
(8) Starting amps refers to the direct on line connections.
Pump electrical data is available from Airedale upon request.

## Technical Data R Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL075DR-2AGG | UCCL085SR-2AP0 | UCCL085DR-2AHH | UCCL100SR-2AP0 | UCCL100DR-2AHJ | UCCL125SR-3AQ0 | UCCL125DR-3AKK | UCCL150DR-3AMM |
|---|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 68.4 | 86.1 | 79.7 | 91.2 | 90.9 | 106.9 | 113.2 | 142.3 |
| Nominal Input - Cooling Only | | kW | 27.6 | 37.4 | 31.1 | 35.7 | 32.7 | 41.0 | 40.3 | 55.0 |
| EER | (2) | | 2.48 | 2.30 | 2.56 | 2.56 | 2.78 | 2.61 | 2.81 | 2.59 |
| ESEER (Gross) | | | 2.92 | 3.56 | 3.45 | 3.78 | 3.65 | 3.93 | 3.74 | 3.54 |
| ESEER (Nett) | | | 3.02 | 3.79 | 3.66 | 3.97 | 3.85 | 4.10 | 3.92 | 3.72 |
| Minimum Turndown (Capacity) | (3) | kW | 32.7 / 50% | 33.3 / 40% | 20.8 / 25% | 33.8 / 35% | 21.2 / 25% | 39.1 / 35% | 28.6 / 25% | 36.8 / 25% |
| **Capacity Steps** | | % | 50-100 | 40-75-100 | 25-55-80-100 | 35-70-100 | 25-55-75-100 | 35-70-100 | 25-55-75-100 | 25-55-80-100 |
| **Minimum Turndown Ratio** | | | 0.48 | 0.39 | 0.26 | 0.37 | 0.23 | 0.37 | 0.25 | 0.26 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | | |
| **Length** | | mm | 2500 | 2800 | 2800 | 2800 | 2800 | 3650 | 3650 | 3650 |
| Machine Weight | (4) | kg | 686 | 992 | 1030 | 1027 | 1079 | 1224 | 1284 | 1314 |
| Operating Weight | | kg | 700 | 1007 | 1044 | 1043 | 1093 | 1255 | 1313 | 1345 |
| **Evaporator** | | | | | | | | | | |
| Maximum Waterflow | | l/s | 6.1 | 7.6 | 7.2 | 8.0 | 8.2 | 9.4 | 10.1 | 12.8 |
| Minimum Waterflow | | l/s | 2.6 | 2.0 | 2.8 | 2.3 | 3.3 | 2.8 | 3.9 | 4.6 |
| **Condenser** | | | | | | | | | | |
| Face Area (Total) | | m² | 3.4 | 5.1 | 5.1 | 5.1 | 5.1 | 7.7 | 7.7 | 7.7 |
| Nominal Airflow - EC Fans | | m³/s | 6.2 | 6.6 | 6.6 | 9.2 | 9.2 | 13.8 | 13.8 | 13.8 |
| **Condenser Fan & Motor** | | | | | | | | | | |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| Diameter | | mm | 630 | 630 | 630 | 710 | 710 | 710 | 710 | 710 |
| Maximum Speed - EC Fans | | rpm | 960 | 960 | 960 | 1130 | 1130 | 1130 | 1130 | 1130 |
| **Compressor Configuration** | | | Single + Single | Trio | Tandem + Tandem | Trio | Tandem + Tandem | Trio | Tandem + Tandem | Tandem + Tandem |
| Quantity of Compressors | | | 2 | 3 | 4 | 3 | 4 | 3 | 4 | 4 |
| Oil Charge Volume (Total) | | l | 1 x 3.3 + 1 x 3.3 | 3 x 3.3 | 2 x 3 + 2 x 3 | 3 x 3.3 | 2 x 3 + 2 x 3.3 | 3 x 3.3 | 2 x 3.3 + 2 x 3.3 | 2 x 3.3 + 2 x 3.3 |
| **Refrigeration** | | | | | | | | | | |
| Charge (Total) | | kg | 8 + 8 | 27.5 | 14 + 14 | 28 | 14 + 14 | 33 | 17 + 17 | 17.5 + 17.5 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 10.80 | 18.56 | 18.90 | 18.90 | 18.90 | 22.28 | 22.95 | 23.63 |
| **Water System** | | | | | | | | | | |
| Water Inlet / Outlet | | | 2" BSP | DN65 | DN65 | DN65 | DN65 | DN65 | DN65 | DN65 |
| Water Volume | | l | 13.5 | 15.6 | 14.0 | 16.7 | 14.8 | 31.2 | 28.7 | 30.3 |
| Minimum System Water Volume | (5) | l | 685 | 701 | 442 | 712 | 451 | 834 | 617 | 787 |
| **Electrical Data** | | | | | | | | | | |
| Nominal Run Amps | (6) | A | 53.9 | 69.6 | 65.4 | 68.4 | 70.0 | 79.0 | 84.0 | 101.2 |
| Maximum Start Amps | | A | 188 | 196 | 148 | 194 | 194 | 213 | 207 | 236 |
| Recommended Mains Fuse Size | | A | 63 | 80 | 80 | 80 | 80 | 100 | 100 | 125 |
| Max Mains Incoming Cable Size | | mm² | 35 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| **Evaporator** | | | | | | | | | | |
| Pad Heater Rating | | W | 80 | 100 | 80 | 100 | 80 | 100 | 80 | 80 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | | |
| Full Load Amps | | A | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Motor Rating | | kW | 0.73 | 0.73 | 0.73 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| **Compressor - Per Compressor** | | | | | | | | | | |
| Nominal Run Amps | (7) | A | 53.9 | 69.6 | 65.4 | 68.4 | 70.0 | 79.0 | 84.0 | 101.2 |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| Motor Rating | (7) | kW | 0.73 | 0.73 | 0.73 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Start Amps | (8) | A | 158 / 158 | 147 | 98 / 98 | 147 | 98 / 142 | 158 | 142 / 142 | 158 / 158 |

(1) Based on units performance at 12/7°C return/supply temperature, 35°C ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.

(2) EER is Cooling duty / (Compressor input power + Fan input power).

(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.

(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.

(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.

(6) EC fans and no pumps.

(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.

(8) Starting amps refers to the direct on line connections.

Pump electrical data is available from Airedale upon request.

## Technical Data

### Sound Data

### Global Chiller Sound Level

### Standard - R Models - EC Fans

| | Sound Measurement | | Frequency (Hz) 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Overall [dB(A)]: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UCCL030SR-1AE0 | Power | dB | 78 | 71 | 71 | 69 | 72 | 65 | 63 | 60 | 75 |
| | Pressure | @ 10m | 47 | 39 | 39 | 38 | 41 | 34 | 32 | 29 | 43 |
| UCCL030SR-2AE0 | Power | dB | 77 | 82 | 70 | 70 | 73 | 65 | 63 | 60 | 76 |
| | Pressure | @ 10m | 45 | 50 | 38 | 38 | 41 | 34 | 31 | 29 | 44 |
| UCCL040SR-1AH0 | Power | dB | 80 | 71 | 71 | 69 | 72 | 68 | 64 | 65 | 76 |
| | Pressure | @ 10m | 48 | 39 | 39 | 37 | 41 | 37 | 33 | 33 | 44 |
| UCCL040DR-1ACC | Power | dB | 80 | 71 | 71 | 69 | 72 | 68 | 64 | 65 | 76 |
| | Pressure | @ 10m | 48 | 39 | 39 | 37 | 41 | 37 | 33 | 33 | 44 |
| UCCL040SR-2AH0 | Power | dB | 81 | 74 | 73 | 71 | 73 | 69 | 64 | 65 | 76 |
| | Pressure | @ 10m | 50 | 42 | 42 | 39 | 41 | 37 | 33 | 33 | 45 |
| UCCL040DR-2ACC | Power | dB | 82 | 74 | 74 | 71 | 73 | 69 | 65 | 65 | 77 |
| | Pressure | @ 10m | 50 | 42 | 42 | 39 | 41 | 37 | 33 | 33 | 45 |
| UCCL050SR-2AJ0 | Power | dB | 81 | 74 | 74 | 72 | 76 | 70 | 67 | 68 | 79 |
| | Pressure | @ 10m | 49 | 42 | 42 | 41 | 45 | 39 | 35 | 36 | 47 |
| UCCL050DR-2ADD | Power | dB | 81 | 74 | 74 | 72 | 76 | 70 | 67 | 68 | 79 |
| | Pressure | @ 10m | 49 | 42 | 42 | 41 | 45 | 39 | 35 | 36 | 47 |
| UCCL060SR-2AK0 | Power | dB | 81 | 74 | 74 | 72 | 75 | 68 | 66 | 63 | 78 |
| | Pressure | @ 10m | 50 | 42 | 42 | 41 | 44 | 37 | 34 | 32 | 46 |
| UCCL060DR-2AEE | Power | dB | 81 | 74 | 74 | 72 | 75 | 68 | 66 | 63 | 78 |
| | Pressure | @ 10m | 50 | 42 | 42 | 41 | 44 | 37 | 34 | 32 | 46 |
| UCCL070SR-2AL0 | Power | dB | 82 | 74 | 74 | 72 | 75 | 70 | 69 | 64 | 79 |
| | Pressure | @ 10m | 50 | 42 | 42 | 41 | 44 | 39 | 37 | 33 | 47 |
| UCCL070DR-2AFF | Power | dB | 82 | 74 | 74 | 72 | 75 | 70 | 69 | 64 | 79 |
| | Pressure | @ 10m | 50 | 42 | 42 | 41 | 44 | 39 | 37 | 33 | 47 |
| UCCL075SR-2AM0 | Power | dB | 82 | 74 | 74 | 72 | 73 | 72 | 71 | 68 | 79 |
| | Pressure | @ 10m | 50 | 42 | 42 | 40 | 42 | 40 | 40 | 37 | 47 |
| UCCL075SR-2AP0 | Power | dB | 82 | 74 | 74 | 72 | 75 | 70 | 69 | 64 | 79 |
| | Pressure | @ 10m | 50 | 42 | 42 | 41 | 44 | 39 | 37 | 33 | 47 |
| UCCL075DR-2AGG | Power | dB | 82 | 74 | 74 | 72 | 73 | 72 | 71 | 68 | 79 |
| | Pressure | @ 10m | 50 | 42 | 42 | 40 | 42 | 40 | 40 | 37 | 47 |
| UCCL085SR-2AP0 | Power | dB | 82 | 73 | 74 | 72 | 75 | 70 | 69 | 64 | 79 |
| | Pressure | @ 10m | 50 | 41 | 42 | 40 | 44 | 39 | 37 | 33 | 47 |
| UCCL085DR-2AHH | Power | dB | 83 | 73 | 74 | 72 | 75 | 71 | 67 | 68 | 79 |
| | Pressure | @ 10m | 51 | 41 | 42 | 40 | 44 | 39 | 36 | 36 | 47 |
| UCCL100SR-2AP0 | Power | dB | 83 | 78 | 79 | 79 | 78 | 72 | 70 | 65 | 82 |
| | Pressure | @ 10m | 51 | 46 | 47 | 47 | 46 | 40 | 38 | 33 | 50 |
| UCCL100DR-2AHJ | Power | dB | 83 | 78 | 79 | 79 | 79 | 73 | 70 | 70 | 83 |
| | Pressure | @ 10m | 52 | 46 | 47 | 47 | 47 | 41 | 38 | 38 | 51 |
| UCCL125SR-3AQ0 | Power | dB | 84 | 79 | 81 | 80 | 78 | 74 | 72 | 68 | 83 |
| | Pressure | @ 10m | 52 | 47 | 49 | 48 | 46 | 42 | 40 | 36 | 51 |
| UCCL125DR-3AKK | Power | dB | 85 | 79 | 81 | 81 | 80 | 73 | 70 | 67 | 83 |
| | Pressure | @ 10m | 53 | 47 | 49 | 49 | 48 | 41 | 38 | 35 | 52 |
| UCCL150DR-3AMM | Power | dB | 85 | 79 | 81 | 81 | 79 | 76 | 75 | 71 | 84 |
| | Pressure | @ 10m | 53 | 47 | 49 | 49 | 47 | 44 | 43 | 39 | 52 |

(1) dB(A) is the overall sound level, measured on the A scale.
(2) All sound data measured at nominal conditions: Water in/out 13/7°C at 35°C ambient.
(3) Based on a unit with a 300mm plenum, for other configurations please see Airedale.

| | |
|---|---|
| **CAUTION ⚠** | The Sound Pressure data quoted is only valid in free field conditions, where the unit is installed on a reflective base. If the equipment is placed adjacent to a reflective wall, values may vary to those stated, typically increasing by 3dB for each side added. |

## Technical Data X Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL030SX-1AE0 | UCCL030SX-2AE0 | UCCL040SX-1AH0 | UCCL040SX-2AH0 | UCCL040DX-1ACC | UCCL040DX-2ACC | UCCL050SX-2AJ0 |
|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 26.7 | 27.9 | 37.5 | 40.4 | 38.9 | 42.1 | 48.6 |
| Nominal Input - Cooling Only | | kW | 10.0 | 9.1 | 16.4 | 14.3 | 16.4 | 14.2 | 17.1 |
| EER | (2) | | 2.66 | 3.06 | 2.28 | 2.82 | 2.37 | 2.96 | 2.84 |
| ESEER (Gross) | | | 3.19 | 3.70 | 3.28 | 3.59 | 2.83 | 3.40 | 3.75 |
| ESEER (Nett) | | | 3.24 | 3.76 | 3.39 | 3.79 | 2.92 | 3.55 | 3.90 |
| Minimum Turndown (Capacity) | (3) | kW | 26.7 / 100% | 27.9 / 100% | 20.7 / 55% | 21.3 / 55% | 18.6 / 50% | 20.0 / 45% | 25.8 / 55% |
| **Capacity Steps** | | % | 100 | 100 | 55-100 | 55-100 | 50-100 | 45-100 | 55-100 |
| **Minimum Turndown Ratio** | | | 1.00 | 1.00 | 0.55 | 0.53 | 0.48 | 0.47 | 0.53 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | |
| **Length** | | mm | 1650 | 2500 | 1650 | 2500 | 1650 | 2500 | 2500 |
| Machine Weight | (4) | kg | 463 | 591 | 520 | 649 | 524 | 652 | 666 |
| Operating Weight | | kg | 468 | 600 | 526 | 657 | 530 | 661 | 675 |
| **Evaporator** | | | | | | | | | |
| Maximum Waterflow | | l/s | 2.4 | 2.5 | 3.3 | 3.6 | 3.5 | 3.8 | 4.3 |
| Minimum Waterflow | | l/s | 1.0 | 1.0 | 1.0 | 1.0 | 1.8 | 1.8 | 1.3 |
| **Condenser** | | | | | | | | | |
| Face Area (Total) | | $m^2$ | 1.7 | 3.4 | 1.7 | 3.4 | 1.7 | 3.4 | 3.4 |
| Nominal Airflow - EC Fans | | $m^3/s$ | 3.4 | 5.3 | 3.4 | 6.4 | 3.4 | 6.5 | 6.7 |
| **Condenser Fan & Motor** | | | | | | | | | |
| Quantity | | | 1 | 2 | 1 | 2 | 1 | 2 | 2 |
| Diameter | | mm | 710 | 710 | 710 | 710 | 710 | 710 | 710 |
| Maximum Speed - EC Fans | | rpm | 750 | 750 | 750 | 750 | 750 | 750 | 750 |
| **Compressor Configuration** | | | Single | Single | Tandem | Tandem | Single + Single | Single + Single | Tandem |
| Quantity of Compressors | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| Oil Charge Volume (Total) | | l | 1 x 3.3 | 1 x 3.3 | 2 x 3 | 2 x 3 | 1 x 3 + 1 x 3 | 1 x 3 + 1 x 3 | 2 x 3.3 |
| **Refrigeration** | | | | | | | | | |
| Charge (Total) | | kg | 8.5 | 15 | 8.5 | 15 | 4.5 + 4.5 | 7.5 + 7.5 | 15 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 5.74 | 10.13 | 5.74 | 10.13 | 6.08 | 10.13 | 10.13 |
| **Water System** | | | | | | | | | |
| Water Inlet / Outlet | | | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 1 1/2" BSP | 2" BSP |
| Water Volume | | l | 5.7 | 8.4 | 5.7 | 8.4 | 5.7 | 8.4 | 9.3 |
| Minimum System Water Volume | (5) | l | 553 | 583 | 430 | 446 | 386 | 419 | 538 |
| **Electrical Data** | | | | | | | | | |
| Nominal Run Amps | (6) | A | 22.1 | 24.8 | 32.6 | 35.3 | 32.6 | 35.3 | 41.1 |
| Maximum Start Amps | | A | 145 | 147 | 116 | 118 | 116 | 118 | 165 |
| Recommended Mains Fuse Size | | A | 32 | 32 | 40 | 40 | 40 | 40 | 50 |
| Max Mains Incoming Cable Size | | $mm^2$ | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| **Evaporator** | | | | | | | | | |
| Pad Heater Rating | | W | 100 | 100 | 100 | 100 | 80 | 80 | 100 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | |
| Full Load Amps | | A | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Motor Rating | | kW | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| **Compressor - Per Compressor** | | | | | | | | | |
| Nominal Run Amps | (7) | A | 22.1 | 24.8 | 32.6 | 35.3 | 32.6 | 35.3 | 41.1 |
| Quantity | | | 1 | 2 | 1 | 2 | 1 | 2 | 2 |
| Motor Rating | (7) | kW | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Start Amps | (8) | A | 142 | 142 | 98 | 98 | 98 / 98 | 98 / 98 | 142 |

(1) Based on units performance at 12/7°C return/supply temperature, 35ºC ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.

(2) EER is Cooling duty / (Compressor input power + Fan input power).

(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.

(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.

(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.

(6) EC fans and no pumps.

(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.

(8) Starting amps refers to the direct on line connections.

Pump electrical data is available from Airedale upon request.

## Technical Data X Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL050DX-2ADD | UCCL060SX-2AK0 | UCCL060DX-2AEE | UCCL070SX-2AL0 | UCCL070DX-2AFF | UCCL075SX-2AM0 | UCCL075SX-2AP0 | UCCL075DX-2AGG |
|---|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 49.4 | 54.0 | 54.8 | 61.0 | 61.8 | 67.9 | 83.9 | 69.1 |
| Nominal Input - Cooling Only | | kW | 16.9 | 20.2 | 19.9 | 22.9 | 22.5 | 27.6 | 38.4 | 27.1 |
| EER | (2) | | 2.92 | 2.68 | 2.76 | 2.66 | 2.74 | 2.45 | 2.18 | 2.55 |
| ESEER (Gross) | | | 3.35 | 3.66 | 3.23 | 3.62 | 3.17 | 3.48 | 3.39 | 3.00 |
| ESEER (Nett) | | | 3.48 | 3.80 | 3.35 | 3.76 | 3.28 | 3.61 | 3.62 | 3.11 |
| Minimum Turndown (Capacity) | (3) | kW | 23.4 / 45% | 28.8 / 55% | 26.1 / 50% | 32.8 / 55% | 29.6 / 50% | 37.2 / 55% | 32.9 / 40% | 33.1 / 50% |
| **Capacity Steps** | | % | 45-100 | 55-100 | 50-100 | 55-100 | 50-100 | 55-100 | 40-75-100 | 50-100 |
| **Minimum Turndown Ratio** | | | 0.47 | 0.53 | 0.48 | 0.54 | 0.48 | 0.55 | 0.39 | 0.48 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | | |
| **Length** | | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Machine Weight | (4) | kg | 666 | 670 | 672 | 680 | 680 | 686 | 686 | 686 |
| Operating Weight | | kg | 675 | 684 | 684 | 695 | 693 | 701 | 701 | 700 |
| **Evaporator** | | | | | | | | | | |
| Maximum Waterflow | | l/s | 4.4 | 4.8 | 4.9 | 5.4 | 5.5 | 6.0 | 7.3 | 6.2 |
| Minimum Waterflow | | l/s | 1.8 | 1.5 | 2.1 | 1.7 | 2.3 | 1.9 | 1.9 | 2.6 |
| **Condenser** | | | | | | | | | | |
| Face Area (Total) | | $m^2$ | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Nominal Airflow - EC Fans | | $m^3/s$ | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| **Condenser Fan & Motor** | | | | | | | | | | |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Diameter | | mm | 710 | 710 | 710 | 710 | 710 | 710 | 710 | 710 |
| Maximum Speed - EC Fans | | rpm | 750 | 750 | 750 | 750 | 750 | 750 | 750 | 750 |
| **Compressor Configuration** | | | Single + Single | Tandem | Single + Single | Tandem | Single + Single | Tandem | Trio | Single + Single |
| Quantity of Compressors | | | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 |
| Oil Charge Volume (Total) | | l | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 1 x 3.3 + 1 x 3.3 | 2 x 3.3 | 3 x 3.3 | 1 x 3.3 + 1 x 3.3 |
| **Refrigeration** | | | | | | | | | | |
| Charge (Total) | | kg | 7.5 + 7.5 | 15.5 | 8 + 8 | 15.5 | 8 + 8 | 16 | 16 | 8 + 8 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 10.13 | 10.46 | 10.80 | 10.46 | 10.80 | 10.80 | 10.80 | 10.80 |
| **Water System** | | | | | | | | | | |
| Water Inlet / Outlet | | | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP | 2" BSP |
| Water Volume | | l | 8.4 | 13.7 | 12.7 | 14.6 | 13.1 | 15.0 | 15.0 | 13.5 |
| Minimum System Water Volume | (5) | l | 490 | 606 | 550 | 687 | 620 | 778 | 691 | 692 |
| **Electrical Data** | | | | | | | | | | |
| Nominal Run Amps | (6) | A | 41.1 | 44.1 | 44.1 | 47.4 | 47.4 | 52.7 | 68.4 | 52.7 |
| Maximum Start Amps | | A | 165 | 167 | 167 | 173 | 173 | 187 | 194 | 187 |
| Recommended Mains Fuse Size | | A | 50 | 50 | 50 | 63 | 63 | 63 | 80 | 63 |
| Max Mains Incoming Cable Size | | $mm^2$ | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| **Evaporator** | | | | | | | | | | |
| Pad Heater Rating | | W | 80 | 100 | 80 | 100 | 80 | 100 | 100 | 80 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | | |
| Full Load Amps | | A | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Motor Rating | | kW | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| **Compressor - Per Compressor** | | | | | | | | | | |
| Nominal Run Amps | (7) | A | 41.1 | 44.1 | 44.1 | 47.4 | 47.4 | 52.7 | 68.4 | 52.7 |
| Quantity | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Motor Rating | (7) | kW | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Start Amps | (8) | A | 142 / 142 | 142 | 142 / 142 | 147 | 147 / 147 | 158 | 147 | 158 / 158 |

(1) Based on units performance at 12/7°C return/supply temperature, 35ºC ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.

(2) EER is Cooling duty / (Compressor input power + Fan input power).

(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.

(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.

(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.

(6) EC fans and no pumps.

(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.

(8) Starting amps refers to the direct on line connections.

Pump electrical data is available from Airedale upon request.

## Technical Data X Type

### Mechanical and Electrical Data

| Mechanical Data | Notes | Units | UCCL085SX-2AP0 | UCCL085DX-2AHH | UCCL100SX-3AP0 | UCCL100DX-3AHJ | UCCL125SX-4AQ0 | UCCL125DX-4AKK | UCCL150DX-4AMM |
|---|---|---|---|---|---|---|---|---|---|
| **Capacity** | | | | | | | | | |
| Cooling Duty - EC Fans | (1) | kW | 87.5 | 80.9 | 93.0 | 92.5 | 108.3 | 114.6 | 144.6 |
| Nominal Input - Cooling Only | | kW | 36.4 | 30.2 | 34.0 | 31.1 | 39.1 | 38.4 | 52.4 |
| EER | (2) | | 2.41 | 2.68 | 2.74 | 2.98 | 2.77 | 2.98 | 2.76 |
| ESEER (Gross) | | | 3.71 | 3.62 | 3.95 | 3.84 | 4.09 | 3.92 | 3.74 |
| ESEER (Nett) | | | 3.91 | 3.79 | 4.16 | 4.06 | 4.28 | 4.13 | 3.94 |
| Minimum Turndown (Capacity) | (3) | kW | 33.5 / 40% | 21.0 / 25% | 34.2 / 35% | 21.5 / 25% | 39.4 / 35% | 29.0 / 25% | 37.4 / 25% |
| **Capacity Steps** | | % | 40-70-100 | 25-55-75-100 | 35-70-100 | 25-55-75-100 | 35-70-100 | 25-55-75-100 | 25-55-75-100 |
| **Minimum Turndown Ratio** | | | 0.38 | 0.26 | 0.37 | 0.23 | 0.36 | 0.25 | 0.26 |
| **Dimensions (H 1450 x W 1310)** | | mm | | | | | | | |
| **Length** | | mm | 2500 | 2500 | 2800 | 2800 | 3650 | 4500 | 4500 |
| Machine Weight | (4) | kg | 992 | 1030 | 1208 | 1260 | 1396 | 1455 | 1485 |
| Operating Weight | | kg | 1007 | 1044 | 1229 | 1280 | 1434 | 1491 | 1523 |
| **Evaporator** | | | | | | | | | |
| Maximum Waterflow | | l/s | 7.7 | 7.2 | 8.2 | 8.3 | 9.5 | 10.2 | 12.8 |
| Minimum Waterflow | | l/s | 2.0 | 2.8 | 2.3 | 3.3 | 2.8 | 3.9 | 4.6 |
| **Condenser** | | | | | | | | | |
| Face Area (Total) | | $m^2$ | 5.1 | 5.1 | 7.7 | 7.7 | 10.2 | 10.2 | 10.2 |
| Nominal Airflow - EC Fans | | $m^3/s$ | 7.4 | 7.4 | 11.1 | 11.1 | 14.8 | 14.8 | 14.8 |
| **Condenser Fan & Motor** | | | | | | | | | |
| Quantity | | | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| Diameter | | mm | 710 | 710 | 710 | 710 | 710 | 710 | 710 |
| Maximum Speed - EC Fans | | rpm | 750 | 750 | 750 | 750 | 750 | 750 | 750 |
| **Compressor Configuration** | | | Trio | Tandem + Tandem | Trio | Tandem + Tandem | Trio | Tandem + Tandem | Tandem + Tandem |
| Quantity of Compressors | | | 3 | 4 | 3 | 4 | 3 | 4 | 4 |
| Oil Charge Volume (Total) | | l | 3 x 3.3 | 2 x 3 + 2 x 3 | 3 x 3.3 | 2 x 3 + 2 x 3.3 | 3 x 3.3 | 2 x 3.3 + 2 x 3.3 | 2 x 3.3 + 2 x 3.3 |
| **Refrigeration** | | | | | | | | | |
| Charge (Total) | | kg | 27.5 | 14 + 14 | 32.5 | 16.5 + 16.5 | 42.5 | 21.5 + 21.5 | 22 + 22 |
| GWP Equivalent $C0_2$ Tonnes | | tC02 | 18.56 | 18.90 | 21.94 | 22.28 | 28.69 | 29.03 | 29.70 |
| **Water System** | | | | | | | | | |
| Water Inlet / Outlet | | | DN65 | DN65 | DN65 | DN65 | DN65 | DN65 | DN65 |
| Water Volume | | l | 15.6 | 14.0 | 21.3 | 19.5 | 38.5 | 36.0 | 37.7 |
| Minimum System Water Volume | (5) | l | 703 | 445 | 723 | 462 | 848 | 632 | 806 |
| **Electrical Data** | | | | | | | | | |
| Nominal Run Amps | (6) | A | 68.4 | 64.2 | 71.1 | 72.7 | 81.7 | 86.7 | 103.9 |
| Maximum Start Amps | | A | 194 | 147 | 197 | 197 | 216 | 209 | 238 |
| Recommended Mains Fuse Size | | A | 80 | 80 | 80 | 100 | 100 | 100 | 125 |
| Max Mains Incoming Cable Size | | $mm^2$ | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| **Evaporator** | | | | | | | | | |
| Pad Heater Rating | | W | 100 | 80 | 100 | 80 | 100 | 80 | 80 |
| **Condenser Fan - Per Fan (EC)** | | | | | | | | | |
| Full Load Amps | | A | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Motor Rating | | kW | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| **Compressor - Per Compressor** | | | | | | | | | |
| Nominal Run Amps | (7) | A | 68.4 | 64.2 | 71.1 | 72.7 | 81.7 | 86.7 | 103.9 |
| Quantity | | | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| Motor Rating | (7) | kW | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Start Amps | (8) | A | 147 | 98 / 98 | 147 | 98 / 142 | 158 | 142 / 142 | 158 / 158 |

(1) Based on units performance at 12/7°C return/supply temperature, 35ºC ambient,100% water. All performance data supplied in accordance with BS EN 14511-1:2018.

(2) EER is Cooling duty / (Compressor input power + Fan input power).

(3) Turndown is based on the minimum number of compressors running in a 35°C ambient whilst operating at the design flow rate determined at full load, 12/7°C return/supply, 35°C ambinet and 100% water.

(4) Based on standard unit without options, operating weight includes refrigerant charge guide value.

(5) For minimum system volume, refer to Design Features & Information - Minimum System Water Volume Calculations.

(6) EC fans and no pumps.

(7) Data quoted at design flowrate, 7°C supply temperature and 35°C ambient, 100% water.

(8) Starting amps refers to the direct on line connections.

Pump electrical data is available from Airedale upon request.

## Technical Data

### Sound Data

### Global Chiller Sound Level

### Quiet - X models Models - EC Fans

| | Sound Measurement | | Frequency (Hz) 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Overall [dB(A)]: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UCCL030SX-1AE0 | Power | dB | 76 | 69 | 71 | 70 | 70 | 63 | 62 | 59 | 73 |
| | Pressure | @ 10m | 45 | 37 | 39 | 38 | 38 | 31 | 30 | 28 | 42 |
| UCCL030SX-2AE0 | Power | dB | 75 | 75 | 69 | 70 | 70 | 62 | 62 | 59 | 73 |
| | Pressure | @ 10m | 43 | 43 | 37 | 38 | 38 | 31 | 30 | 28 | 42 |
| UCCL040SX-1AH0 | Power | dB | 79 | 69 | 71 | 70 | 70 | 66 | 63 | 64 | 74 |
| | Pressure | @ 10m | 47 | 37 | 39 | 38 | 38 | 34 | 31 | 32 | 42 |
| UCCL040DX-1ACC | Power | dB | 79 | 69 | 71 | 70 | 70 | 66 | 63 | 64 | 74 |
| | Pressure | @ 10m | 47 | 37 | 39 | 38 | 38 | 34 | 31 | 32 | 42 |
| UCCL040SX-2AH0 | Power | dB | 79 | 71 | 72 | 71 | 70 | 66 | 63 | 64 | 75 |
| | Pressure | @ 10m | 48 | 39 | 41 | 40 | 39 | 34 | 31 | 32 | 43 |
| UCCL040DX-2ACC | Power | dB | 80 | 71 | 73 | 72 | 71 | 66 | 63 | 64 | 75 |
| | Pressure | @ 10m | 48 | 40 | 41 | 40 | 39 | 34 | 31 | 32 | 43 |
| UCCL050SX-2AJ0 | Power | dB | 79 | 72 | 74 | 73 | 74 | 68 | 66 | 67 | 77 |
| | Pressure | @ 10m | 47 | 40 | 42 | 41 | 42 | 36 | 34 | 35 | 45 |
| UCCL050DX-2ADD | Power | dB | 79 | 72 | 74 | 73 | 74 | 68 | 66 | 67 | 77 |
| | Pressure | @ 10m | 47 | 40 | 42 | 41 | 42 | 36 | 34 | 35 | 45 |
| UCCL060SX-2AK0 | Power | dB | 79 | 72 | 74 | 73 | 73 | 66 | 65 | 62 | 76 |
| | Pressure | @ 10m | 47 | 40 | 42 | 41 | 41 | 34 | 33 | 31 | 45 |
| UCCL060DX-2AEE | Power | dB | 79 | 72 | 74 | 73 | 73 | 66 | 65 | 62 | 76 |
| | Pressure | @ 10m | 47 | 40 | 42 | 41 | 41 | 34 | 33 | 31 | 45 |
| UCCL070SX-2AL0 | Power | dB | 80 | 72 | 74 | 73 | 73 | 67 | 67 | 63 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 41 | 41 | 36 | 36 | 32 | 45 |
| UCCL070DX-2AFF | Power | dB | 80 | 72 | 74 | 73 | 73 | 67 | 67 | 63 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 41 | 41 | 36 | 36 | 32 | 45 |
| UCCL075SX-2AM0 | Power | dB | 79 | 72 | 74 | 73 | 71 | 68 | 70 | 67 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 41 | 40 | 37 | 38 | 35 | 45 |
| UCCL075SX-2AP0 | Power | dB | 80 | 72 | 74 | 73 | 73 | 67 | 67 | 63 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 41 | 41 | 36 | 36 | 32 | 45 |
| UCCL075DX-2AGG | Power | dB | 79 | 72 | 74 | 73 | 71 | 68 | 70 | 67 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 41 | 40 | 37 | 38 | 35 | 45 |
| UCCL085SX-2AP0 | Power | dB | 80 | 72 | 74 | 73 | 73 | 68 | 67 | 63 | 77 |
| | Pressure | @ 10m | 48 | 40 | 42 | 42 | 41 | 36 | 36 | 31 | 45 |
| UCCL085DX-2AHH | Power | dB | 82 | 72 | 74 | 73 | 73 | 69 | 66 | 67 | 77 |
| | Pressure | @ 10m | 50 | 40 | 42 | 41 | 41 | 37 | 34 | 35 | 45 |
| UCCL100SX-3AP0 | Power | dB | 81 | 74 | 76 | 75 | 74 | 68 | 68 | 63 | 78 |
| | Pressure | @ 10m | 49 | 42 | 44 | 43 | 42 | 36 | 36 | 31 | 46 |
| UCCL100DX-3AHJ | Power | dB | 82 | 74 | 76 | 75 | 75 | 70 | 68 | 69 | 79 |
| | Pressure | @ 10m | 50 | 42 | 44 | 43 | 43 | 38 | 36 | 37 | 47 |
| UCCL125SX-4AQ0 | Power | dB | 81 | 75 | 77 | 76 | 73 | 69 | 70 | 67 | 79 |
| | Pressure | @ 10m | 49 | 43 | 45 | 44 | 41 | 37 | 38 | 35 | 46 |
| UCCL125DX-4AKK | Power | dB | 82 | 75 | 77 | 76 | 76 | 69 | 68 | 65 | 80 |
| | Pressure | @ 10m | 50 | 43 | 45 | 44 | 44 | 37 | 36 | 33 | 47 |
| UCCL150DX-4AMM | Power | dB | 82 | 75 | 77 | 76 | 75 | 72 | 73 | 70 | 80 |
| | Pressure | @ 10m | 50 | 43 | 45 | 44 | 43 | 39 | 41 | 38 | 48 |

(1) dB(A) is the overall sound level, measured on the A scale.
(2) All sound data measured at nominal conditions: Water in/out 13/7°C at 35°C ambient.
(3) Based on a unit with a 300mm plenum, for other configurations please see Airedale.

| | |
|---|---|
| **CAUTION ⚠** | The Sound Pressure data quoted is only valid in free field conditions. where the unit is installed on a reflective base. If the equipment is placed adjacent to a reflective wall, values may vary to those stated, typically increasing by 3dB for each side added. |

## Hydronics Data

### Waterside Pressure Drops

| CAUTION ⚠ | Constant water flow MUST be maintained. Variable water volume is NOT recommended and may invalidate warranty. |
|---|---|

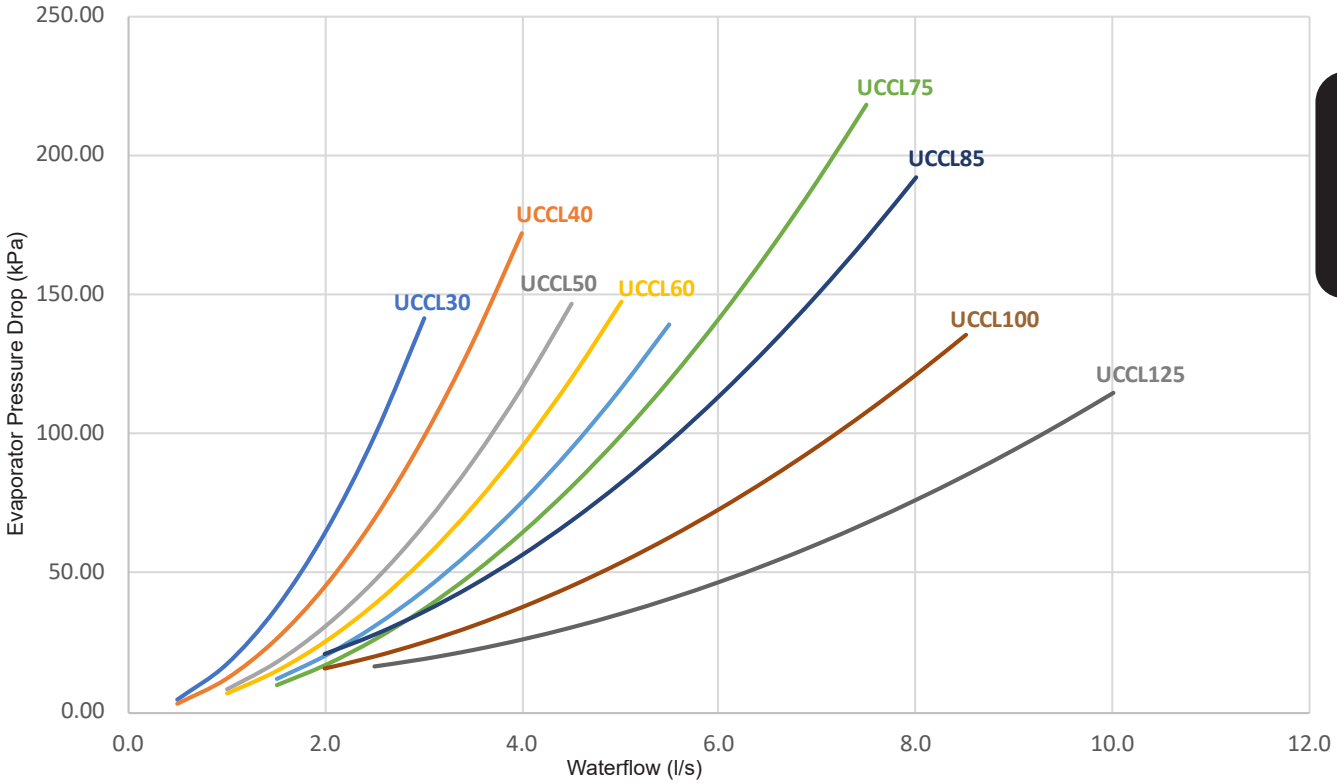
Use the formula below to calculate the External Head Available:

Total Pump Head Available - Chiller Pressure Drop = External Head Available

Example (UCCL 125DX-4AKK 8.0 l/s, standard single pump):

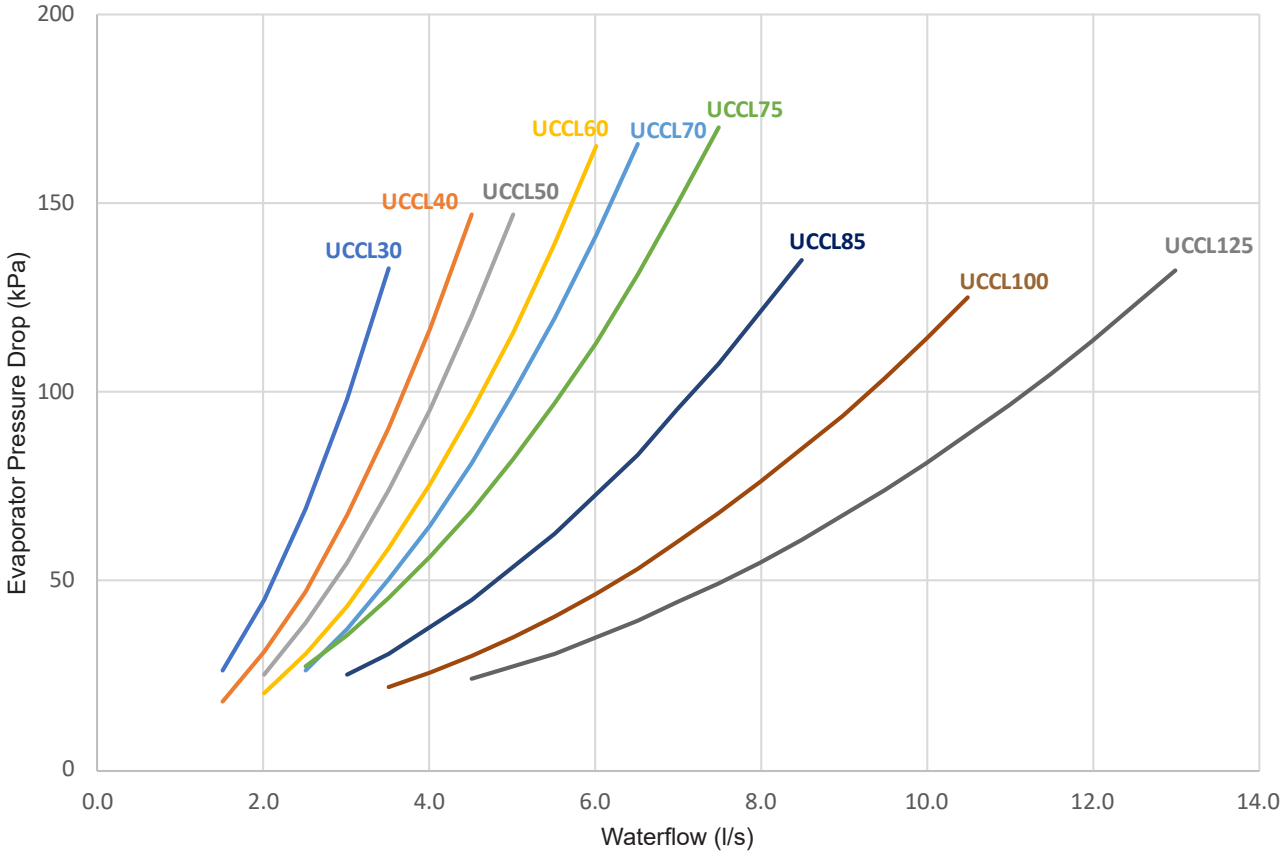
190 kPa - 75 kPa = 115 kPa

### Waterside Pressure Drops - Single Circuit




For glycol solutions, please refer to Glycol Data.
Pressure drops shown are for the standard unit without optional pumps and/or pipework.

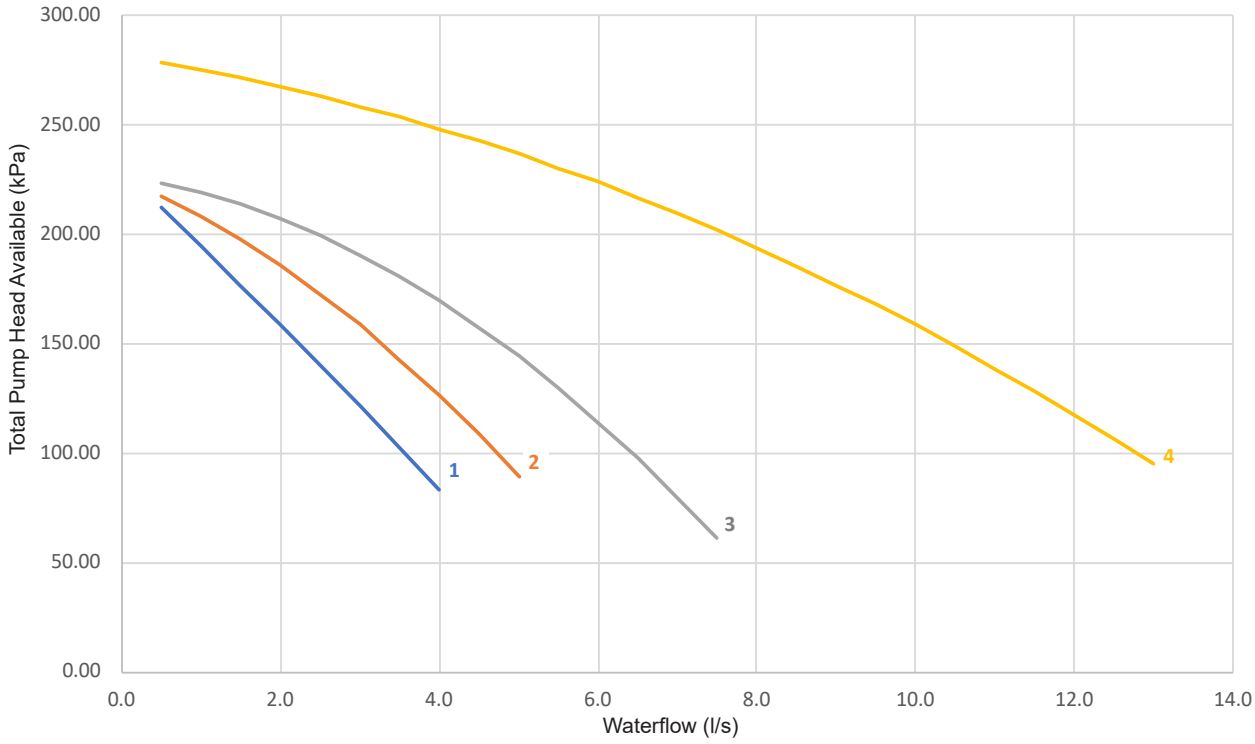
### Waterside Pressure Drops - Dual Circuit



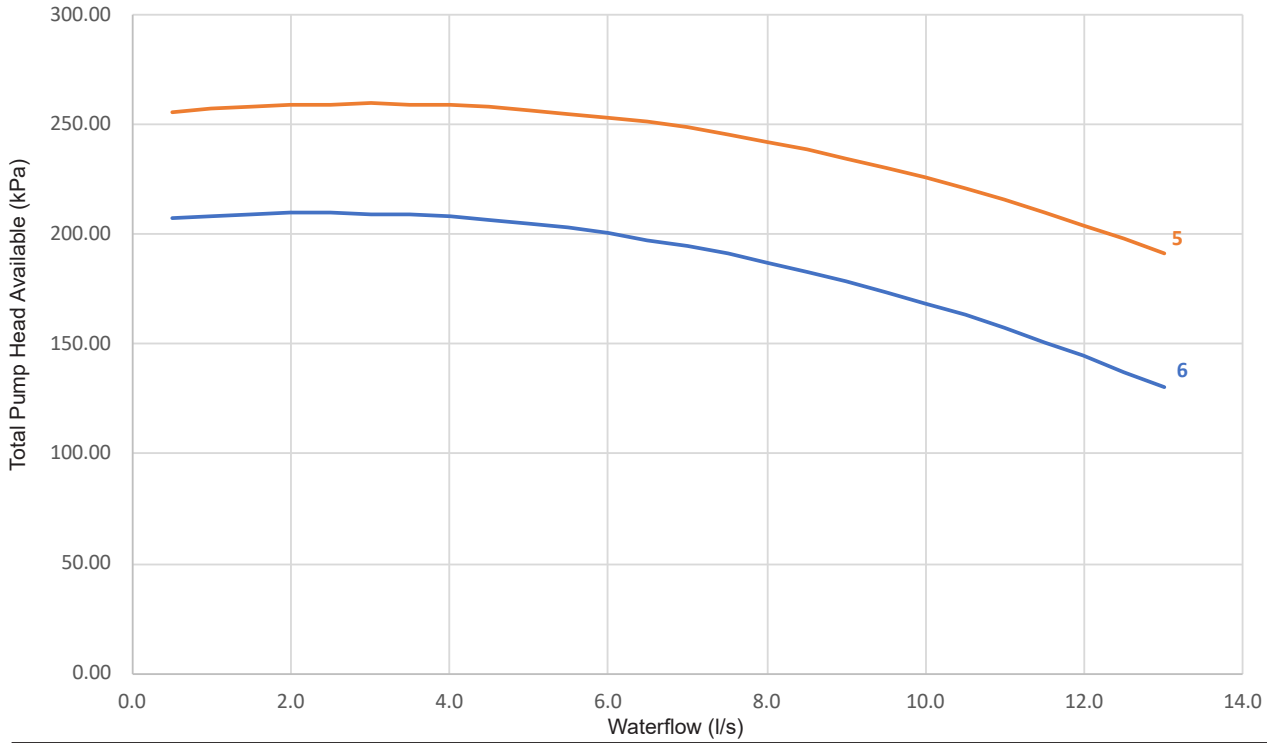

For glycol solutions, please refer to Glycol Data.
Pressure drops shown are for the standard unit without optional pumps and/or pipework.

**Performance Data**

| Range | Model | Curve |
|---|---|---|
| Std Single or R/S Pump | UCCL 30-40 | 1 |
| Std Single or R/S Pump | UCCL 50-60 | 2 |
| Std Single or R/S Pump | UCCL 70-75 | 3 |
| Std Single or R/S Pump | UCCL 85-150 | 4 |

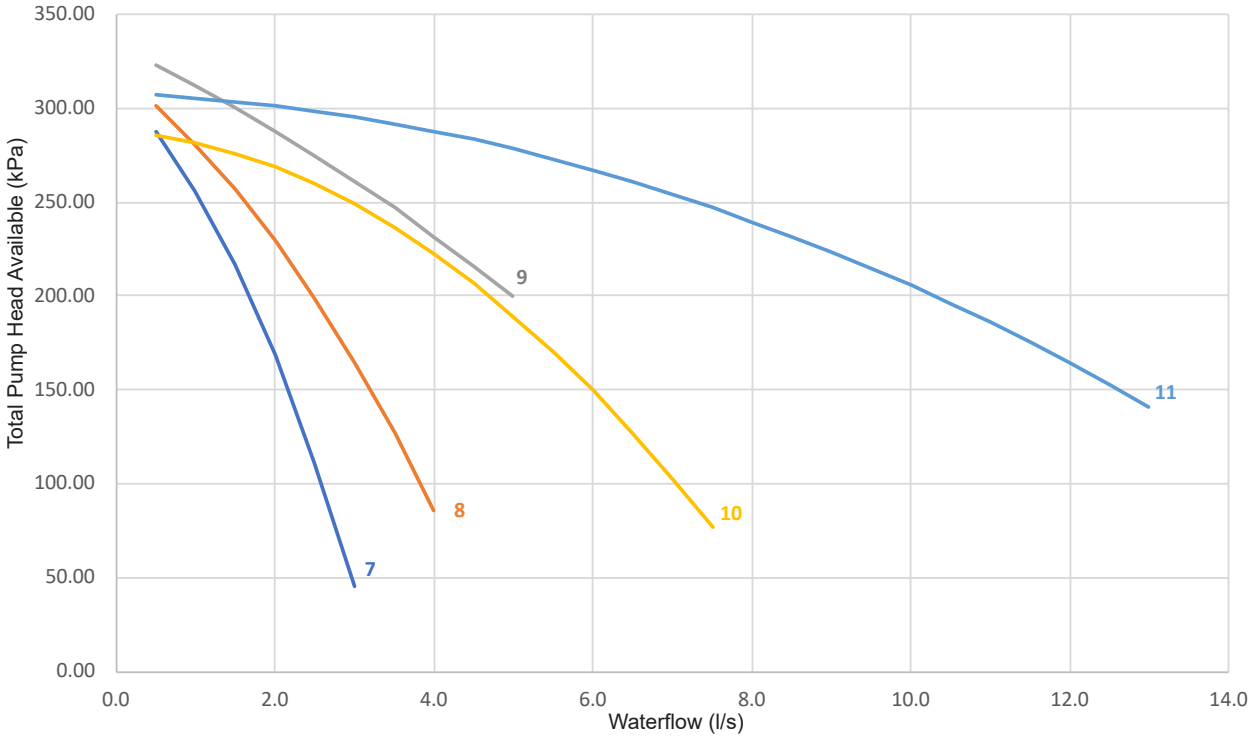



| Range | Model | Curve |
|---|---|---|
| Std Twin Pump | UCCL 85-150 | 5 |
| Upg Twin Pump | UCCL 85-150 | 6 |



**Performance Data**

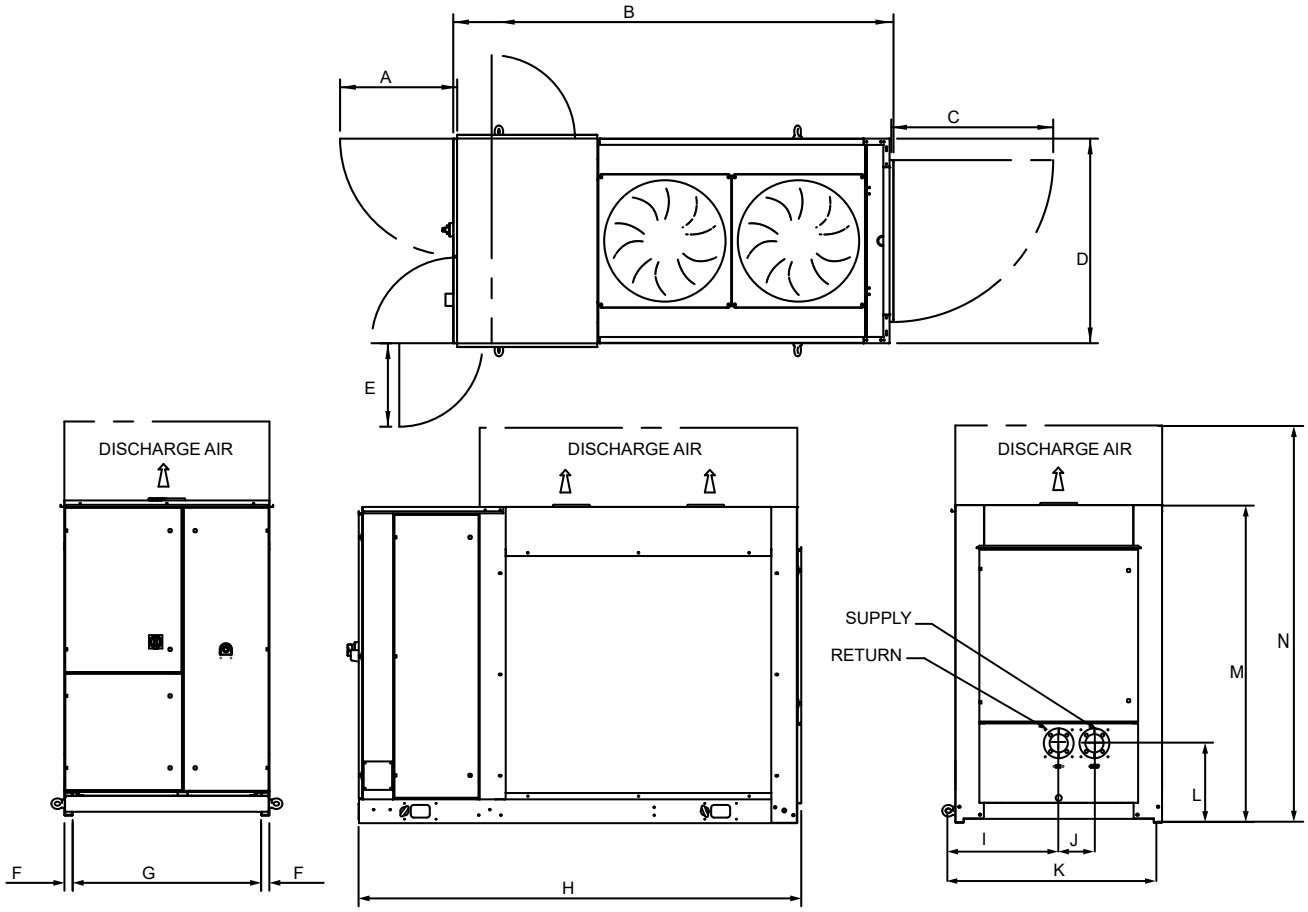
| Range | Model | Curve |
|---|---|---|
| Upg Single or R/S Pump | UCCL 30-40 | 7 |
| Upg Single or R/S Pump | UCCL 50-60 | 8 |
| Upg Single or R/S Pump | UCCL 50-60 | 9 |
| Upg Single or R/S Pump | UCCL 70-75 | 10 |
| Upg Single or R/S Pump | UCCL 85-150 | 11 |



## Installation

### Dimensions

| | Number of Fans | Dimensions (mm) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
| UCCL 30-40 | 1 | 600 | 1650 | 1030 | 1200 | - | 20 | 1270 | 1650 | 658 | 290 | 1316 | 460 | 1450 | - |
| UCCL 30-75 | 2 | 600 | 2500 | 1030 | 1200 | - | 20 | 1270 | 2500 | 655 | 290 | 1310 | 460 | 1450 | 1950 |
| UCCL 85-100 | 2 | 745 | 2775 | 1030 | 1300 | 530 | 50 | 1366 | 2800 | 702 | 225 | 1466 | 500 | 2000 | 2500 |
| UCCL 100-150 | 3 | 745 | 3650 | 1030 | 1300 | 530 | 50 | 1197 | 3650 | 702 | 225 | 1466 | 500 | 2000 | 2500 |
| UCCL124-150 | 4 | 745 | 4500 | 1030 | 1300 | 530 | 50 | 1197 | 4500 | 702 | 225 | 1466 | 500 | 2000 | 2500 |

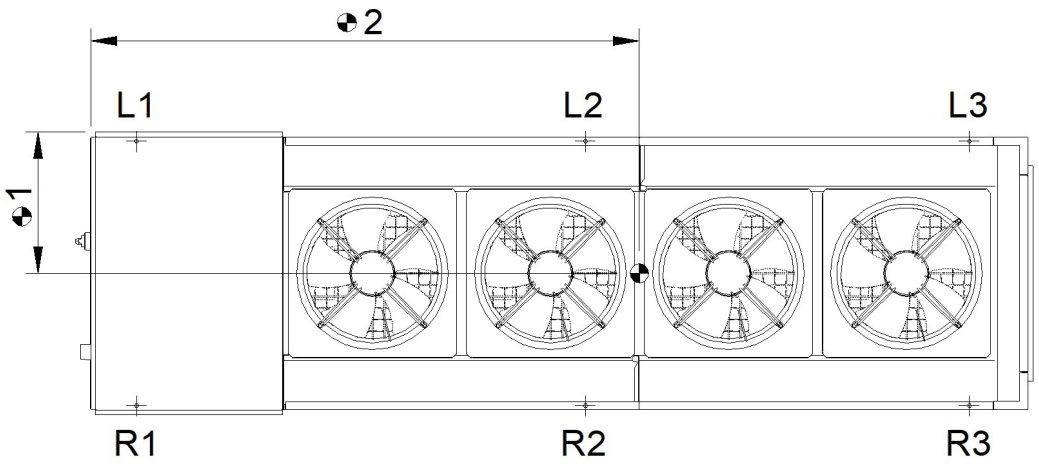



Contact Airedale for detailed general arrangement drawings.

| | Pipe Water Connection Sizes | |
|---|---|---|
| | Supply | Return |
| UCCL 30-40 | 1 1/2” BSP | 1 1/2” BSP |
| UCCL 30-75 | 2” BSP | 2” BSP |
| UCCL 85-100 | DN65 PN16 | DN65 PN16 |
| UCCL 100-150 | DN65 PN16 | DN65 PN16 |
| UCCL124-150 | DN65 PN16 | DN65 PN16 |

## Installation

### Point Loadings, Weights and Centre of Gravity (C of G)



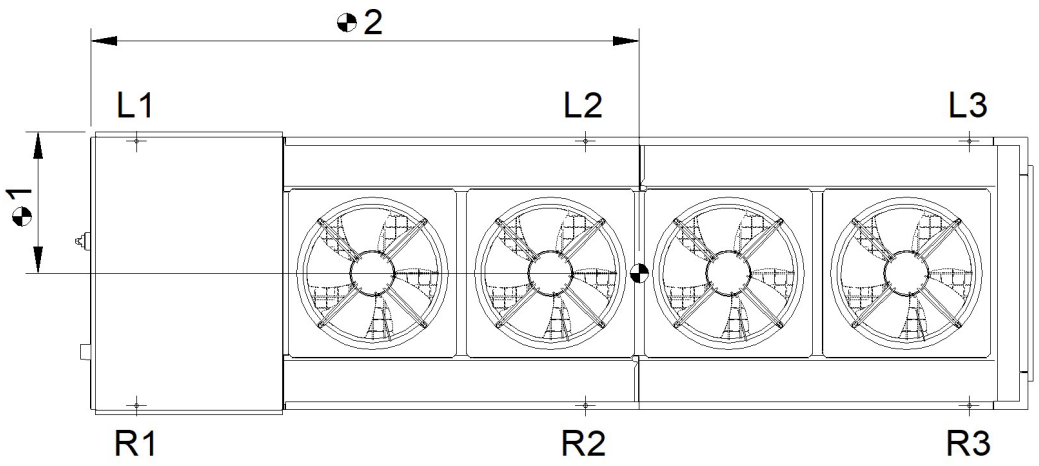

| Model | | L1 | R1 | L2 | R2 | L3 | R3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | P1 (kg) | P2 (kg) | P3 (kg) | P4 (kg) | P5 (kg) | P6 (kg) | Operating weight (kg) | C of G1 (mm) | C of G2 (mm) |
| UCCL030SR-1AE0 | kg | 138 | 117 | 106 | 107 | (1) | (1) | 468 | 606 | 747 |
| UCCL030SR-2AE0 | kg | 157 | 136 | 151 | 154 | (1) | (1) | 600 | 616 | 1007 |
| UCCL040SR-1AH0 | kg | 155 | 155 | 107 | 108 | (1) | (1) | 526 | 636 | 699 |
| UCCL040SR-2AH0 | kg | 174 | 175 | 152 | 155 | (1) | (1) | 657 | 639 | 946 |
| UCCL040DR-1ACC | kg | 156 | 157 | 108 | 109 | (1) | (1) | 530 | 636 | 700 |
| UCCL040DR-2ACC | kg | 176 | 176 | 153 | 156 | (1) | (1) | 661 | 639 | 945 |
| UCCL050SR-2AJ0 | kg | 182 | 183 | 153 | 157 | (1) | (1) | 675 | 639 | 932 |
| UCCL050DR-2ADD | kg | 182 | 183 | 153 | 156 | (1) | (1) | 675 | 639 | 932 |
| UCCL060SR-2AK0 | kg | 184 | 184 | 157 | 160 | (1) | (1) | 684 | 639 | 933 |
| UCCL060DR-2AEE | kg | 184 | 184 | 156 | 160 | (1) | (1) | 684 | 639 | 933 |
| UCCL070SR-2AL0 | kg | 188 | 188 | 158 | 161 | (1) | (1) | 695 | 639 | 927 |
| UCCL070DR-2AFF | kg | 188 | 188 | 157 | 160 | (1) | (1) | 693 | 639 | 927 |
| UCCL075SR-2AM0 | kg | 190 | 191 | 158 | 161 | (1) | (1) | 701 | 639 | 923 |
| UCCL075SR-2AP0 | kg | 224 | 225 | 160 | 163 | (1) | (1) | 771 | 638 | 868 |
| UCCL075DR-2AGG | kg | 190 | 191 | 158 | 161 | (1) | (1) | 700 | 639 | 923 |
| UCCL085SR-2AP0 | kg | 286 | 287 | 216 | 218 | (1) | (1) | 1007 | 652 | 1201 |
| UCCL085DR-2AHH | kg | 303 | 304 | 217 | 220 | (1) | (1) | 1044 | 652 | 1179 |
| UCCL100SR-2AP0 | kg | 291 | 294 | 225 | 232 | (1) | (1) | 1043 | 656 | 1216 |
| UCCL100DR-2AHJ | kg | 314 | 317 | 227 | 234 | (1) | (1) | 1093 | 656 | 1185 |
| UCCL125SR-3AQ0 | kg | 230 | 235 | 233 | 244 | 153 | 160 | 1255 | 662 | 1813 |
| UCCL125DR-3AKK | kg | 249 | 254 | 241 | 252 | 155 | 162 | 1313 | 661 | 1781 |

(1) Have only 4 fixing and 4 point loadings.

(2) Calculation based on standard unit; please contact Airedale for units fitted with pump, tank and expansion vessel options.

## Installation

### Point Loadings, Weights and Centre of Gravity (C of G)




| Model | | L1 | R1 | L2 | R2 | L3 | R3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | P1 (kg) | P2 (kg) | P3 (kg) | P4 (kg) | P5 (kg) | P6 (kg) | Operating weight (kg) | C of G1 (mm) | C of G2 (mm) |
| UCCL150DR-3AMM | kg | 258 | 263 | 246 | 257 | 156 | 163 | 1345 | 661 | 1768 |
| UCCL030SX-1AE0 | kg | 138 | 117 | 106 | 107 | (1) | (1) | 468 | 606 | 747 |
| UCCL030SX-2AE0 | kg | 157 | 136 | 151 | 154 | (1) | (1) | 600 | 616 | 1007 |
| UCCL040SX-1AH0 | kg | 155 | 155 | 107 | 108 | (1) | (1) | 526 | 636 | 699 |
| UCCL040SX-2AH0 | kg | 174 | 175 | 152 | 155 | (1) | (1) | 657 | 639 | 946 |
| UCCL040DX-1ACC | kg | 156 | 157 | 108 | 109 | (1) | (1) | 530 | 636 | 700 |
| UCCL040DX-2ACC | kg | 176 | 176 | 153 | 156 | (1) | (1) | 661 | 639 | 945 |
| UCCL050SX-2AJ0 | kg | 182 | 183 | 153 | 157 | (1) | (1) | 675 | 639 | 932 |
| UCCL050DX-2ADD | kg | 182 | 183 | 153 | 156 | (1) | (1) | 675 | 639 | 932 |
| UCCL060SX-2AK0 | kg | 184 | 184 | 157 | 160 | (1) | (1) | 684 | 639 | 933 |
| UCCL060DX-2AEE | kg | 184 | 184 | 156 | 160 | (1) | (1) | 684 | 639 | 933 |
| UCCL070SX-2AL0 | kg | 188 | 188 | 158 | 161 | (1) | (1) | 695 | 639 | 927 |
| UCCL070DX-2AFF | kg | 188 | 188 | 157 | 160 | (1) | (1) | 693 | 639 | 927 |
| UCCL075SX-2AM0 | kg | 190 | 191 | 158 | 161 | (1) | (1) | 701 | 639 | 923 |
| UCCL075SX-2AP0 | kg | 224 | 225 | 160 | 163 | (1) | (1) | 771 | 638 | 868 |
| UCCL075DX-2AGG | kg | 190 | 191 | 158 | 161 | (1) | (1) | 700 | 639 | 923 |
| UCCL085SX-2AP0 | kg | 286 | 287 | 216 | 218 | (1) | (1) | 1007 | 652 | 1201 |
| UCCL085DX-2AHH | kg | 303 | 304 | 217 | 220 | (1) | (1) | 1044 | 652 | 1179 |
| UCCL100SX-3AP0 | kg | 225 | 230 | 228 | 239 | 151 | 158 | 1229 | 662 | 1818 |
| UCCL100DX-3AHJ | kg | 242 | 246 | 235 | 246 | 152 | 159 | 1280 | 661 | 1789 |
| UCCL125SX-4AQ0 | kg | 246 | 255 | 273 | 292 | 178 | 191 | 1434 | 668 | 2106 |
| UCCL125DX-4AKK | kg | 263 | 272 | 282 | 301 | 180 | 192 | 1491 | 667 | 2072 |
| UCCL150DX-4AMM | kg | 272 | 281 | 288 | 307 | 181 | 193 | 1523 | 667 | 2057 |

(1) Have only 4 fixing and 4 point loadings.
(2) Calculation based on standard unit; please contact Airedale for units fitted with pump, tank and expansion vessel options.

## Installation

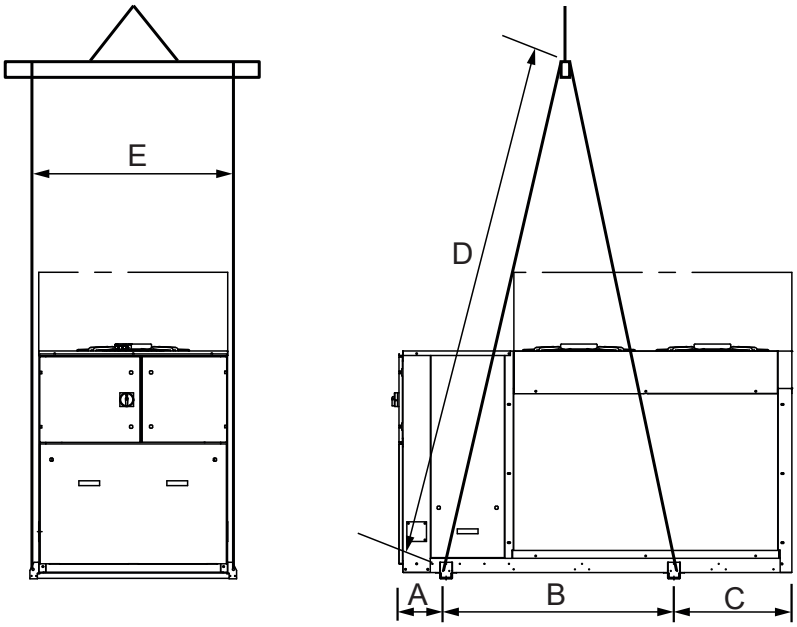
### Lifting

- Employ lifting specialists.
- Local codes and regulations relating to the lifting of this type of equipment should be observed.
- Use the lifting eye bolts/lifting lugs provided.
- Attach lifting chains to the 4 lifting eye bolts/lifting lugs provided, each chain and eye bolt must be capable of lifting the whole chiller.
- Use the appropriate spreader bars/lifting slings with the holes/lugs provided.
- Lift the unit slowly and evenly.
- If the unit is dropped it should immediately be checked for damage and reported to Airedale Service.

| | |
|---|---|
| **CAUTION ⚠** | The unit should be lifted from the base and where possible, with all packing and protection in position. If any other type of slinging is used, due care should be taken to ensure that the slings do not crush the casework or coil. |

The unit should be lifted from the base and where possible, with all packing and protection in position. If any other type of slinging is used, due care should be taken to ensure that the slings do not crush the casework or coil.

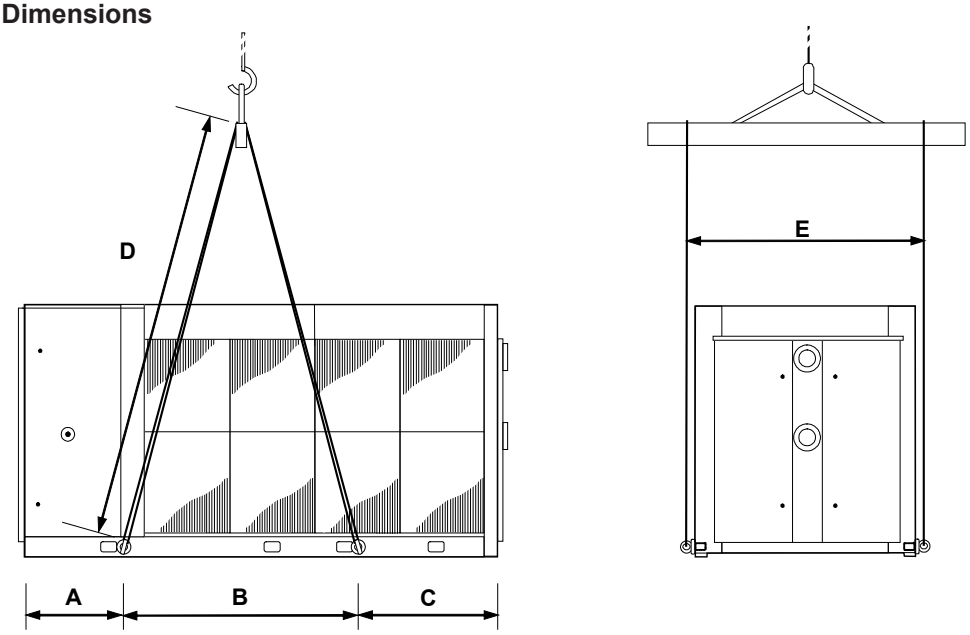
### Lifting Dimensions




| | Number of Fans | Eye Bolt Size | A (mm) | B(1) (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|---|---|
| UCCL 30-40 | 1 | Lug | 300 | 1050 (1450) | 300 (300) | 1900 (2200) | 1310 |
| UCCL 30-75 | 2 | Lug | 300 | 1450 | 750 | 2200 | 1310 |

(1) Dimensions in brackets refer to the optional buffer tank when fitted.

**Lifting Dimensions**




| | Number of Fans | Eye Bolt Size | A (mm) | B(1) (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|---|---|
| UCCL 85-100 | 2 | M24 | 290 | 1900 | 585 | 2500 | 1300 |
| UCCL 125-150 | 3 | M24 | 290 | 2015 | 1320 | 2500 | 1300 |
| UCCL 125-150 | 4 | M24 | 290 | 2870 | 1315 | 3000 | 1300 |

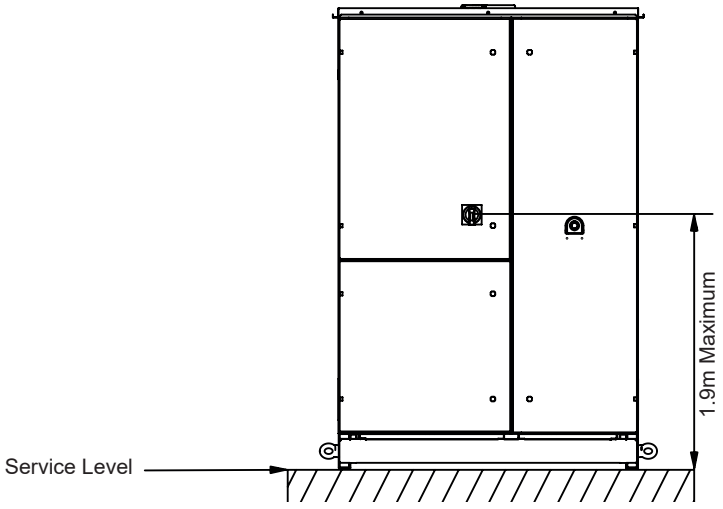
## Installation

### Positioning

### Mains Isolation

To comply with BS EN 60204-1:2006 Safety of Machinery – Electrical Equipment Machines, each unit shall have an accompanying isolator (switch disconnecting device). The isolator and emergency stop must be easily accessible and, in compliance with the Safety of Machinery – Electrical Equipment Machines Standard (BS EN 60204-1), the isolator handles and emergency stop shall be no higher than 1.9m above the service level. A maximum height of 1.7m is recommended, whether directly from the service level or from a permanently fixed service level, to ensure ease of accessibility.

If the unit is mounted on a raised plinth, the upper limit of 1.9m must be observed and a permanently fixed service platform must be installed to maintain the 1.9m maximum height allowance. Suitable access to the isolator and emergency stop must be provided and maintained from the point of power being applied to the unit prior to commissioning. If service level access or permanently fixed access cannot be provided at this point, a suitable temporary platform needs to be in position before the unit can be switched on or commissioned, and should remain in place until a suitable permanent solution is available.



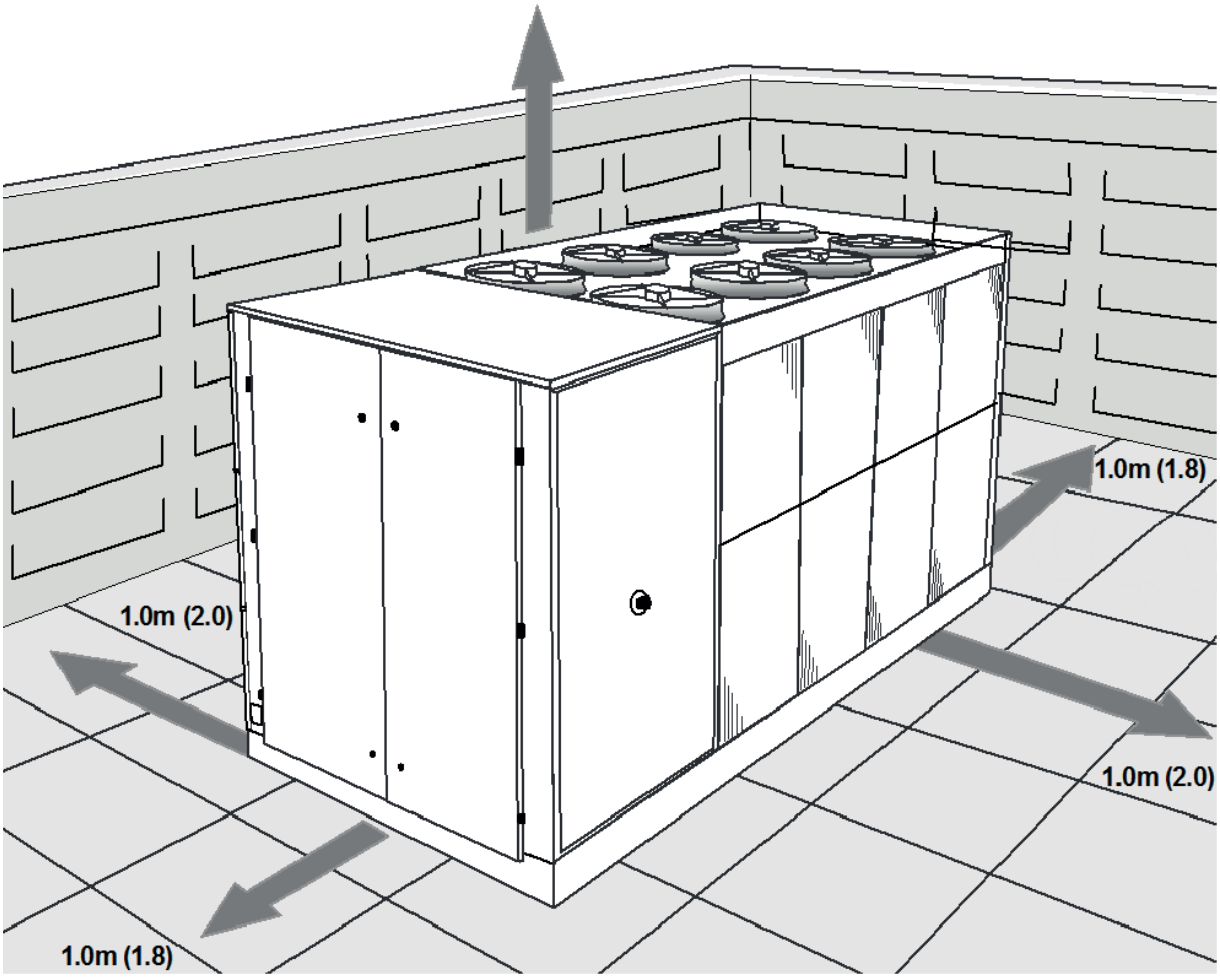
## Installation

### Positioning

The installation position should be selected with the following points in mind:

- Position on a stable and even base, levelled to ensure that the compressor operates correctly.
- Levelling should be to ±1°.
- Where vibration transmission to the building structure is possible, fit spring anti-vibration mounts and flexible water connections.
- Observe airflow and maintenance clearances.
- Pipework and electrical connections are readily accessible.
- Where multiple units are installed, due care should be taken to avoid the discharge air from each unit adversely affecting other units in the vicinity.
- Allow free space (no obstructions) above the fans to prevent air recirculation.
- Within a side enclosed installation, the condenser fan MUST be higher than the enclosing structure. Figures in brackets indicate airflow and maintenance clearances for side-enclosed or multiple chiller applications.
- The leak detection fan must not be obstructed and must discharge away from any sources of ignition.
- If containment systems are installed around the unit (bunds) provision must be made to ensure that any air does not become stagnant. In the event of a refrigerant leak, the gas will collect at the lowest point. Beware of drains etc.
- Additional ventilation (supplied by others) may be required around the unit during maintenance work if the surrounding air is stagnant.
- If the unit is installed in particularly windy locations, the provision of wind breaks may be required. For such applications a vertical discharge unit is recommended or where horizontal airflow could be obstructed.

| | |
|---|---|
| **CAUTION ⚠** | Prior to connecting services, ensure that the equipment is installed and completely level. |



## Water Treatment Guidelines

### Protecting Plant

It is important that the Airedale plant and equipment is properly protected and maintained to ensure optimal system performance.

| | |
|---|---|
| **IMPORTANT** ⚠ | The equipment and system should be kept clean and free of solid, scale, corrosion and biological fouling. Failure to do so may invalidate the warranty. |

Properly maintaining the system can improve energy efficiency and life expectancy. Acceptable water treatment levels for the system should be determined by the water treatment specialist on a project by project, system by system basis. The table below provides a guide to the acceptable range required for Airedale plant, although hardness of water may vary depending on the location of the site.

| | | | |
|---|---|---|---|
| PH (5oC – 40oC) | 7.0 – 8.5 | Total Hardness (mg CaCO3/L) | <200 |
| Electrical Conductivity (µs/cm) | <800 | Total Iron (mg Fe/l) | <3.0 |
| Chloride (mg Cl/l) | <200 | Soluble Iron (mg Fe/l) | <1.0 |
| Alkalinity (mg CaCO3/l) | <100 | Ammonium (mg NH4+/l) | <1.0 |
| Sulphate ion (mg S02 4-/l) | <200 | Sulphide (mg S2-/l) | <5 |

When completing a chemical clean or a dynamic flush and dose on the secondary system from the low loss header or buffer vessel, primary units such as chillers, condensers and air conditioning units should have a full-bore bypass installed as close to the plant as possible. The plant should be placed in bypass when carrying out the chemical clean in order to protect sensitive plant items and smaller bore pipes from blockage.

Installers should refer to BG29 2020, Pre-Commissioning cleaning of Pipework Systems for the most up to date guidelines of pre-commissioning cleaning of pipework systems and BSRIA BG50 2013, Water Treatment for Closed Heating and Cooling Systems for ongoing water quality maintenance and systems in operation. The manufacturer is not responsible for damage to or malfunctioning of equipment caused by failure to treat water or by improperly treated system water - this applies to both before and after commissioning. .

### Choice of Chemicals

Below is a table of metallic and non-metallic substances found in plant items produced by Airedale.

All chemicals to be used during the water treatment process should be carefully selected by the water treatment specialist so that they do not have a detrimental effect on these items, any component within the plant and equipment or the system as a whole. Frost protection and the dosing of chemicals such as monoethylene and polypropylene should

| | |
|---|---|
| **IMPORTANT** ⚠ | This is not an exhaustive list and specific advice should be sought for individual items of equipment or specific applications, if required. |

be carefully considered in terms of dosing levels and blended chemical compatibility. Thermal efficiency should also be considered, on a project-by-project basis.

| | | | |
|---|---|---|---|
| Copper | Stainless Steel (AISI 302) | Silicon | PA66 |
| Brass | Stainless Steel (AISI 316) | PVC | Neoprene |
| Cast Bronze | Nickel Plated Brass | PTFE | Nitrile-Butylene Elastomer |
| Cast Iron | Galvanized Iron | PPS | Ethylene Propylene Rubber |
| Mild Steel | VITON (Rubber/Silicone mix) | PPE | EPDM |
| TPE | Synthetic Fibre | PPA 40-GF | Diaphragm |

### Filling Stage

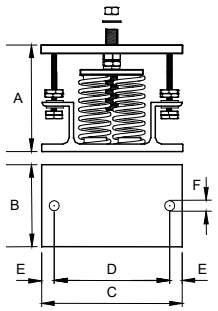
- Before filling plant items, a visual inspection of valves should take place to ensure that there are no open ends such as drain cocks opened after the testing phase.
- The plant items should be filled with clean water, dosed with corrosion inhibitor and biocides as required in order to prevent corrosion and biological growth. Refer to BSRIA recommendations regarding pre-filling.
- Manual or automatic air vents should be opened to release displaced air from the system during the filling process until pressurised.

## Installation

### Anti Vibration Mounting (Optional)

### Spring Type

Each mount is coloured to indicate the different loads, refer to AV selection sheet supplied separately for correct allocation.

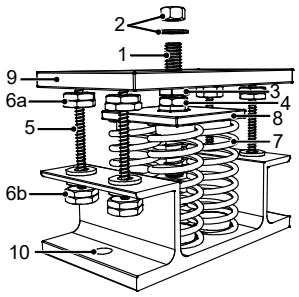



| | $A_{(1)}$ (mm) | B (mm) | C (mm) | D (mm) | E (mm) | FØ (mm) |
|---|---|---|---|---|---|---|
| **2 Spring** | 162 | 110 | 180 | 148 | 16 | 11 |

1) Unloaded dimension.

### Components

| | | | |
|---|---|---|---|
| 1 | Locating screw | 6a | Upper retaining nuts |
| 2 | Retaining nut & washer | 6b | Lower retaining nuts |
| 3 | Levelling screw | 7 | Spring assembly |
| 4 | Levelling lock nut | 8 | Pressure plate |
| 5 | Retaining studs | 9 | Top plate |
| | | 10 | Fixing holes |



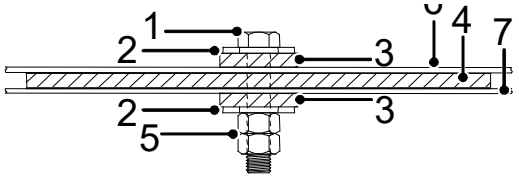

### Installation

| | |
|---|---|
| 1 | Locate and secure mount using fixing holes (10) in base plate. |
| 2 | Ensure mounts are located in line with the unit base. |
| 3 | If applicable, remove compressor enclosure covers to allow access to mount fixing holes in the unit base. |
| 4 | Lock the upper retaining nuts (6a) to the underside of the top plate (9) before a load is applied. |
| 5 | Slacken levelling lock nut (4). (The levelling screw will not move if this is not slackened). |
| 6 | Remove retaining nut and washer (2), lower the unit onto the mounts and replace retaining nut and washer. |
| 7 | Beginning with the mount with the largest deflection, adjust the height of each mount using the levelling screw (3). Mountings must be adjusted incrementally in turn. |
| 8 | Do not fully adjust 1 mount at a time as this may overload and damage springs. |
| 9 | When all mounts are level, lock each into place using the levelling lock nut (4). |
| 10 | Lock all retaining nuts (6a and 6b) to the extreme ends of the retaining studs (5). |

| | |
|---|---|
| **CAUTION ⚠** | Do not connect any services until all anti vibration mounts have been fully adjusted. |

### Pad Type

| | |
|---|---|
| 1 | M16 Bolt (Not Supplied) |
| 2 | Washer (Not Supplied) |
| 3 | Fixing Pad 6173231 |
| 4 | A V Pad 6173223 |
| 5 | 2 x M16 Nut (Not Supplied) |
| 6 | Unit Base |
| 7 | Unit Mounting Plinth |




### Installation (steel plinth)

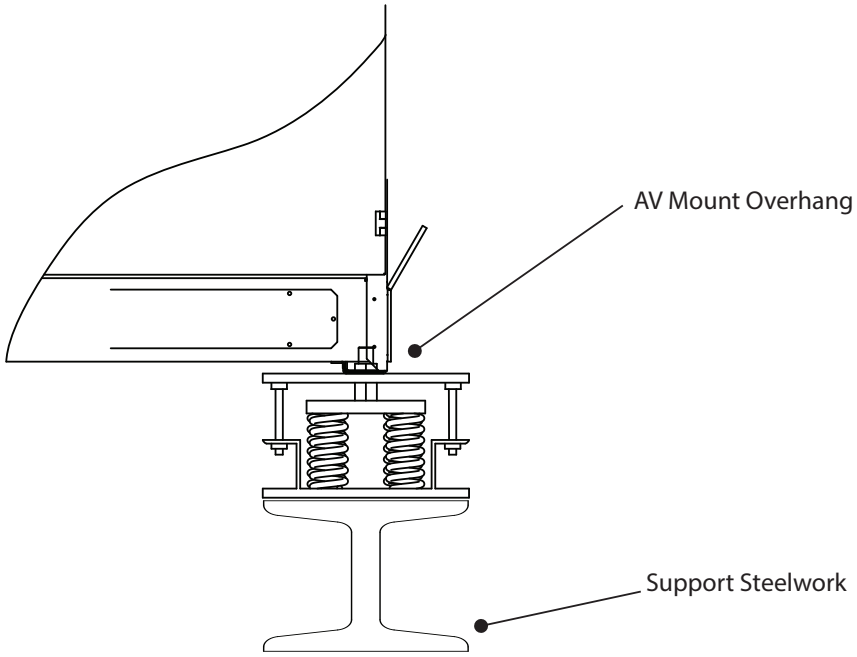
1. Locate the pad type anti vibration mount between the unit base and the unit steel mounting plinth.
2. Locate the M16 bolt through the hole in the unit, AV mount pad and steel mounting plinth.
3. Tighten the M16 nut to the underside of the steel mounting plinth.
4. Tighten the second M16 nut (locking nut) to the underside of the steel mounting plinth.

### Installation (concrete plinth)

1. Locate the pad type anti vibration mount between the unit base and the unit concrete mounting plinth.
2. Locate the concrete fixing anchor through the AV mount pad and the hole in the unit.
3. Tighten the anchor bolt.

**Anti Vibration Mount location to Unit and Plinth**

The Anti Vibration mount is larger than the unit base. Consideration must be made with regard to steelwork / concrete plinth sizes. Full information is available on the approved General Arrangement drawings. The base of the unit is open. Considerations must be made for service and maintenance requirements if the unit is installed on a gantry.



## Installation

### Electrical

#### General

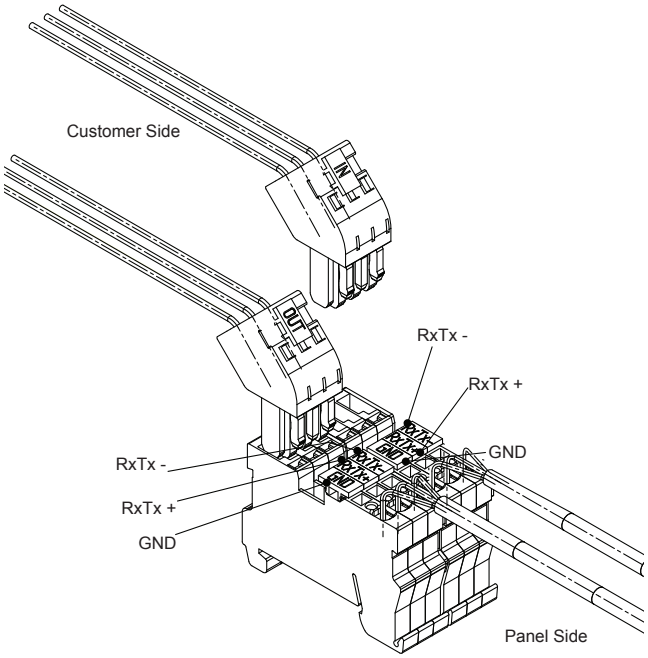
- As standard the equipment is designed for 400V, 3 Phase, 3 wire 50Hz and a separate permanent 230V, 1 phase, 50Hz supply, to all relevant IEE regulations, British standards and IEC requirements.
- A fused and isolated electrical supply of the appropriate phase, frequency and voltage should be installed.
- The control voltage to the interlocks is 24V. Always size the low voltage interlock and protection cabling for a maximum voltage drop of 2V.

| | |
|---|---|
| **CAUTION ⚠** | Wires should be capable of carrying the maximum load current under non-fault conditions at the stipulated voltage. |

- Avoid large voltage drops on cable runs, particularly low voltage wiring.

| | |
|---|---|
| **CAUTION ⚠** | A separately fused, locally isolated, permanent single phase and neutral supply MUST BE FITTED for the compressor sump heater, evaporator trace heating and control circuits, FAILURE to do so could INVALIDATE WARRANTY. |

#### pLAN Termination

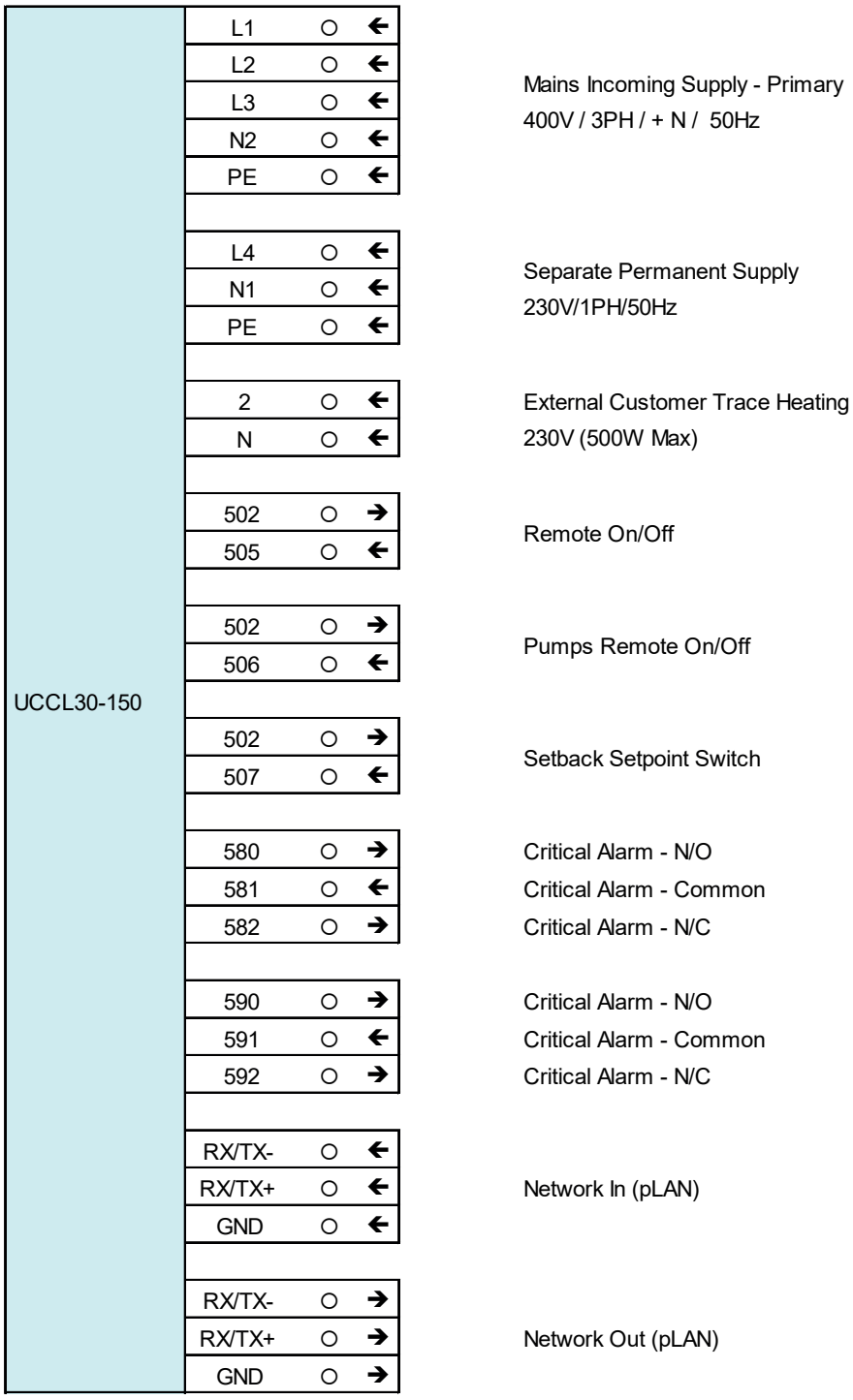



| | |
|---|---|
| **CAUTION ⚠** | The plugged termination ensures that the connections are made simultaniously. Failure to attach the cables this this way may cause damage to the controller. |

## Installation

### Interconnecting Wiring

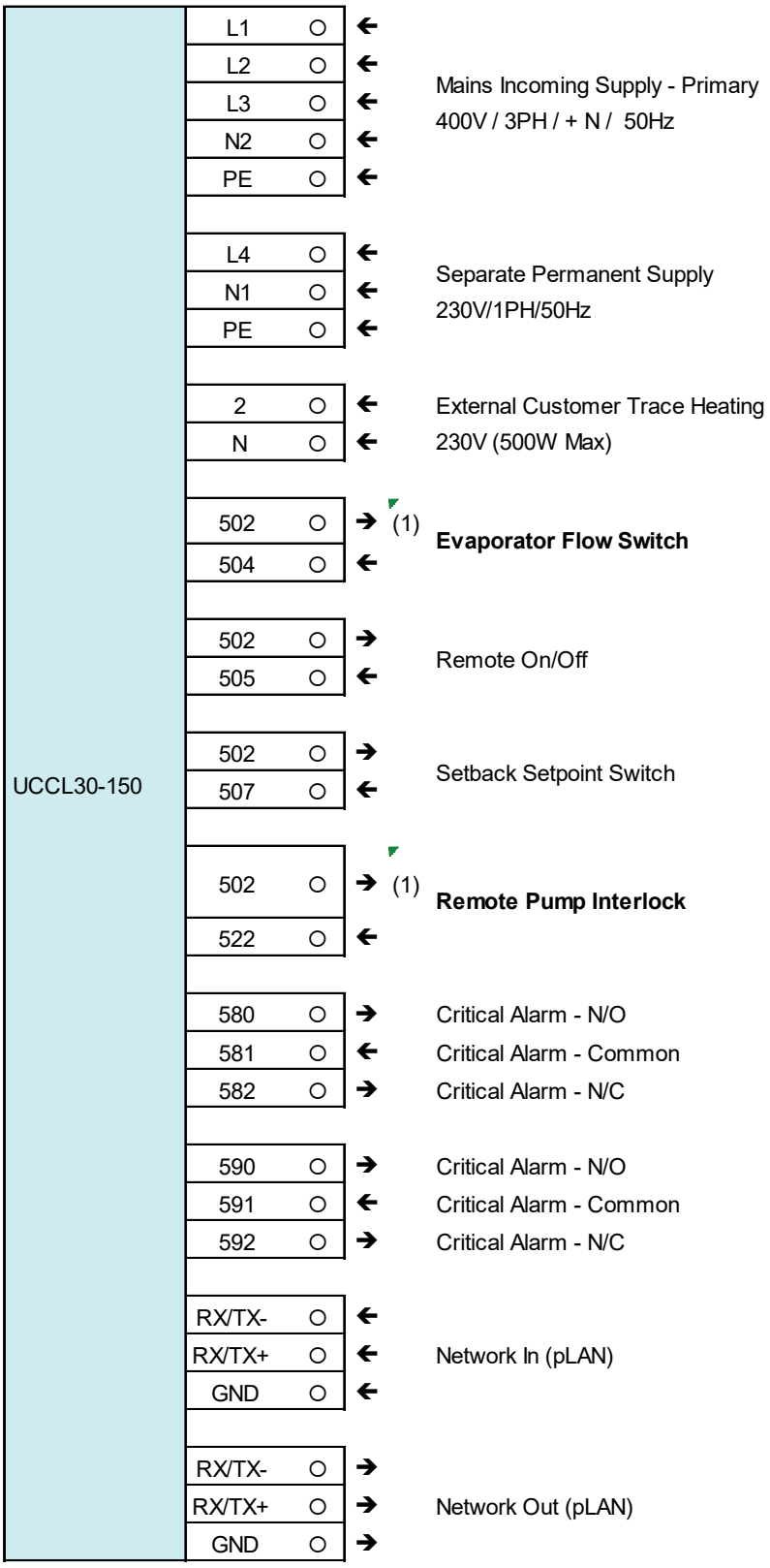
### With Pumps



## Installation

### Interconnecting Wiring

**No Pumps**




| | |
|---|---|
| **CAUTION ⚠** | (1) MUST be directly wired to the chiller to validate warranty. |

## Ecodesign Appendix

The following tables of Ecodesign data is based on the following common information:

### SEPR (Seasonal Energy Performance Ratio)

- Type of Condensing - Air Cooled Standard EC Fans
- Refrigerant Fluid - R32
- Operating Temperature - +7°C (Outlet water)
- Operating Control - Variable
- Outdoor Side Heat Exchanger - Air
- Indoor Heat Exchanger - Water
- Type Driven - Vapour Compression
- Driver of Compressor - Electric Motor
- Degradation Coefficient - 0.9

### Part load conditions for SEPR calculation for air cooled high temperature process chillers

| Rating Point | Part load ratio (%) | Outdoor side heat exchanger | Indoor side heat exchanger |
|---|---|---|---|
| | | Inlet air temperature (°C) | Evaportator inlet/ outlet water temperatures (°C) |
| | | | Fixed outlet |
| A | 100 | 35 | 12/7 |
| B | 93 | 25 | (*)/7 |
| C | 87 | 15 | (*)/7 |
| D | 80 | 5 | (*)/7 |

EU 2016/2281 Table 22.

(*) With the water flow rate determined during “A” test for units with a fixed water flow rate.

### SSCEE (Seasonal Space Cooling Energy Efficiency)

- Capacity Control - Variable
- Standard Rating Condition - Low Temperature Operation
- Crankcase heater fitted

### Air to water comfort chillers

| Rating Point | $T_1$ (°C) | Part load ratio (%) | Outdoor air dry bulb temperature (°C) | Fan coil application inlet/ outlet water temperature (°C) | | Cooling floor application inlet/outlet water temperatures (°C) |
|---|---|---|---|---|---|---|
| | | | | Fixed outlet | Variable outlet (*) | |
| A | 35 | 100 | 35 | 12/7 | 12/7 | 23/18 |
| B | 30 | 74 | 30 | (*)/7 | (*)/8.5 | (*)/18 |
| C | 25 | 47 | 25 | (*)/7 | (*)/10 | (*)/18 |
| D | 20 | 21 | 20 | (*)/7 | (*)/11.5 | (*)/18 |

EU 2016/2281 Table 21.

## Technical Data

### Ecodesign - UCCL R Type

| | Notes: | Units | UCCL030SR-1AE0 | UCCL030SR-2AE0 | UCCL040SR-1AH0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.8 | 7.0 | 5.2 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 33933.0 | 29426.0 | 52172.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 26.3 | 27.7 | 36.9 |
| Rated Power Input $D_A$ | | kW | 10.2 | 9.2 | 17.0 |
| Rated $EER_{DC,A}$ | | | 2.57 | 3.00 | 2.17 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 29.7 | 31.0 | 41.3 / 22.3 |
| Declared Power Input $D_B$ | | kW | 7.8 | 6.9 | 13.2 / 6.0 |
| Declared $EER_{DC,B}$ | | | 3.80 | 4.47 | 3.14 / 3.70 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 32.9 | 34.1 | 45.3 / 24.1 |
| Declared Power Input $D_C$ | | kW | 5.8 | 5.0 | 10.0 / 4.8 |
| Declared $EER_{DC,C}$ | | | 5.69 | 6.79 | 4.55 / 5.03 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 36.1 | 37.3 | 49.1 / 25.9 |
| Declared Power Input $D_D$ | | kW | 4.1 | 3.4 | 7.3 / 3.7 |
| Declared $EER_{DC,D}$ | | | 8.74 | 10.89 | 6.76 / 7.06 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 130.4% | 154.3% | 129.9% |
| SSCEE Tier | | | NOT Compliant | Tier 1 (2018) | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | 27.8 | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | 27.7 | n/a |
| Declared $EER_d$ 35°C | | | n/a | 3.00 | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | 31.0 | n/a |
| Declared $EER_d$ 30°C | | | n/a | 3.88 | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | 34.3 | n/a |
| Declared $EER_d$ 25°C | | | n/a | 5.04 | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | 37.8 | n/a |
| Declared $EER_d$ 20°C | | | n/a | 6.59 | n/a |
| Sound Power Level | | dB(A) | n/a | 76 | n/a |
| Air Volume | | $m^3/h$ | n/a | 23307 | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | 0.035 | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | 0.209 | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | 0.049 | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | 0.032 | n/a |
| Capacity Control | | | n/a | Fixed | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL040SR-2AH0 | UCCL040DR-1ACC | UCCL040DR-2ACC |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.1 | 4.9 | 6.3 |
| SEPR Tier | | | Tier 2 (2021) | Tier 1 (2018) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 48296.0 | 57722.0 | 49294.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 40.1 | 38.2 | 41.8 |
| Rated Power Input $D_A$ | | kW | 14.8 | 17.0 | 14.6 |
| Rated $EER_{DC,A}$ | | | 2.71 | 2.25 | 2.86 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 44.0 / 22.9 | 42.9 / 20.7 | 45.9 / 22.0 |
| Declared Power Input $D_B$ | | kW | 11.3 / 5.6 | 13.1 / 7.0 | 11.1 / 6.0 |
| Declared $EER_{DC,B}$ | | | 3.89 / 4.11 | 3.27 / 2.96 | 4.12 / 3.64 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 47.7 / 24.7 | 47.3 / 22.9 | 49.7 / 24.1 |
| Declared Power Input $D_C$ | | kW | 8.4 / 4.4 | 9.8 / 5.3 | 8.2 / 4.5 |
| Declared $EER_{DC,C}$ | | | 5.64 / 5.63 | 4.82 / 4.29 | 6.04 / 5.33 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 51.4 / 26.5 | 51.1 / 25.1 | 53.5 / 26.3 |
| Declared Power Input $D_D$ | | kW | 5.9 / 3.3 | 7.1 / 3.9 | 5.6 / 3.2 |
| Declared $EER_{DC,D}$ | | | 8.77 / 8.12 | 7.21 / 6.37 | 9.58 / 8.31 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 148.1% | 105.3% | 132.7% |
| SSCEE Tier | | | NOT Compliant | NOT Compliant | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | n/a | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 35°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 30°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 25°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 20°C | | | n/a | n/a | n/a |
| Sound Power Level | | dB(A) | n/a | n/a | n/a |
| Air Volume | | $m^3/h$ | n/a | n/a | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | n/a | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | n/a | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | n/a | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | n/a | n/a |
| Capacity Control | | | n/a | n/a | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL050SR-2AJ0 | UCCL050DR-2ADD | UCCL060SR-2AK0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.2 | 6.0 | 6.0 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 57389.0 | 60599.0 | 65474.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 48.1 | 48.9 | 53.4 |
| Rated Power Input $D_A$ | | kW | 17.6 | 17.3 | 20.7 |
| Rated $EER_{DC,A}$ | | | 2.74 | 2.82 | 2.58 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 53.3 / 27.8 | 54.2 / 25.9 | 59.3 / 31.2 |
| Declared Power Input $D_B$ | | kW | 13.6 / 6.6 | 13.4 / 7.3 | 15.9 / 7.5 |
| Declared $EER_{DC,B}$ | | | 3.92 / 4.23 | 4.03 / 3.55 | 3.72 / 4.14 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 58.0 / 30.0 | 58.9 / 28.5 | 64.9 / 33.7 |
| Declared Power Input $D_C$ | | kW | 10.3 / 5.2 | 10.1 / 5.5 | 11.9 / 5.9 |
| Declared $EER_{DC,C}$ | | | 5.64 / 5.78 | 5.82 / 5.14 | 5.44 / 5.69 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 62.5 / 32.3 | 63.4 / 31.1 | 70.2 / 36.3 |
| Declared Power Input $D_D$ | | kW | 7.3 / 3.9 | 7.2 / 4.0 | 8.6 / 4.5 |
| Declared $EER_{DC,D}$ | | | 8.51 / 8.21 | 8.84 / 7.74 | 8.16 / 8.05 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 151.4% | 129.2% | 152.9% |
| SSCEE Tier | | | Tier 1 (2018) | NOT Compliant | Tier 1 (2018) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 48.2 | n/a | 53.5 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 48.1 | n/a | 53.4 |
| Declared $EER_d$ 35°C | | | 2.74 | n/a | 2.58 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 53.5 / 27.3 | n/a | 59.3 / 30.5 |
| Declared $EER_d$ 30°C | | | 3.38 / 3.67 | n/a | 3.24 / 3.65 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 30.1 / 0.0 | n/a | 33.7 / 0.0 |
| Declared $EER_d$ 25°C | | | 4.53 / 0.00 | n/a | 4.62 / 0.00 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 33.1 / 0.0 | n/a | 37.1 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.73 / 0.00 | n/a | 5.96 / 0.00 |
| Sound Power Level | | dB(A) | 79 | n/a | 78 |
| Air Volume | | $m^3/h$ | 23307 | n/a | 23307 |
| Off mode $P_{OFF}$ | | kW | 0.035 | n/a | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.353 | n/a | 0.389 |
| Standby Mode $P_{SB}$ | | kW | 0.050 | n/a | 0.050 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.064 | n/a | 0.064 |
| Capacity Control | | | Staged | n/a | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
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(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL060DR-2AEE | UCCL070SR-2AL0 | UCCL070DR-2AFF |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.8 | 5.9 | 5.5 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 69811.0 | 75965.0 | 82019.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 54.2 | 60.2 | 61.0 |
| Rated Power Input $D_A$ | | kW | 20.5 | 23.5 | 23.2 |
| Rated $EER_{DC,A}$ | | | 2.65 | 2.56 | 2.63 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 60.3 / 28.9 | 67.0 / 35.4 | 67.9 / 32.7 |
| Declared Power Input $D_B$ | | kW | 15.7 / 8.5 | 18.5 / 8.7 | 18.1 / 9.8 |
| Declared $EER_{DC,B}$ | | | 3.85 / 3.42 | 3.63 / 4.09 | 3.75 / 3.34 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 65.9 / 31.9 | 73.4 / 38.4 | 74.3 / 36.1 |
| Declared Power Input $D_C$ | | kW | 11.7 / 6.4 | 14.1 / 6.9 | 13.8 / 7.5 |
| Declared $EER_{DC,C}$ | | | 5.63 / 4.99 | 5.20 / 5.55 | 5.38 / 4.78 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 71.3 / 34.9 | 79.8 / 41.5 | 80.7 / 39.6 |
| Declared Power Input $D_D$ | | kW | 8.4 / 4.7 | 10.3 / 5.3 | 10.0 / 5.6 |
| Declared $EER_{DC,D}$ | | | 8.48 / 7.47 | 7.75 / 7.88 | 8.08 / 7.10 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 128.7% | 150.9% | 125.6% |
| SSCEE Tier | | | NOT Compliant | Tier 1 (2018) | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | 60.4 | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | 60.2 | n/a |
| Declared $EER_d$ 35°C | | | n/a | 2.56 | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | 66.9 / 34.8 | n/a |
| Declared $EER_d$ 30°C | | | n/a | 3.17 / 3.63 | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | 38.3 / 0.0 | n/a |
| Declared $EER_d$ 25°C | | | n/a | 4.54 / 0.00 | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | 42.3 / 0.0 | n/a |
| Declared $EER_d$ 20°C | | | n/a | 5.81 / 0.00 | n/a |
| Sound Power Level | | dB(A) | n/a | 79 | n/a |
| Air Volume | | $m^3/h$ | n/a | 23307 | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | 0.035 | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | 0.424 | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | 0.050 | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | 0.064 | n/a |
| Capacity Control | | | n/a | Staged | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
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(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL075SR-2AM0 | UCCL075SR-2AP0 | UCCL075DR-2AGG |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.5 | 5.1 | 5.2 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 89629.0 | 119010.0 | 97873.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 66.9 | 82.3 | 68.2 |
| Rated Power Input $D_A$ | | kW | 28.5 | 40.0 | 28.0 |
| Rated $EER_{DC,A}$ | | | 2.35 | 2.06 | 2.44 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 74.8 / 40.2 | 92.5 / 66.6 | 76.2 / 36.7 |
| Declared Power Input $D_B$ | | kW | 22.2 / 10.2 | 32.0 / 19.3 | 21.7 / 11.6 |
| Declared $EER_{DC,B}$ | | | 3.36 / 3.95 | 2.89 / 3.45 | 3.51 / 3.16 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 82.0 / 43.3 | 72.4 / 38.4 | 83.4 / 40.7 |
| Declared Power Input $D_C$ | | kW | 16.9 / 8.1 | 15.3 / 7.2 | 16.4 / 8.9 |
| Declared $EER_{DC,C}$ | | | 4.86 / 5.35 | 4.73 / 5.33 | 5.08 / 4.55 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 88.6 / 46.6 | 78.2 / 41.5 | 90.1 / 44.2 |
| Declared Power Input $D_D$ | | kW | 12.5 / 6.3 | 11.8 / 5.5 | 12.2 / 6.7 |
| Declared $EER_{DC,D}$ | | | 7.09 / 7.34 | 6.64 / 7.48 | 7.41 / 6.57 |
| SSCEE | 2,3,5 | % | 144.5% | 144.6% | 118.4% |
| SSCEE Tier | | | NOT Compliant | NOT Compliant | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | n/a | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 35°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 30°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 25°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 20°C | | | n/a | n/a | n/a |
| Sound Power Level | | dB(A) | n/a | n/a | n/a |
| Air Volume | | $m^3/h$ | n/a | n/a | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | n/a | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | n/a | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | n/a | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | n/a | n/a |
| Capacity Control | | | n/a | n/a | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL085SR-2AP0 | UCCL085DR-2AHH | UCCL100SR-2AP0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.6 | 5.8 | 5.9 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 113948.0 | 101958.0 | 113902.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 85.8 | 79.5 | 91.0 |
| Rated Power Input $D_A$ | | kW | 38.0 | 31.5 | 36.1 |
| Rated $EER_{DC,A}$ | | | 2.26 | 2.52 | 2.52 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 96.1 / 68.5 | 88.5 / 68.0 | 101.3 / 70.7 |
| Declared Power Input $D_B$ | | kW | 30.1 / 18.4 | 24.3 / 18.1 | 28.5 / 17.9 |
| Declared $EER_{DC,B}$ | | | 3.19 / 3.73 | 3.64 / 3.75 | 3.56 / 3.95 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 74.4 / 39.1 | 73.7 / 50.4 | 110.8 / 76.5 |
| Declared Power Input $D_C$ | | kW | 14.4 / 6.9 | 13.9 / 9.2 | 22.0 / 14.0 |
| Declared $EER_{DC,C}$ | | | 5.15 / 5.65 | 5.30 / 5.48 | 5.05 / 5.46 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 80.2 / 42.2 | 79.1 / 53.5 | 82.2 / 42.8 |
| Declared Power Input $D_D$ | | kW | 10.9 / 5.3 | 10.2 / 7.0 | 10.5 / 5.1 |
| Declared $EER_{DC,D}$ | | | 7.35 / 8.02 | 7.74 / 7.67 | 7.85 / 8.46 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 153.4% | 141.5% | 161.8% |
| SSCEE Tier | | | Tier 1 (2018) | NOT Compliant | Tier 2 (2021) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 86.1 | n/a | 91.2 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 85.8 | n/a | 91.0 |
| Declared $EER_d$ 35°C | | | 2.26 | n/a | 2.52 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 67.7 / 34.9 | n/a | 70.1 / 35.4 |
| Declared $EER_d$ 30°C | | | 3.28 / 3.64 | n/a | 3.49 / 3.78 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 74.6 / 38.6 | n/a | 77.1 / 39.1 |
| Declared $EER_d$ 25°C | | | 4.07 / 4.56 | n/a | 4.34 / 4.75 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 42.5 / 0.0 | n/a | 43.0 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.85 / 0.00 | n/a | 6.11 / 0.00 |
| Sound Power Level | | dB(A) | 79 | n/a | 84 |
| Air Volume | | $m^3/h$ | 24851 | n/a | 40925 |
| Off mode $P_{OFF}$ | | kW | 0.035 | n/a | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.527 | n/a | 0.549 |
| Standby Mode $P_{SB}$ | | kW | 0.052 | n/a | 0.050 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.096 | n/a | 0.096 |
| Capacity Control | | | Staged | n/a | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
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(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL100DR-2AHJ | UCCL125SR-3AQ0 |
|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.1 | 6.1 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 110231.0 | 129505.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 90.6 | 106.7 |
| Rated Power Input $D_A$ | | kW | 33.1 | 41.4 |
| Rated $EER_{DC,A}$ | | | 2.74 | 2.58 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 100.6 / 75.2 | 118.3 / 82.0 |
| Declared Power Input $D_B$ | | kW | 25.7 / 18.7 | 32.2 / 20.0 |
| Declared $EER_{DC,B}$ | | | 3.91 / 4.03 | 3.68 / 4.09 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 81.0 / 56.2 | 128.8 / 88.4 |
| Declared Power Input $D_C$ | | kW | 14.4 / 9.9 | 24.3 / 15.5 |
| Declared $EER_{DC,C}$ | | | 5.64 / 5.66 | 5.29 / 5.71 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 86.6 / 59.7 | 94.5 / 49.0 |
| Declared Power Input $D_D$ | | kW | 10.6 / 7.6 | 11.7 / 5.8 |
| Declared $EER_{DC,D}$ | | | 8.19 / 7.87 | 8.08 / 8.44 |
| | | | | |
| SSCEE | 2,3,5 | % | 149.7% | 167.3% |
| SSCEE Tier | | | Tier 1 (2018) | Tier 2 (2021) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 90.9 | 106.9 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 90.6 | 106.7 |
| Declared $EER_d$ 35°C | | | 2.74 | 2.58 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 74.8 / 51.9 | 81.1 / 40.9 |
| Declared $EER_d$ 30°C | | | 3.52 / 3.69 | 3.58 / 3.90 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 56.9 / 24.2 | 89.2 / 45.1 |
| Declared $EER_d$ 25°C | | | 4.55 / 3.80 | 4.49 / 4.91 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 26.6 / 0.0 | 49.5 / 0.0 |
| Declared $EER_d$ 20°C | | | 4.75 / 0.00 | 6.29 / 0.00 |
| Sound Power Level | | dB(A) | 85 | 85 |
| Air Volume | | $m^3/h$ | 40925 | 61404 |
| Off mode $P_{OFF}$ | | kW | 0.035 | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.549 | 0.598 |
| Standby Mode $P_{SB}$ | | kW | 0.051 | 0.053 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.128 | 0.096 |
| Capacity Control | | | Staged | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL125DR-3AKK | UCCL150DR-3AMM |
|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.2 | 5.7 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 134673.0 | 184619.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 113.0 | 141.9 |
| Rated Power Input $D_A$ | | kW | 40.8 | 55.6 |
| Rated $EER_{DC,A}$ | | | 2.77 | 2.55 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 125.3 / 95.0 | 158.2 / 121.5 |
| Declared Power Input $D_B$ | | kW | 31.5 / 23.6 | 43.4 / 32.4 |
| Declared $EER_{DC,B}$ | | | 3.98 / 4.02 | 3.64 / 3.75 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 102.8 / 69.7 | 131.5 / 89.6 |
| Declared Power Input $D_C$ | | kW | 18.0 / 11.8 | 25.1 / 16.2 |
| Declared $EER_{DC,C}$ | | | 5.71 / 5.89 | 5.25 / 5.54 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 110.5 / 74.4 | 140.8 / 95.3 |
| Declared Power Input $D_D$ | | kW | 13.3 / 9.0 | 19.0 / 12.7 |
| Declared $EER_{DC,D}$ | | | 8.34 / 8.22 | 7.40 / 7.51 |

| | | | | |
|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 158.9% | 150.2% |
| SSCEE Tier | | | Tier 1 (2018) | Tier 1 (2018) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 113.2 | 142.3 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 113.0 | 141.9 |
| Declared $EER_d$ 35°C | | | 2.77 | 2.55 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 94.3 / 64.0 | 120.4 / 82.6 |
| Declared $EER_d$ 30°C | | | 3.52 / 3.84 | 3.29 / 3.68 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 70.3 / 32.8 | 90.6 / 42.2 |
| Declared $EER_d$ 25°C | | | 4.83 / 4.11 | 4.58 / 3.89 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 36.1 / 0.0 | 46.4 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.23 / 0.00 | 4.89 / 0.00 |
| Sound Power Level | | dB(A) | 86 | 86 |
| Air Volume | | $m^3/h$ | 61404 | 61404 |
| Off mode $P_{OFF}$ | | kW | 0.035 | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.598 | 0.716 |
| Standby Mode $P_{SB}$ | | kW | 0.054 | 0.054 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.128 | 0.128 |
| Capacity Control | | | Staged | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign - UCCL X Type

| | Notes: | Units | UCCL030SX-1AE0 | UCCL030SX-2AE0 | UCCL040SX-1AH0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.9 | 7.0 | 5.4 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 33375.0 | 29443.0 | 51676.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 26.6 | 27.9 | 37.4 |
| Rated Power Input $D_A$ | | kW | 10.1 | 9.2 | 16.6 |
| Rated $EER_{DC,A}$ | | | 2.63 | 3.03 | 2.25 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 29.9 | 31.1 | 41.8 / 22.4 |
| Declared Power Input $D_B$ | | kW | 7.7 | 6.9 | 12.8 / 6.0 |
| Declared $EER_{DC,B}$ | | | 3.90 | 4.51 | 3.26 / 3.76 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 33.2 | 34.2 | 45.7 / 24.2 |
| Declared Power Input $D_C$ | | kW | 5.7 | 5.0 | 9.7 / 4.7 |
| Declared $EER_{DC,C}$ | | | 5.83 | 6.83 | 4.72 / 5.11 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 36.3 | 37.4 | 49.4 / 26.0 |
| Declared Power Input $D_D$ | | kW | 4.0 | 3.4 | 7.0 / 3.6 |
| Declared $EER_{DC,D}$ | | | 8.97 | 10.93 | 7.04 / 7.18 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 134.0% | 155.8% | 132.6% |
| SSCEE Tier | | | NOT Compliant | Tier 1 (2018) | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | 27.9 | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | 27.9 | n/a |
| Declared $EER_d$ 35°C | | | n/a | 3.03 | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | 31.1 | n/a |
| Declared $EER_d$ 30°C | | | n/a | 3.92 | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | 34.5 | n/a |
| Declared $EER_d$ 25°C | | | n/a | 5.09 | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | 37.9 | n/a |
| Declared $EER_d$ 20°C | | | n/a | 6.65 | n/a |
| Sound Power Level | | dB(A) | n/a | 73 | n/a |
| Air Volume | | $m^3/h$ | n/a | 24513 | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | 0.035 | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | 0.211 | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | 0.047 | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | 0.032 | n/a |
| Capacity Control | | | n/a | Fixed | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL040SX-2AH0 | UCCL040DX-1ACC | UCCL040DX-2ACC |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.2 | 5.1 | 6.4 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 48240.0 | 56516.0 | 48850.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 40.3 | 38.7 | 42.0 |
| Rated Power Input $D_A$ | | kW | 14.7 | 16.6 | 14.5 |
| Rated $EER_{DC,A}$ | | | 2.75 | 2.33 | 2.90 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 44.2 / 23.0 | 43.4 / 20.9 | 46.1 / 22.1 |
| Declared Power Input $D_B$ | | kW | 11.2 / 5.6 | 12.8 / 6.8 | 11.0 / 6.0 |
| Declared $EER_{DC,B}$ | | | 3.94 / 4.11 | 3.40 / 3.06 | 4.19 / 3.68 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 47.9 / 24.7 | 47.5 / 23.2 | 49.9 / 24.2 |
| Declared Power Input $D_C$ | | kW | 8.4 / 4.4 | 9.6 / 5.2 | 8.1 / 4.5 |
| Declared $EER_{DC,C}$ | | | 5.73 / 5.62 | 4.95 / 4.44 | 6.14 / 5.38 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 51.6 / 26.6 | 51.4 / 25.4 | 53.7 / 26.4 |
| Declared Power Input $D_D$ | | kW | 5.8 / 3.3 | 6.9 / 3.8 | 5.5 / 3.1 |
| Declared $EER_{DC,D}$ | | | 8.93 / 8.10 | 7.45 / 6.60 | 9.78 / 8.40 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 148.8% | 109.4% | 134.6% |
| SSCEE Tier | | | NOT Compliant | NOT Compliant | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | n/a | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 35°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 30°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 25°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 20°C | | | n/a | n/a | n/a |
| Sound Power Level | | dB(A) | n/a | n/a | n/a |
| Air Volume | | $m^3/h$ | n/a | n/a | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | n/a | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | n/a | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | n/a | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | n/a | n/a |
| Capacity Control | | | n/a | n/a | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL050SX-2AJ0 | UCCL050DX-2ADD | UCCL060SX-2AK0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.3 | 6.1 | 6.1 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 57285.0 | 59987.0 | 65236.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 48.4 | 49.3 | 53.8 |
| Rated Power Input $D_A$ | | kW | 17.3 | 17.2 | 20.4 |
| Rated $EER_{DC,A}$ | | | 2.79 | 2.87 | 2.64 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 53.6 / 27.9 | 54.5 / 26.1 | 59.7 / 31.3 |
| Declared Power Input $D_B$ | | kW | 13.4 / 6.6 | 13.3 / 7.2 | 15.7 / 7.5 |
| Declared $EER_{DC,B}$ | | | 3.99 / 4.25 | 4.11 / 3.61 | 3.81 / 4.17 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 58.2 / 30.1 | 59.1 / 28.7 | 65.3 / 33.8 |
| Declared Power Input $D_C$ | | kW | 10.1 / 5.2 | 10.0 / 5.5 | 11.7 / 5.9 |
| Declared $EER_{DC,C}$ | | | 5.75 / 5.79 | 5.93 / 5.22 | 5.56 / 5.72 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 62.7 / 32.4 | 63.7 / 31.3 | 70.5 / 36.5 |
| Declared Power Input $D_D$ | | kW | 7.2 / 3.9 | 7.0 / 4.0 | 8.4 / 4.5 |
| Declared $EER_{DC,D}$ | | | 8.70 / 8.23 | 9.04 / 7.85 | 8.35 / 8.09 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 152.8% | 131.5% | 154.7% |
| SSCEE Tier | | | Tier 1 (2018) | NOT Compliant | Tier 1 (2018) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 48.6 | n/a | 54.0 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 48.4 | n/a | 53.8 |
| Declared $EER_d$ 35°C | | | 2.79 | n/a | 2.64 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 53.8 / 27.4 | n/a | 59.8 / 30.7 |
| Declared $EER_d$ 30°C | | | 3.45 / 3.69 | n/a | 3.32 / 3.68 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 30.2 / 0.0 | n/a | 33.8 / 0.0 |
| Declared $EER_d$ 25°C | | | 4.56 / 0.00 | n/a | 4.66 / 0.00 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 33.2 / 0.0 | n/a | 37.2 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.76 / 0.00 | n/a | 6.01 / 0.00 |
| Sound Power Level | | dB(A) | 78 | n/a | 77 |
| Air Volume | | m³/h | 24513 | n/a | 24513 |
| Off mode $P_{OFF}$ | | kW | 0.035 | n/a | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.356 | n/a | 0.392 |
| Standby Mode $P_{SB}$ | | kW | 0.048 | n/a | 0.048 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.064 | n/a | 0.064 |
| Capacity Control | | | Staged | n/a | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL060DX-2AEE | UCCL070SX-2AL0 | UCCL070DX-2AFF |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.9 | 6.0 | 5.7 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 68945.0 | 75501.0 | 80750.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 54.7 | 60.8 | 61.6 |
| Rated Power Input $D_A$ | | kW | 20.1 | 23.2 | 22.8 |
| Rated $EER_{DC,A}$ | | | 2.72 | 2.62 | 2.70 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 60.7 / 29.1 | 67.6 / 35.7 | 68.4 / 32.9 |
| Declared Power Input $D_B$ | | kW | 15.4 / 8.3 | 18.2 / 8.6 | 17.8 / 9.6 |
| Declared $EER_{DC,B}$ | | | 3.94 / 3.48 | 3.72 / 4.13 | 3.84 / 3.41 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 66.3 / 32.1 | 73.9 / 38.6 | 74.8 / 36.3 |
| Declared Power Input $D_C$ | | kW | 11.5 / 6.3 | 13.9 / 6.9 | 13.6 / 7.4 |
| Declared $EER_{DC,C}$ | | | 5.76 / 5.08 | 5.33 / 5.60 | 5.52 / 4.88 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 71.6 / 35.1 | 80.2 / 41.7 | 81.2 / 39.9 |
| Declared Power Input $D_D$ | | kW | 8.3 / 4.6 | 10.1 / 5.2 | 9.8 / 5.5 |
| Declared $EER_{DC,D}$ | | | 8.68 / 7.60 | 7.98 / 7.96 | 8.32 / 7.28 |
| SSCEE | 2,3,5 | % | 131.5% | 153.0% | 128.6% |
| SSCEE Tier | | | NOT Compliant | Tier 1 (2018) | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | 61.0 | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | 60.8 | n/a |
| Declared $EER_d$ 35°C | | | n/a | 2.62 | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | 67.5 / 35.0 | n/a |
| Declared $EER_d$ 30°C | | | n/a | 3.25 / 3.67 | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | 38.6 / 0.0 | n/a |
| Declared $EER_d$ 25°C | | | n/a | 4.59 / 0.00 | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | 42.5 / 0.0 | n/a |
| Declared $EER_d$ 20°C | | | n/a | 5.88 / 0.00 | n/a |
| Sound Power Level | | dB(A) | n/a | 78 | n/a |
| Air Volume | | $m^3/h$ | n/a | 24513 | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | 0.035 | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | 0.429 | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | 0.048 | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | 0.064 | n/a |
| Capacity Control | | | n/a | Staged | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign - UCCL X Type

| | Notes: | Units | UCCL075SX-2AM0 | UCCL075SX-2AP0 | UCCL075DX-2AGG |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.6 | 5.2 | 5.3 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 89108.0 | 118304.0 | 96308.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 67.7 | 83.6 | 68.9 |
| Rated Power Input $D_A$ | | kW | 28.0 | 39.1 | 27.5 |
| Rated $EER_{DC,A}$ | | | 2.42 | 2.14 | 2.51 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 75.5 / 40.3 | 93.6 / 67.2 | 76.8 / 37.1 |
| Declared Power Input $D_B$ | | kW | 21.8 / 10.1 | 31.2 / 19.0 | 21.2 / 11.4 |
| Declared $EER_{DC,B}$ | | | 3.47 / 4.00 | 3.00 / 3.53 | 3.62 / 3.25 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 82.6 / 43.6 | 72.9 / 38.6 | 84.0 / 40.9 |
| Declared Power Input $D_C$ | | kW | 16.5 / 8.1 | 15.1 / 7.2 | 16.0 / 8.8 |
| Declared $EER_{DC,C}$ | | | 5.01 / 5.41 | 4.84 / 5.37 | 5.23 / 4.66 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 89.2 / 46.7 | 78.7 / 41.7 | 90.6 / 44.5 |
| Declared Power Input $D_D$ | | kW | 12.2 / 6.3 | 11.5 / 5.5 | 11.9 / 6.6 |
| Declared $EER_{DC,D}$ | | | 7.29 / 7.41 | 6.81 / 7.53 | 7.62 / 6.73 |
| SSCEE | 2,3,5 | % | 146.9% | 146.8% | 121.9% |
| SSCEE Tier | | | NOT Compliant | NOT Compliant | NOT Compliant |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | n/a | n/a | n/a |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 35°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 30°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 25°C | | | n/a | n/a | n/a |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | n/a | n/a | n/a |
| Declared $EER_d$ 20°C | | | n/a | n/a | n/a |
| Sound Power Level | | dB(A) | n/a | n/a | n/a |
| Air Volume | | $m^3/h$ | n/a | n/a | n/a |
| Off mode $P_{OFF}$ | | kW | n/a | n/a | n/a |
| Thermostat-off mode $P_{TO}$ | | kW | n/a | n/a | n/a |
| Standby Mode $P_{SB}$ | | kW | n/a | n/a | n/a |
| Crankcase heater mode $P_{CK}$ | | kW | n/a | n/a | n/a |
| Capacity Control | | | n/a | n/a | n/a |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL085SX-2AP0 | UCCL085DX-2AHH | UCCL100SX-3AP0 |
|---|---|---|---|---|---|
| SEPR | 1,3,5 | | 5.8 | 6.0 | 6.4 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 111458.0 | 99237.0 | 107817.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 87.3 | 80.7 | 92.7 |
| Rated Power Input $D_A$ | | kW | 36.8 | 30.6 | 34.5 |
| Rated $EER_{DC,A}$ | | | 2.37 | 2.64 | 2.69 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 97.5 / 69.2 | 89.6 / 68.7 | 102.9 / 71.5 |
| Declared Power Input $D_B$ | | kW | 29.0 / 17.9 | 23.5 / 17.6 | 26.9 / 17.1 |
| Declared $EER_{DC,B}$ | | | 3.36 / 3.87 | 3.81 / 3.91 | 3.82 / 4.19 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 106.9 / 75.1 | 74.3 / 50.7 | 112.6 / 77.4 |
| Declared Power Input $D_C$ | | kW | 22.4 / 14.0 | 13.4 / 8.9 | 20.5 / 13.2 |
| Declared $EER_{DC,C}$ | | | 4.78 / 5.36 | 5.53 / 5.67 | 5.49 / 5.85 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 80.9 / 42.4 | 79.7 / 53.8 | 83.4 / 43.2 |
| Declared Power Input $D_D$ | | kW | 10.5 / 5.1 | 9.8 / 6.7 | 9.7 / 4.8 |
| Declared $EER_{DC,D}$ | | | 7.70 / 8.32 | 8.14 / 7.98 | 8.63 / 9.00 |

| | | | | | |
|---|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 159.4% | 147.7% | 169.8% |
| SSCEE Tier | | | Tier 1 (2018) | NOT Compliant | Tier 2 (2021) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 87.5 | n/a | 93.0 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 87.3 | n/a | 92.7 |
| Declared $EER_d$ 35°C | | | 2.37 | n/a | 2.69 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 68.5 / 35.2 | n/a | 70.9 / 35.7 |
| Declared $EER_d$ 30°C | | | 3.41 / 3.74 | n/a | 3.69 / 3.92 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 75.4 / 38.8 | n/a | 78.0 / 39.4 |
| Declared $EER_d$ 25°C | | | 4.24 / 4.70 | n/a | 4.62 / 4.94 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 42.7 / 0.0 | n/a | 43.4 / 0.0 |
| Declared $EER_d$ 20°C | | | 6.04 / 0.00 | n/a | 6.41 / 0.00 |
| Sound Power Level | | dB(A) | 78 | n/a | 79 |
| Air Volume | | m³/h | 26745 | n/a | 40094 |
| Off mode $P_{OFF}$ | | kW | 0.035 | n/a | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.440 | n/a | 0.556 |
| Standby Mode $P_{SB}$ | | kW | 0.050 | n/a | 0.053 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.096 | n/a | 0.096 |
| Capacity Control | | | Staged | n/a | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
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(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign - UCCL X Type

| | Notes: | Units | UCCL100DX-3AHJ | UCCL125SX-4AQ0 |
|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.6 | 6.5 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 103801.0 | 123983.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 92.3 | 108.0 |
| Rated Power Input $D_A$ | | kW | 31.5 | 39.6 |
| Rated $EER_{DC,A}$ | | | 2.93 | 2.73 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 102.1 / 76.0 | 119.8 / 82.9 |
| Declared Power Input $D_B$ | | kW | 24.2 / 17.7 | 30.5 / 19.2 |
| Declared $EER_{DC,B}$ | | | 4.21 / 4.29 | 3.93 / 4.31 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 82.0 / 56.7 | 130.3 / 89.2 |
| Declared Power Input $D_C$ | | kW | 13.5 / 9.5 | 23.0 / 14.8 |
| Declared $EER_{DC,C}$ | | | 6.07 / 5.99 | 5.67 / 6.04 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 87.8 / 60.3 | 95.2 / 49.3 |
| Declared Power Input $D_D$ | | kW | 9.7 / 7.1 | 11.1 / 5.6 |
| Declared $EER_{DC,D}$ | | | 9.08 / 8.49 | 8.54 / 8.82 |
| | | | | |
| SSCEE | 2,3,5 | % | 158.4% | 174.5% |
| SSCEE Tier | | | Tier 1 (2018) | Tier 2 (2021) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 92.5 | 108.3 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 92.3 | 108.0 |
| Declared $EER_d$ 35°C | | | 2.93 | 2.73 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 75.8 / 52.4 | 82.1 / 41.2 |
| Declared $EER_d$ 30°C | | | 3.75 / 3.88 | 3.78 / 4.03 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 57.5 / 24.5 | 90.1 / 45.4 |
| Declared $EER_d$ 25°C | | | 4.80 / 4.00 | 4.75 / 5.09 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 26.9 / 0.0 | 49.9 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.03 / 0.00 | 6.52 / 0.00 |
| Sound Power Level | | dB(A) | 80 | 80 |
| Air Volume | | $m^3/h$ | 40094 | 53486 |
| Off mode $P_{OFF}$ | | kW | 0.035 | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.556 | 0.605 |
| Standby Mode $P_{SB}$ | | kW | 0.054 | 0.056 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.128 | 0.096 |
| Capacity Control | | | Staged | Staged |

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(2) Nominal conditions as stated in EU 2016/2281 Table 21.
(3) Performance data (Nett) is supplied in accordance with EN14511-1:2018.
(4) Performance data (Gross) is supplied excluding absorbed pump power as per EN14511-1:2018.
(5) All performance data based upon standard waterside configuration.
(6) Please contact Airedale regarding Non Compliant selections.

## Technical Data

### Ecodesign

| | Notes: | Units | UCCL125DX-4AKK | UCCL150DX-4AMM |
|---|---|---|---|---|
| SEPR | 1,3,5 | | 6.6 | 6.1 |
| SEPR Tier | | | Tier 2 (2021) | Tier 2 (2021) |
| Annual Electricity Consumption | | kWh/a | 127864.0 | 175374.0 |
| Rated Refrigerant Capacity $P_A$ | 1,3,5 | kW | 114.4 | 144.2 |
| Rated Power Input $D_A$ | | kW | 38.9 | 53.0 |
| Rated $EER_{DC,A}$ | | | 2.94 | 2.72 |
| Declared Refrigerant Capacity $P_B$ | 1,3,5 | kW | 126.6 / 96.1 | 160.3 / 122.9 |
| Declared Power Input $D_B$ | | kW | 29.7 / 22.4 | 41.0 / 30.5 |
| Declared $EER_{DC,B}$ | | | 4.26 / 4.28 | 3.91 / 4.02 |
| Declared Refrigerant Capacity $P_C$ | 1,3,5 | kW | 104.0 / 70.3 | 133.2 / 90.5 |
| Declared Power Input $D_C$ | | kW | 17.0 / 11.4 | 23.5 / 15.5 |
| Declared $EER_{DC,C}$ | | | 6.12 / 6.18 | 5.66 / 5.85 |
| Declared Refrigerant Capacity $P_D$ | 1,3,5 | kW | 111.7 / 74.9 | 142.5 / 96.1 |
| Declared Power Input $D_D$ | | kW | 12.4 / 8.6 | 17.8 / 12.1 |
| Declared $EER_{DC,D}$ | | | 8.98 / 8.67 | 8.00 / 7.92 |

| | | | | |
|---|---|---|---|---|
| SSCEE | 2,3,5 | % | 167.5% | 159.3% |
| SSCEE Tier | | | Tier 2 (2021) | Tier 1 (2018) |
| Rated Cooling Capacity $P_{rated,c}$ | 2,4,5 | kW | 114.6 | 144.6 |
| Declared Cooling Capacity 35°C Pdc | 2,3,5 | kW | 114.4 | 144.2 |
| Declared $EER_d$ 35°C | | | 2.94 | 2.72 |
| Declared Cooling Capacity 30°C Pdc | 2,3,5 | kW | 95.7 / 64.7 | 121.9 / 83.6 |
| Declared $EER_d$ 30°C | | | 3.76 / 4.02 | 3.52 / 3.88 |
| Declared Cooling Capacity 25°C Pdc | 2,3,5 | kW | 71.0 / 33.2 | 91.6 / 42.8 |
| Declared $EER_d$ 25°C | | | 5.08 / 4.32 | 4.85 / 4.12 |
| Declared Cooling Capacity 20°C Pdc | 2,3,5 | kW | 36.5 / 0.0 | 47.0 / 0.0 |
| Declared $EER_d$ 20°C | | | 5.52 / 0.00 | 5.19 / 0.00 |
| Sound Power Level | | dB(A) | 80 | 81 |
| Air Volume | | $m^3/h$ | 53486 | 53486 |
| Off mode $P_{OFF}$ | | kW | 0.035 | 0.035 |
| Thermostat-off mode $P_{TO}$ | | kW | 0.605 | 0.720 |
| Standby Mode $P_{SB}$ | | kW | 0.057 | 0.057 |
| Crankcase heater mode $P_{CK}$ | | kW | 0.128 | 0.128 |
| Capacity Control | | | Staged | Staged |

(1) Nominal conditions as stated in EU 2016/2281 Table 22.
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## After Sales

### Warranty

All Airedale products or parts (non consumable) supplied for installation within the UK mainland and commissioned by an Airedale engineer, carry a full Parts & Labour warranty for a period of 12 months from the date of commissioning or 18 months from the date of despatch, whichever is the sooner.
Parts or equipment supplied by Airedale for installation within the UK or for Export that are properly commissioned in accordance with Airedale standards and specification, not commissioned by an Airedale engineer; carry a 12 month warranty on non consumable parts only from the date of commissioning or 18 months from the date of despatch, whichever is the sooner.
Parts or equipment installed or commissioned to a standard or specification not acceptable to Airedale invalidate all warranty.

### Warranty is only valid in the event that

In the period between delivery and commissioning the equipment:

- is properly protected & serviced as per the Airedale installation & maintenance manual provided
- where applicable the glycol content is maintained to the correct level.

In the event of a problem being reported and once warranty is confirmed* as valid under the given installation and operating conditions, the Company will provide the appropriate warranty coverage (as detailed above) attributable to the rectification of any affected Airedale equipment supplied (excluding costs for any specialist access or lifting equipment that must be ordered by the customer).

*Once warranty is confirmed, maintenance must be continued to validate the warranty period.
Any spare part supplied by Airedale under warranty shall be warranted for the unexpired period of the warranty or 3 months from delivery, whichever period is the longer. To be read in conjunction with the Airedale Conditions of Sale - Warranty and Warranty Procedure, available upon request.

### Procedure

When a component part fails, a replacement part should be obtained through our Spares department. If the part is considered to be under warranty, the following details are required to process this requirement. Full description of part required, including Airedale's part number, if known. The original equipment serial number. An appropriate purchase order number.
A spares order will be raised under our warranty system and the replacement part will be despatched, usually within 24 hours should they be in stock. When replaced, the faulty part must be returned to Airedale with a suitably completed and securely attached "Faulty Component Return" (FCR) tag. FCR tags are available from Airedale and supplied with each Warranty order.
On receipt of the faulty part, suitably tagged, Airedale will pass to its Warranty department, where it will be fully inspected and tested in order to identify the reason for failure, identifying at the same time whether warranty is justified or not.
On completion of the investigation of the returned part, a full "Report on Goods Returned" will be issued. On occasion the release of this complete report may be delayed as component manufacturers become involved in the investigation. When warranty is allowed, a credit against the Warranty invoice will be raised. Should warranty be refused the Warranty invoice becomes payable on normal terms.

### Exclusions

Warranty may be refused for the following reasons:

- Misapplication of product or component.
- Incorrect site installation.
- Incomplete commissioning documentation.
- Inadequate site installation.
- Inadequate site maintenance.
- Damage caused by mishandling.
- Replaced part being returned damaged without explanation.
- Unnecessary delays incurred in return of defective component.

### Returns analysis

All faulty components returned under warranty are analysed on a monthly basis as a means of verifying component and product reliability as well as supplier performance. It is important that all component failures are reported correctly.

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