

# BluCube™

## Cooling Only and Heat Pump Condensing Unit



## Technical Manual



FM00542

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: [enquiries@airedale.com](mailto:enquiries@airedale.com) or telephone:

|                         |                       |                                                                          |
|-------------------------|-----------------------|--------------------------------------------------------------------------|
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| Spares Hot Line         | + 44 (0) 113 238 7878 | <a href="mailto:spares@airedale.com">spares@airedale.com</a>             |
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## 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. Also ensure that there are no other power feeds to the unit such as fire alarm circuits, BMS circuits etc.

Electrical 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 Airedale unit uses R410A refrigerant which requires careful attention to proper storage and handling procedures. Use only manifold gauge sets designed for use with R410A refrigerant. Use only refrigerant recovery units and cylinders designed for high pressure refrigerants.

R410A must only be charged in the liquid state to ensure correct blend makeup.

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 120°C\*\*

Maximum Allowable Pressure (PS) = High Side 40.7 Barg Low Side N/A 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.

### 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 R410A refrigerant has a GWP of 2088 (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 compliancy metrics. Products sold outside of the EU are exempt from this directive.

## 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.

## Contents

|                                                      |           |
|------------------------------------------------------|-----------|
| <b>Specifier's Guide</b>                             | <b>6</b>  |
| Nomenclature                                         | 6         |
| Introduction                                         | 6         |
| Construction                                         | 6         |
| Capacity Range Cooling Only Unit                     | 7         |
| Capacity Range Heat Pump Unit                        | 7         |
| Standard Features                                    | 8         |
| Optional Features                                    | 11        |
| <b>Installation Data</b>                             | <b>16</b> |
| Lifting                                              | 16        |
| Positioning                                          | 17        |
| Dimensional Data                                     | 18        |
| Incoming Services                                    | 22        |
| Refrigeration Pipework Installation - Good Practices | 25        |
| Oil Charging Guide                                   | 26        |
| Refrigerant Charges                                  | 27        |
| Interconnecting Pipework                             | 28        |
| Cooling Only                                         | 28        |
| Pipework Schematics                                  | 32        |
| <b>Technical Data Cooling Only</b>                   | <b>37</b> |
| Operational Limits                                   | 37        |
| Cooling Only Fixed Capacities                        | 38        |
| Cooling Only Modulating Capacities                   | 39        |
| Mechanical Data Cooling Only Fixed Capacities        | 40        |
| CUR092V16-1CO-0 - CUR092V20-1CO-0 - CUR092V25-1CO-0  | 40        |
| CUR092V29-1CO-0 - CUR122V35-1CO-0 - CUR122V40-1CO-0  | 42        |
| Mechanical Data Cooling Only Variable Capacities     | 44        |
| CUR092V16-VCO-0 - CUR092V20-VCO-0 - CUR092V25-VCO-0  | 44        |
| CUR092V29-VCO-0 - CUR122V35-VCO-0 - CUR122V40-VCO-0  | 46        |
| Interconnecting Wiring                               | 48        |
| Noise Data Cooling Only                              | 50        |
| <b>Technical Data Heat Pump</b>                      | <b>52</b> |
| Operational Limits                                   | 52        |
| Heat Pump Cooling Fixed Capacities                   | 54        |
| Heat Pump Cooling Modulating Capacities              | 55        |
| Heat Pump Heating Fixed Capacities                   | 56        |
| Heat Pump Heating Modulating Capacities              | 57        |
| Mechanical Data - Heat Pump Fixed Capacities         | 58        |
| CUR092V16-1HP-0 - CUR092V20-1HP-0 - CUR092V25-1HP-0  | 58        |
| CUR092V29-1HP-0 - CUR122V35-1HP-0 - CUR122V40-1HP-0  | 60        |
| Mechanical Data - Heat Pump Modulating Capacities    | 62        |
| CUR092V16-VHP-0 - CUR092V20-VHP-0 - CUR092V25-VHP-0  | 62        |
| CUR092V29-VHP-0 - CUR122V35-VHP-0 - CUR122V40-VHP-0  | 64        |
| Interconnecting Wiring - Heat Pump                   | 66        |
| Noise Data Heat Pump                                 | 68        |

## Specifier's Guide

### Nomenclature

Example: CUR 092 V 25 - V CO - 0

R410A Condensing Units

#### Case size

092 - 920mm Case

122 - 1220mm Case

#### Airflow Configuration

V - Vertical Airflow

#### Nominal Capacity (kW)

@ 7°C evaporating & 35°C ambient

#### Compressor Type

1 - Fixed Capacity Compressor

V - Variable Capacity Compressor

#### Mode of Operation

CO - Cooling Only

HP - Heat Pump

#### Power Supply

0 - 400V / 3~ /50Hz

### Introduction

The BluCube is Airedale's high efficiency R410A condensing unit with heat pump variant that can be universally matched with a variety of industry standard air handling units. Its latest technology features include EC fans, variable capacity control and modulating head pressure control. Benefiting from an extremely compact and modular design, the BluCube will fit into a standard lift. The BluCube's small footprint ensures minimal space claim on rooftops or in plant rooms.

Capacity range from

#### Cooling Only Unit

14 to 43kW (EER 2.9 to 3.4)

#### Heat Pump units

Cooling Mode 14 to 44kW (EER 2.6 to 3.4)

Heating Mode 14 to 40kW (EER 2.5 to 2.7)

### Construction

The case shall be manufactured with galvanised sheet steel to provide a smooth aesthetically pleasing finish. The galvanised sheet steel panels shall be coated with an epoxy baked powder paint to provide a durable finish. Standard unit colour shall be Light Grey to RAL 7035.

## Capacity Range Cooling Only Unit

| Model No.       | Nominal Cooling Capacity (kW) | Nominal Unit Input Power (kW) | EER  | Dimensions (H x W x L) mm |
|-----------------|-------------------------------|-------------------------------|------|---------------------------|
| CUR092V16-1CO-0 | 13.8                          | 4.1                           | 3.37 | 1750 x 764 x 922          |
| CUR092V20-1CO-0 | 20.3                          | 6.2                           | 3.26 | 1750 x 764 x 922          |
| CUR092V25-1CO-0 | 26.0                          | 8.4                           | 3.10 | 1750 x 764 x 922          |
| CUR092V29-1CO-0 | 28.6                          | 9.5                           | 3.01 | 1750 x 764 x 922          |
| CUR122V35-1CO-0 | 38.8                          | 12.5                          | 3.10 | 1840 x 861 x 1222         |
| CUR122V40-1CO-0 | 43.4                          | 14.5                          | 3.00 | 1840 x 861 x 1222         |

|                 |      |      |      |                   |
|-----------------|------|------|------|-------------------|
| CUR092V16-VCO-0 | 15.6 | 4.5  | 3.48 | 1750 x 764 x 922  |
| CUR092V20-VCO-0 | 20.3 | 6.2  | 3.27 | 1750 x 764 x 922  |
| CUR092V25-VCO-0 | 24.8 | 7.6  | 3.26 | 1750 x 764 x 922  |
| CUR092V29-VCO-0 | 28.4 | 9.2  | 3.08 | 1750 x 764 x 922  |
| CUR122V35-VCO-0 | 37.1 | 12.0 | 3.09 | 1840 x 861 x 1222 |
| CUR122V40-VCO-0 | 42.6 | 14.3 | 2.98 | 1840 x 861 x 1222 |

## Capacity Range Heat Pump Unit

| Model No.       | Nominal Cooling Capacity (kW) | Nominal Unit Input Power (kW) | EER  | Nominal Heating Capacity (kW) | Nominal Unit Input Power (kW) | EER  | Dimensions (H x W x L) mm |
|-----------------|-------------------------------|-------------------------------|------|-------------------------------|-------------------------------|------|---------------------------|
| CUR092V16-1HP-0 | 14.6                          | 4.4                           | 3.32 | 13.7                          | 5.1                           | 2.69 | 1750 x 764 x 922          |
| CUR092V20-1HP-0 | 21.1                          | 6.7                           | 3.15 | 19.4                          | 7.2                           | 2.69 | 1750 x 764 x 922          |
| CUR092V25-1HP-0 | 26.5                          | 9.3                           | 2.85 | 24.2                          | 9.1                           | 2.66 | 1750 x 764 x 922          |
| CUR092V29-1HP-0 | 28.7                          | 10.6                          | 2.71 | 26.4                          | 10.2                          | 2.59 | 1750 x 764 x 922          |
| CUR122V35-1HP-0 | 39.7                          | 13.7                          | 2.90 | 35.5                          | 14.3                          | 2.48 | 1840 x 861 x 1222         |
| CUR122V40-1HP-0 | 44.1                          | 15.9                          | 2.77 | 39.2                          | 15.6                          | 2.51 | 1840 x 861 x 1222         |

|                 |      |      |      |      |      |      |                   |
|-----------------|------|------|------|------|------|------|-------------------|
| CUR092V16-VHP-0 | 16.4 | 4.9  | 3.35 | 15.0 | 5.5  | 2.73 | 1750 x 764 x 922  |
| CUR092V20-VHP-0 | 21.0 | 6.8  | 3.09 | 19.4 | 7.2  | 2.69 | 1750 x 764 x 922  |
| CUR092V25-VHP-0 | 25.3 | 8.4  | 3.01 | 23.2 | 8.8  | 2.64 | 1750 x 764 x 922  |
| CUR092V29-VHP-0 | 28.4 | 10.4 | 2.73 | 26.5 | 10.3 | 2.57 | 1750 x 764 x 922  |
| CUR122V35-VHP-0 | 38.1 | 13.1 | 2.91 | 34.4 | 13.6 | 2.53 | 1840 x 861 x 1222 |
| CUR122V40-VHP-0 | 43.5 | 15.7 | 2.77 | 40.0 | 15.7 | 2.55 | 1840 x 861 x 1222 |

In cooling, 7°C evaporating, 35°C ambient (standard AC axial fan at maximum speed)  
 In heating, 50°C condensing, 5°C ambient (standard AC axial fan at maximum speed)  
 Input power includes compressor and fan

## Standard Features

|                                                       | CUR092_--1CO-0 | CUR092_--VCO-0 | CUR122_--1CO-0 | CUR122_--VCO-0 | CUR092_--1HP-0 | CUR092_--VHP-0 | CUR122_--1HP-0 | CUR122_--VHP-0 |
|-------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Hydrophilic Epoxy Coated Coil                         | •              | •              | •              | •              | •              | •              | •              | •              |
| Fixed Capacity Compressor                             | •              |                | •              |                | •              |                | •              |                |
| Variable Capacity Compressor                          |                | •              |                | •              |                | •              |                | •              |
| AC 1~ Axial Fan                                       | •              | •              |                |                | •              | •              |                |                |
| AC 3~ Axial Fan (Model dependant)                     |                |                | •              | •              |                |                | •              | •              |
| pCO5+ Microprocessor                                  | •              | •              | •              | •              | •              | •              | •              | •              |
| (with built-in display)                               |                |                |                |                |                |                |                |                |
| Electronic Expansion Valves / Expansion Valve Drivers |                |                |                |                |                | •              |                | •              |
| Thermostatic Expansion Valves                         |                |                |                |                | •              |                | •              |                |
| Variable Head Pressure Control                        | •              | •              | •              | •              | •              | •              | •              | •              |
| Suction Accumulator                                   |                |                |                |                | •              | •              | •              | •              |
| 4-Way Reversing Valve                                 |                |                |                |                | •              | •              | •              | •              |
| Filter Drier (supplied loose)                         | •              | •              | •              | •              |                |                |                |                |
| Filter Drier                                          |                |                |                |                | •              | •              | •              | •              |
| Liquid Receiver                                       |                |                |                |                | •              | •              | •              | •              |
| Non-Return Valve (Expansion by-pass)                  |                |                |                |                | •              | •              | •              | •              |
| Compressor Crankcase Heater                           | •              | •              | •              | •              | •              | •              | •              | •              |
| High Pressure Switch                                  | •              | •              | •              | •              | •              | •              | •              | •              |
| Low Pressure Switch                                   | •              | •              | •              | •              | •              | •              | •              | •              |
| Discharge Gas Temperature Monitoring                  | •              | •              | •              | •              | •              | •              | •              | •              |
| Panel Heater                                          | •              | •              | •              | •              | •              | •              | •              | •              |
| Mains Isolator                                        | •              | •              | •              | •              | •              | •              | •              | •              |

• Standard features available



## Hydrophilic Epoxy Coated Coil

Fins shall be coated with a non-stick acrylic (hydrophilic) film to provide additional corrosion protection and efficient surface water removal for improved performance. Plain aluminium shall not be acceptable.

## Fixed Capacity Compressor

Can operate up to pressures of 40Bar. The compressor is fitted with a crankcase heater which ensures reliable operation particularly during low ambient start-up. The compressor is also fitted with a high and low pressure switch which ensures that the compressor only operates within the acceptable envelope reducing the chance of a compressor failure.

## Variable Capacity Digital Scroll Compressor

Digital scroll compressor technology offers compressor capacity modulation from 16% to 100%. Achieved by the use of an externally, integrated, long life electronically controlled solenoid valve which loads and unloads the compressor scroll based on a 12 second cycle. The solenoid valve uses suction and discharge pressures through a modulation chamber to cause a spring loaded piston attached to the top scroll to fall down at high pressure and move up at low. The moving of the piston separates the scrolls and results in no compression of refrigerant. As the digital compressor is always operating at either 100% or 0% the mass flow of refrigerant through the system is always high, simplifying component selection and pipe work design to guarantee oil return.

## Energy Efficiency

The digitally modulated solenoid achieves capacity modulation of 16% to 100% by varying the loaded or unloaded compressor cycle time and averaging the sum of the loaded and unloaded state. The digital scroll compressor operates in an unloaded state for a proportion of the 12 second cycle time; as a result, the load on the compressor is greatly reduced as refrigerant is not drawn. Consequently the energy consumed at partial load condition is only a percentage of that consumed during full load condition, ie:

$$\frac{(\text{Loaded Time} \times 100\%) + (\text{Unloaded Time} \times 16\%)}{(\text{Loaded Time} + \text{Unloaded Time})} = \text{Averaged Power}$$

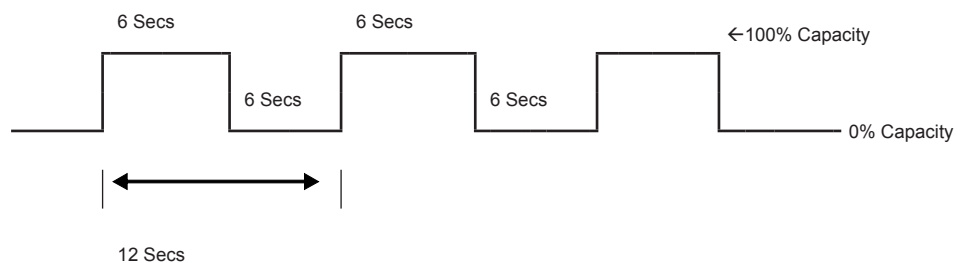
## Operation

The following examples illustrate the flexibility of the digital compressor loading stages within the 12 second cycle time:

### Example A

Where: Solenoid Energised = 6 seconds Loaded Time  
Solenoid De-energised = 6 seconds Unloaded Time

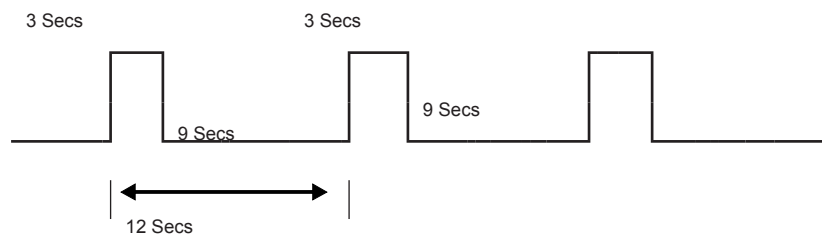
$$\frac{(6 \times 100\%) + (6 \times 16\%)}{12} = 58\%$$



### Example B

Where: Solenoid Energised = 3 seconds Loaded Time  
Solenoid De-energised = 9 seconds Unloaded Time

$$\frac{(3 \times 100\%) + (9 \times 16\%)}{12} = 37\%$$



## Control & Monitoring

The system's superheat is controlled by a dedicated microprocessor and digital compressor performance is monitored via the AireTronix controller display.

### CAUTION ⚠

The digital scroll compressor is always operating at either 100% or 0% mass flow. When inspecting the refrigerant system with gauges, this is evident by pulsing of the system pressures. Therefore, all pressure measurements must be taken when the digital scroll compressor is compressing refrigerant (solenoid de-energised).

## Condenser Fan (AC)

Axial fan assemblies with finger proof grille and incorporating external rotor motor technology, to provide highly accurate discreet speed control, discharge air vertically. The fans offer maximum performance while keeping sound levels to a minimum.

### pCO5+ Microprocessor (without built-in display)

32 bit 44MHz controller with built-in PGD1 (132 x 64 pixels) with backlit keypad.

### Electronic Expansion Valves (EEV)

#### (Heat Pump Variable Capacity)

Electronic expansion valves differ from 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 reduced loading and low ambient temperatures. EEV step position, superheat, head pressure set points and other features can be viewed and adjusted via the microprocessor display.

### Thermostatic Expansion Valve

#### (Heat Pump Fixed Capacity Only)

A thermostatic expansion valve shall be fitted to control the superheat within the system in heating mode.

### Variable Head Pressure Control

Electronic head pressure controllers are fitted which modulate the fan speed to maintain a constant condensing pressure, allowing the system to operate satisfactorily in ambient temperatures as low as -20°C.

## Refrigeration Components

The following refrigeration components are fitted within the system to ensure correct unit operation:

- Suction Accumulator (Heat Pump)
- 4 Way Reversing Valve (Heat Pump)
- Liquid Receiver (Heat Pump)
- Non Return Valve (Heat Pump)
- Filter Drier (supplied loose – Cooling only units)

### Compressor Crankcase Heater

A compressor crankcase heater is fitted to ensure that refrigerant does not condense within the compressor. The crankcase heater must be turned on 8 hours prior to operation of the unit.

### High Pressure Switch

A high pressure switch shall be fitted to protect against adverse high system pressures.

### Low Pressure Switch

A low pressure switch shall be fitted to protect against adverse low system pressures.

### Discharge Gas Temperature Monitoring

(Fixed capacity units only)

A discharge gas thermostat shall be fitted to monitor and deactivate cooling / heating if the compressor shows sign of overheating.

### Panel Heater

A panel heater shall be provided ensuring that the control panel does not encounter low operating temperatures in adverse weather conditions. The panel heater (thermostatically controlled) ensures that no condensation can form on components.

### Mains Isolator

A mains isolator shall be provided to enable local isolation of the power supply.

## Optional Features

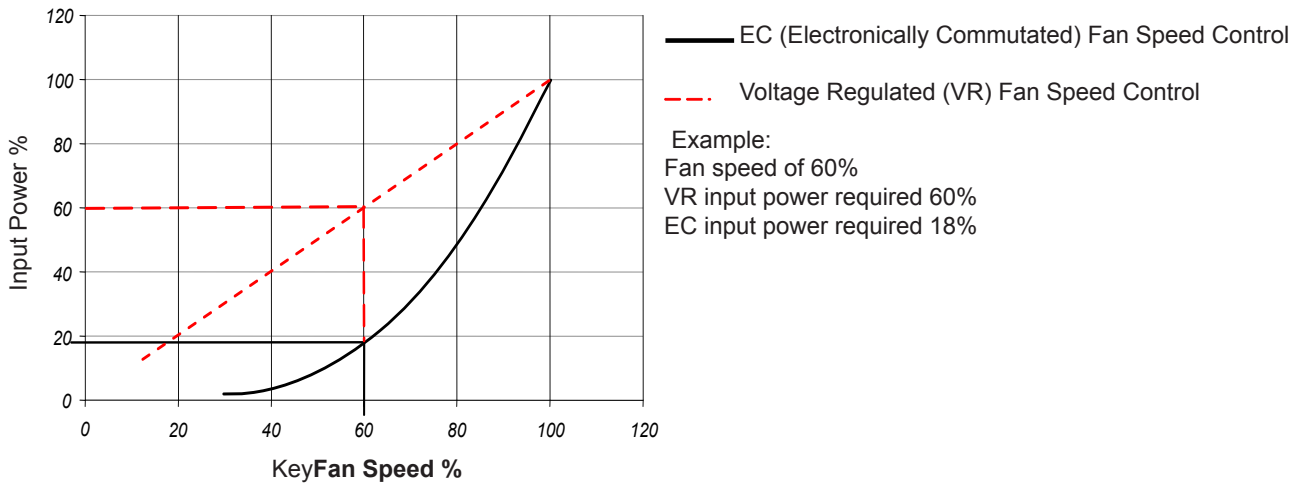
The BluCube comes with a series of optional features.

|                                                 | CUR092_--_1CO-0 | CUR092_--_VCO-0 | CUR122_--_1CO-0 | CUR122_--_VCO-0 | CUR092_--_1HP-0 | CUR092_--_VHP-0 | CUR122_--_1HP-0 | CUR122_--_VHP-0 |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| EC 1~ Axial Fan                                 | •               | •               |                 |                 | •               | •               |                 |                 |
| EC 3~ Axial Fan                                 |                 |                 | •               | •               |                 |                 | •               | •               |
| Short Case Axial Fans 1~ 560 Fan                | •               | •               |                 |                 | •               | •               |                 |                 |
| pCO5+ Microprocessor (without built-in display) | •               | •               | •               | •               | •               | •               | •               | •               |
| Remote Display PGD1                             | •               | •               | •               | •               | •               | •               | •               | •               |
| EEV / EVD                                       |                 |                 |                 |                 | •               |                 | •               |                 |
| Compressor Soft Start                           | •               | •               | •               | •               | •               | •               | •               | •               |
| Power Monitoring                                | •               | •               | •               | •               | •               | •               | •               | •               |
| Phase Monitoring Relay                          | •               | •               | •               | •               | •               | •               | •               | •               |
| Phase Rotation Relay                            | •               | •               | •               | •               | •               | •               | •               | •               |
| Power Factor Correction                         | •               |                 | •               |                 | •               |                 | •               |                 |
| BMS (Lon, Echelon, Carel...etc)                 | •               | •               | •               | •               | •               | •               | •               | •               |
| Coil Guards                                     | •               | •               | •               | •               |                 |                 |                 |                 |
| Compressor Attenuation                          | •               | •               | •               |                 | •               | •               | •               |                 |
| Refrigerant Leak Detection                      | •               | •               | •               | •               | •               | •               | •               | •               |
| Pump Down                                       | •               | •               | •               | •               | •               | •               | •               | •               |
| Remote Electronic Expansion Valve               | •               | •               | •               | •               | •               | •               | •               | •               |
| Condensate Drip Tray                            |                 |                 |                 |                 | •               | •               | •               | •               |

•Features Available

### Electronically Commutated (EC) Fan Motor

Backward curved impellers, direct drive fan assemblies with integral hub mounted motor which is statically and dynamically balanced for quiet operation. Designed for high corrosion resistance, the impellers are laser welded aluminium with a galvanised rotor and die cast aluminium EC power module. EC motors incorporate integrated electronics to convert AC power to DC for efficient and accurate speed control and are adjustable via the microprocessor display keypad. The fans offer maximum air flow performance while keeping sound levels to a minimum. It gives the flexibility of connecting to AC mains with the efficiency and simple speed control of a DC motor. The EC fan offers significant power reduction in comparison with equivalent AC fan at both full and modulated fan speeds. The inbuilt EC fan control module allows for fan speed modulation from 15-100%, standard AC fans modulating range is typically 40-100% of full fan speed. Standard voltage regulated (VR) fan speed controllers offer a linear response. The following illustration shows a comparison of the typical power input required by each method.



### Short Case Axial Fans

SCAF fans are available for the 092 models only. They can achieve an external static pressure of 75Pa.

## **pCO5+ Microprocessor (without built-in display)**

32 bit 44MHz controller.

## **Modbus / Carel BMS Connection**

The Airedale controllers shall be able to communicate directly using the Modbus® protocol. The Modbus® is inbuilt within the PCO5+ controller

## **Modbus® - JBus slave**

RTU mode (Remote Terminal Unit) with 8 bit encoding and error handling using 16 bit CRC.

Communication standard connection options of RS485 (multipoint) or RS232 (point-point).

Maximum Baud Rate of 19200. The data communication shall be asynchronous serial, 8 data bits, 2 stop bits and no parity (in total 11 bits/datum). The data/parameters from the controller shall be represented within Modbus® registers, each register containing information pertaining to temperatures, pressures, setpoint, status, etc and is available to the site integration company in a spreadsheet format

## **Lon BMS Connection**

The Airedale controllers, using special serial cards, shall be integrated into LonWorks® networks. The RS485 and the FTT10 standards shall be supported by the LonWorks® serial cards.

The two types of LonWorks® serial cards shall differ by the type of interface on the LonWorks® network side:

- FTT-10A 78 kbs (TP/FT-10)
- RS485 39 kbs (TP/485-39)

## **BacNet Protocol**

The BACnet protocol option shall be supplied either with a pCOWeb (Ethernet) or pCONet (RS485) interface card.

## **Compressor Soft Start**

The electronic soft start enables the unit's compressor 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.

## **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.

## **Phase Monitoring Relay**

A phase sequence relay is available for units containing 3 phase scroll compressors, to prevent possible damage by running the compressor in the wrong direction.

## **Phase Rotation Relay**

A phase sequence relay shall be available for units containing 3 phase scroll compressors, to prevent possible damage by running the compressor in the wrong direction.

## **Coil Guards**

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

(Cooling only units).

## **Compressor Attenuation**

Compressor attenuation shall be provided if required in low noise applications.

### Refrigerant Leak Detection

The refrigerant leak detection is located below the condenser fan to ensure correct operation. The leak detector has three factory settings of 100, 1000 and 2000 parts per million. The default is 1000 parts per million. The leak detector has relay outputs allowing for alarm monitoring via the Airedale controller. This relay output can provide facilities for refrigerant pump down (Airedale unit model dependant) for refrigerant containment. The detector module is IP rated for outdoor applications.

### Pump Down

Refrigerant pump down shall automatically occur in the event of a refrigerant leak.

### Remote Electronic Expansion valve

The new EVD Evolution REEV has been developed in conjunction and for sale primarily with the new BluCube condensing unit; however the REEV can be applied to applications using other manufacturer's equipment with capacities up to 2050kW.

The REEV product has been designed for applications where an Outdoor Condensing Unit is to be matched with an indoor Air Handling Unit. It is provided in situations where it is unsuitable to have an expansion valve driver local to the outdoor unit due to the maximum wire lengths between the valve driver and the valve itself being exceeded. This is down to the valve driver's manufacturer's recommendations.

The REEV will provide a versatile solution that is capable of dealing with various refrigerants, multiple network options and multiple numbers of refrigeration circuits.

Further information can be found in the REEV technical manual.



## Remote Display

The display keypad features a simple array of keys to navigate through the in built menus. With an 8 x 22 character (132 x 64 pixel) screen size, back lit in white for improved contrast, the larger screen shall provide for user friendly viewing and easy status recognition by displaying a combination of text and icons. The default screen shall show the unit status and room condition (°C/RH %) without the need for interrogation and an easy to navigate menu structure for further interrogation and adjustment shall be provided.



## Standard Icons



Fan operating



Cooling - up to 6 stages



Heating - up to 3 stages

## Installation Data

### Lifting

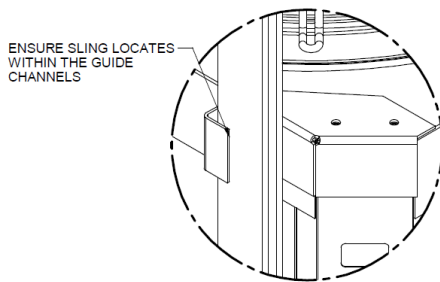
Whenever a condensing unit is lifted, it should be from the base and, where possible, with all packing and protection in position. If slings are used care should be taken to ensure that the slings do not crush the casework or coil. The slings are to be located into the recess within the unit frame to ensure safe lifting.

Due note should also be made of the fact that the compressor is at one end of the unit, and therefore the centre of gravity will also be towards that end.

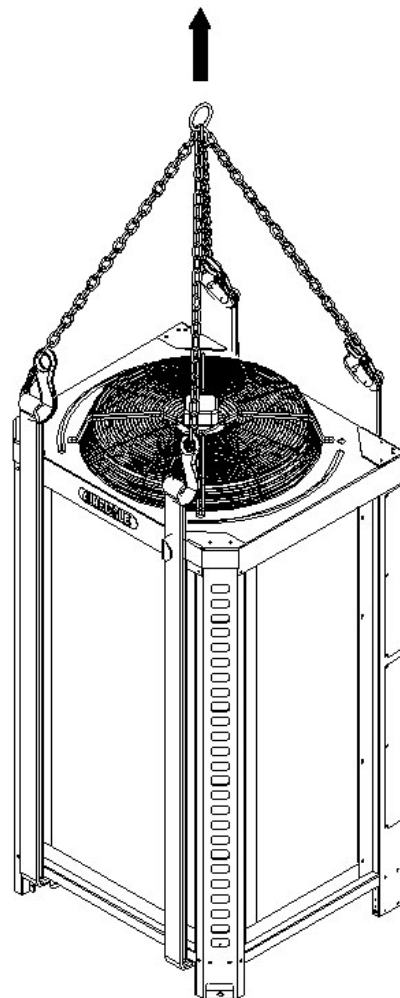
- Employ lifting specialists.
- Local codes and regulations relating to the lifting of this type of equipment should be observed.
- Use the appropriate spreader bars/lifting slings with the holes/lugs provided.
- Chains/slugs MUST NOT interfere with the casing of fan assembly to avoid damage.
- Lift the unit slowly and evenly.

#### IMPORTANT ⚠

If the unit is dropped, it should immediately be checked for damage and reported to Airedale. Ensure drip tray is removed before lifting (Heat Pump units only).



- Minimum lifting chain length of 1500mm
- Sling Length 4500mm





## Positioning

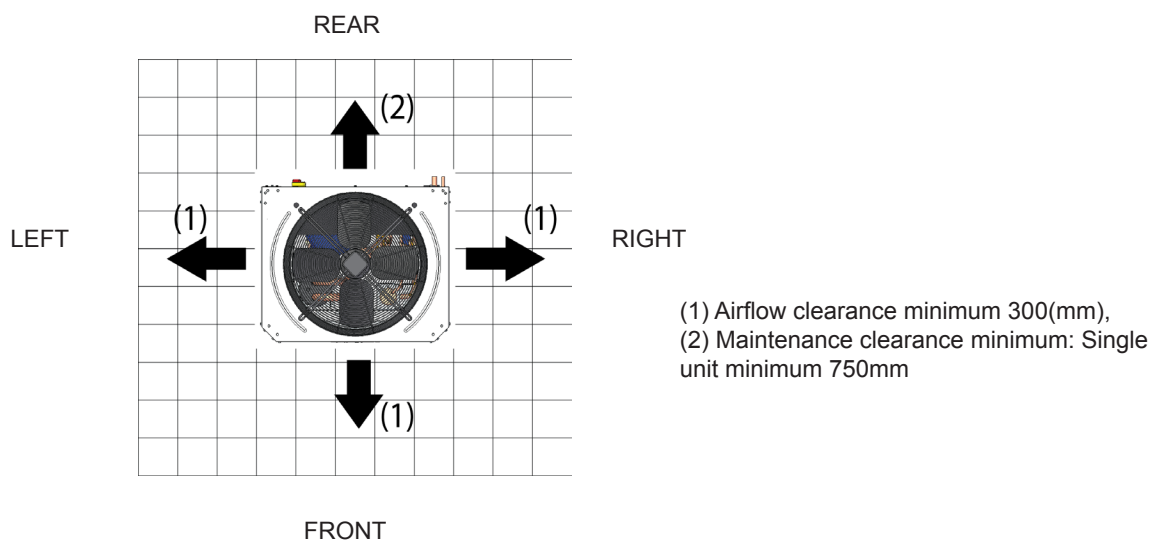
The installation position should be selected with the following points in mind:

- 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 pad anti-vibration mounts.
- 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.
- Within a side enclosed installation, the fan MUST be higher than the enclosing structure.
- Ensure there are no obstructions directly above the fans.
- Allow free space above the fans to prevent air recirculation.

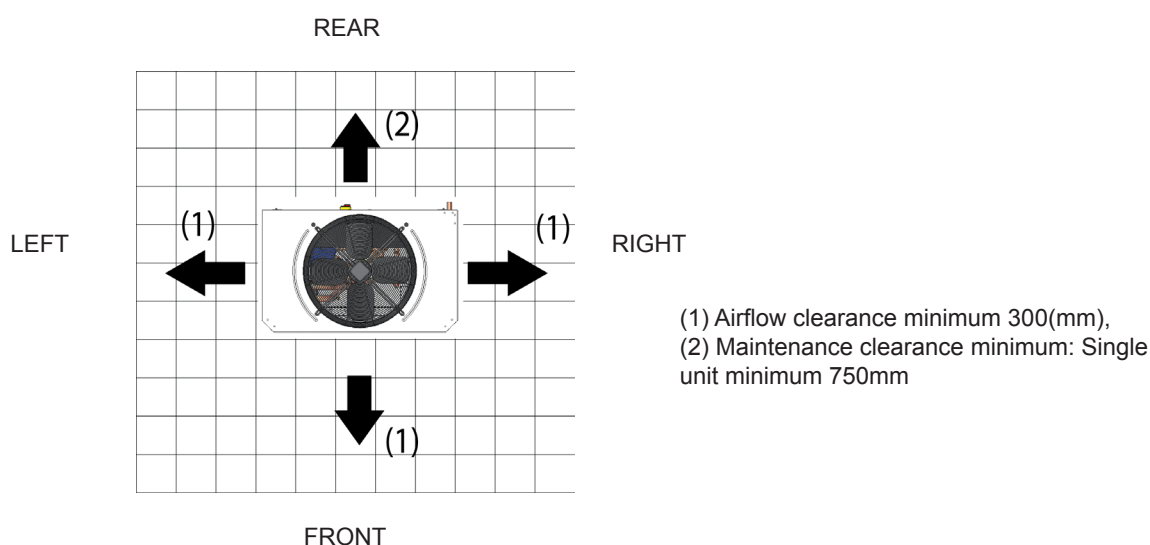
### CAUTION ⚠

Prior to connecting services, ensure that the equipment is installed and completely level.

#### 092 Models

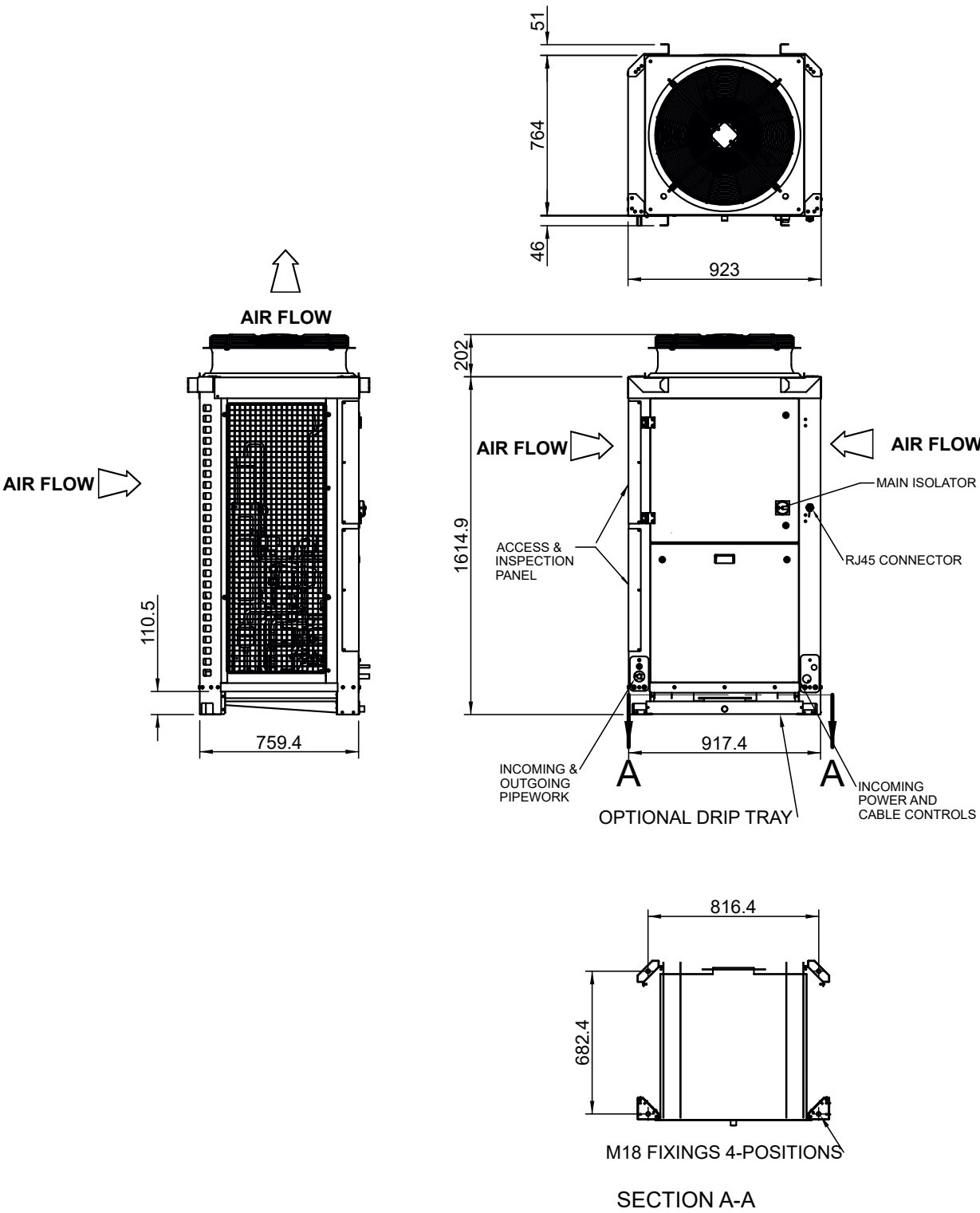


#### 122 Models



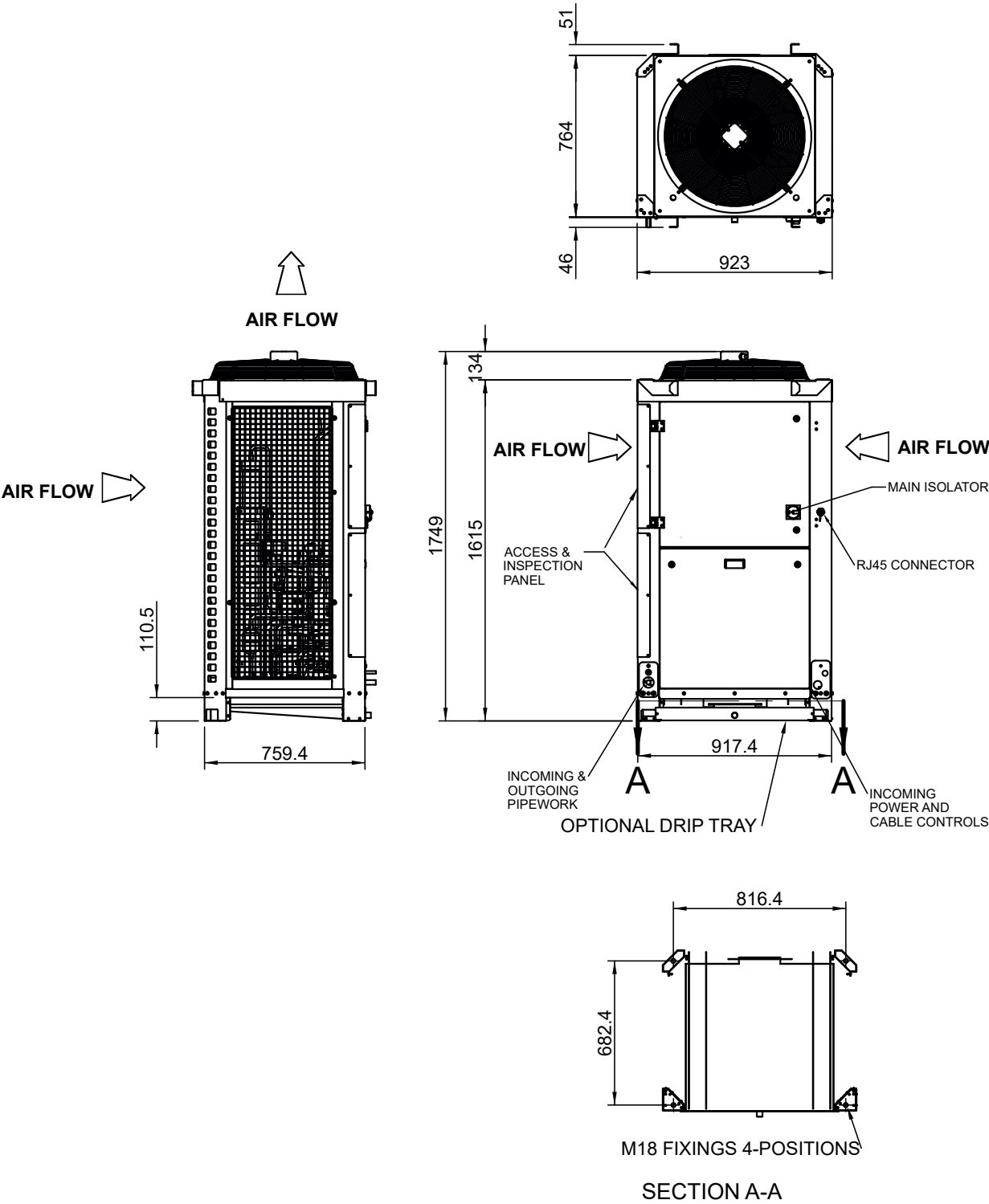
Dimensional Data  
092 Models AC Fans

Installation



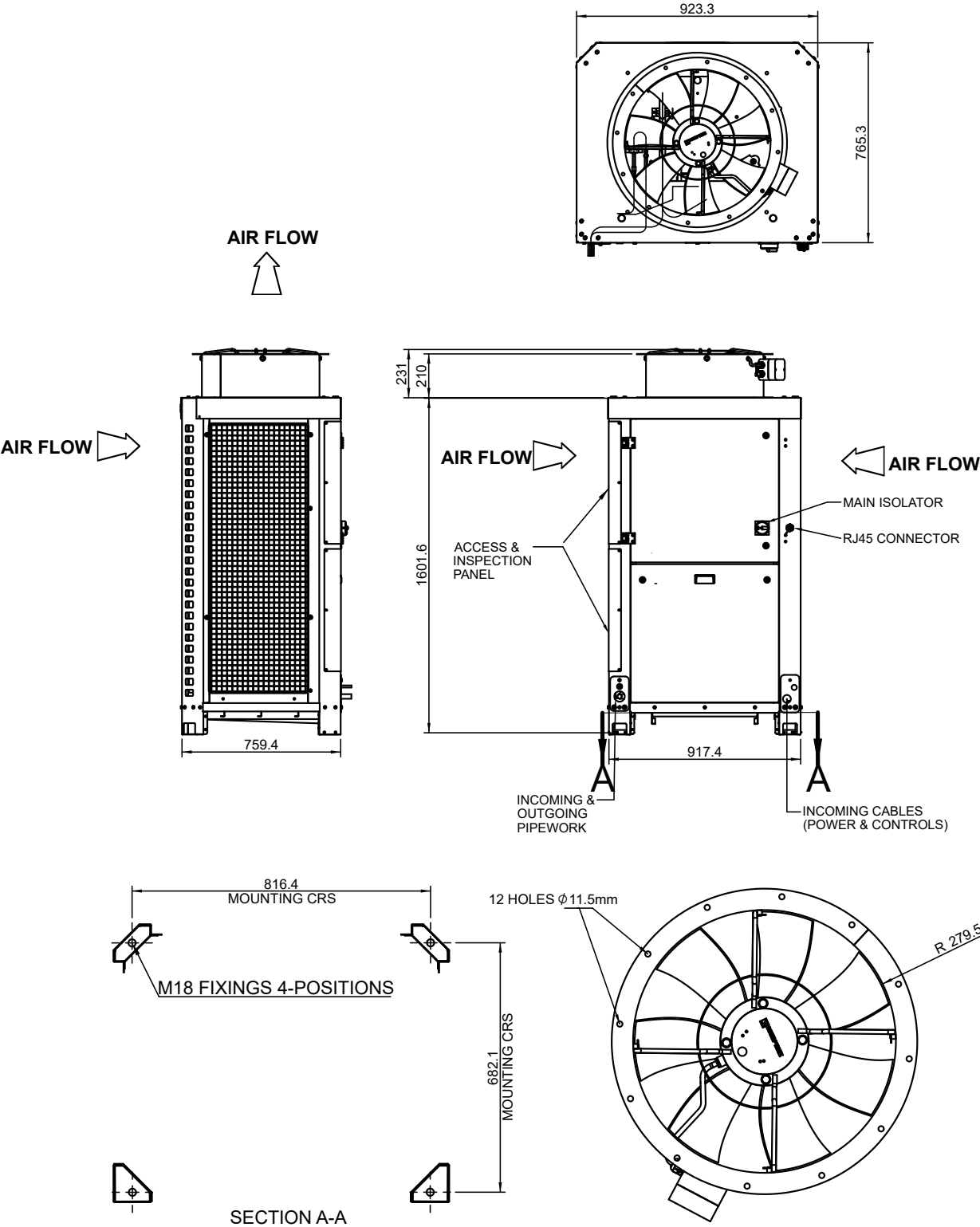
Dimensional Data  
092 Models EC Fans

Installation

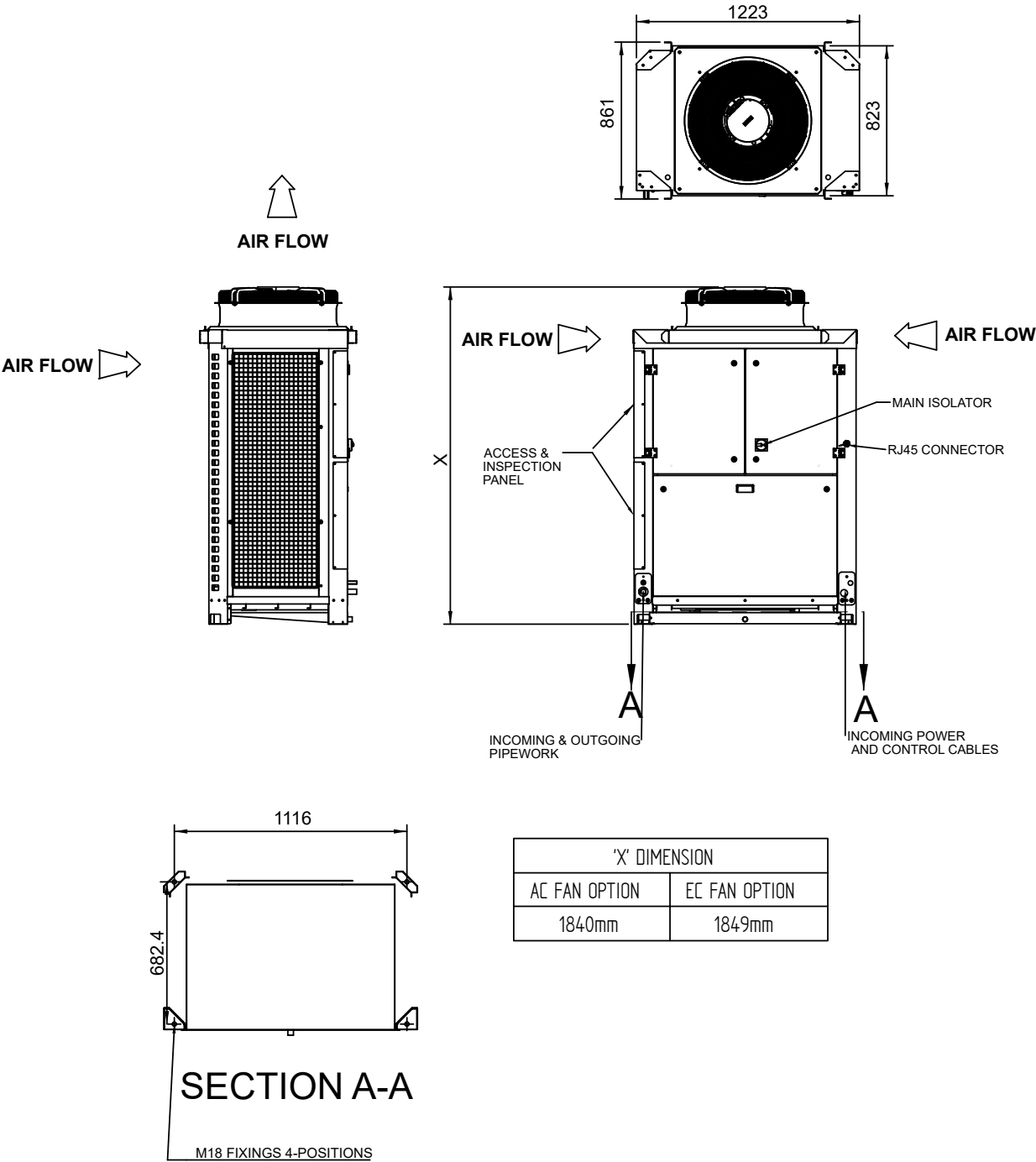


Dimensional Data  
092 Short Case Axial Fan

Installation

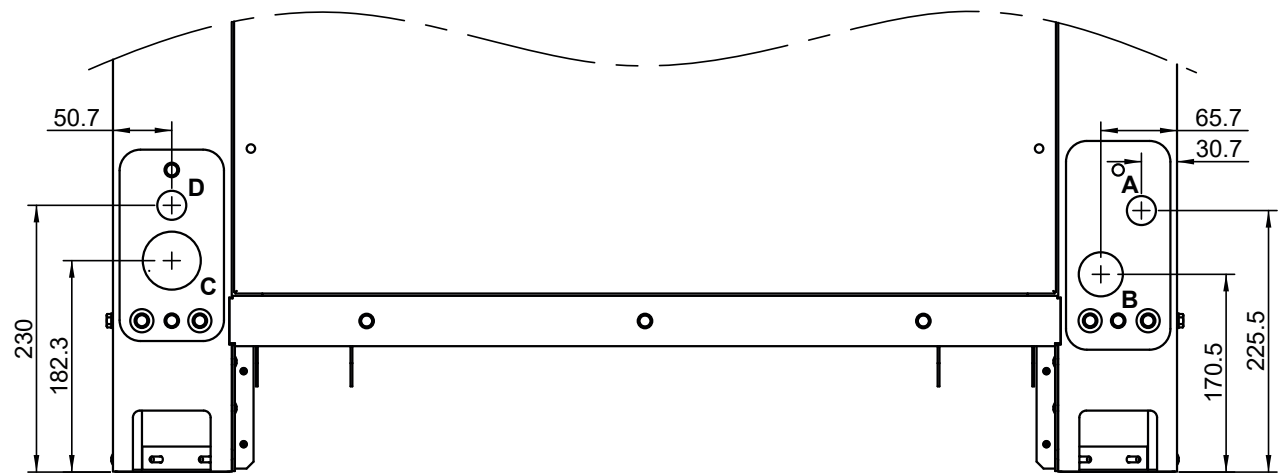


Dimensional Data  
122 Models AC / EC Fans

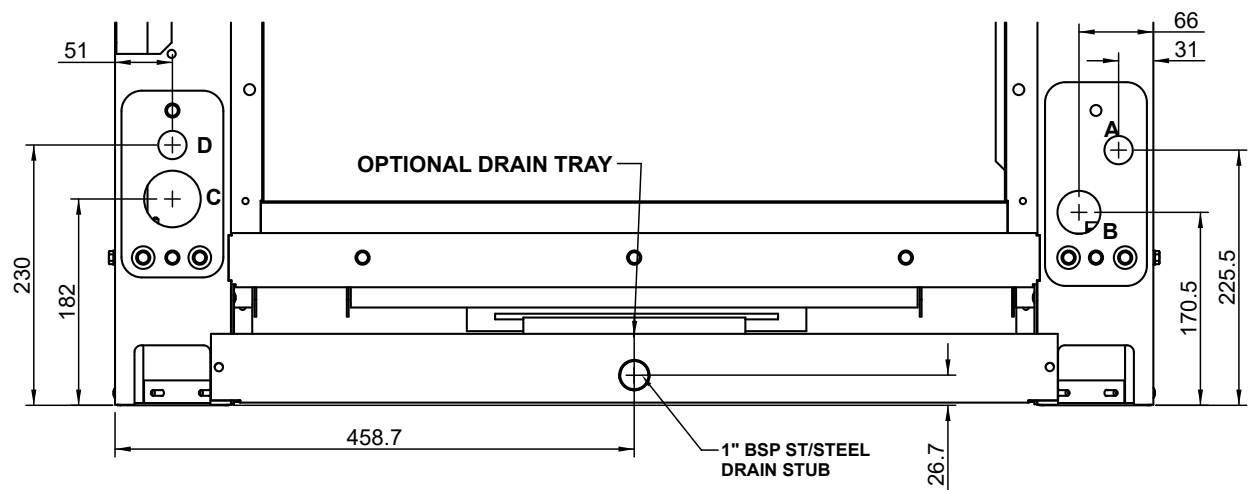


Installation

Incoming Services  
 Cooling only 092



Heat Pump 092



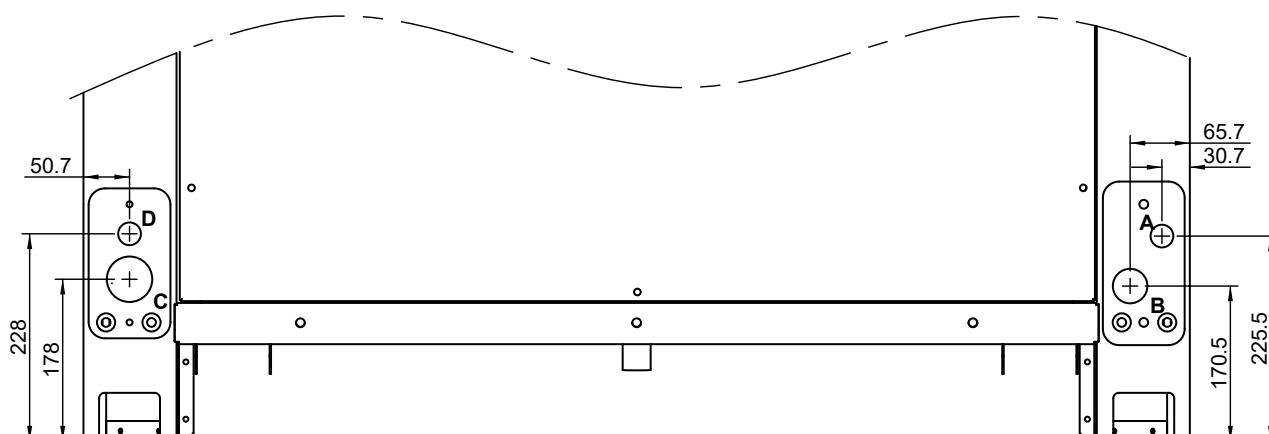
|              | Wiring Access Hole Sizes (mm) |    | Pipe Work Hole Sizes (mm) |    |
|--------------|-------------------------------|----|---------------------------|----|
| Cooling Only | A                             | B  | C                         | D  |
| CUR092V16    | 25                            | 38 | 50                        | 25 |
| CUR092V20    | 25                            | 38 | 50                        | 25 |
| CUR092V25    | 25                            | 38 | 50                        | 25 |
| CUR092V29    | 25                            | 38 | 50                        | 25 |

| Heat Pump |    |    |    |    |
|-----------|----|----|----|----|
| CUR092V16 | 25 | 38 | 38 | 25 |
| CUR092V20 | 25 | 38 | 38 | 25 |
| CUR092V25 | 25 | 38 | 38 | 25 |
| CUR092V29 | 25 | 38 | 38 | 25 |

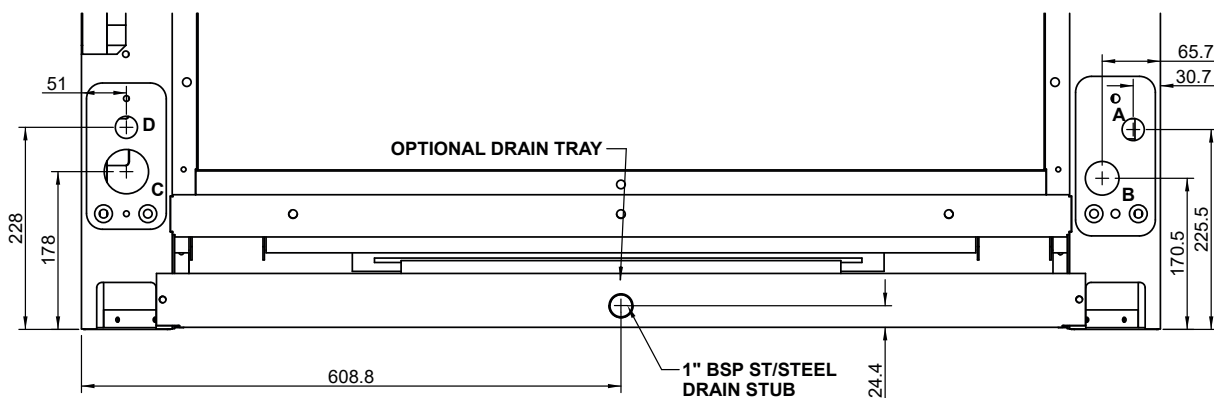
| Hole | Type           |
|------|----------------|
| A    | Communications |
| B    | Mains Power    |
| C    | Suction Line   |
| D    | Liquid Line    |

## Incoming Services

### Cooling Only 122



### Heat Pump 122



|              | Wiring Access Hole Sizes (mm) |    | Pipe Work Hole Sizes (mm) |    |
|--------------|-------------------------------|----|---------------------------|----|
|              | A                             | B  | C                         | D  |
| Cooling Only |                               |    |                           |    |
| CUR122V35    | 25                            | 38 | 50                        | 25 |
| CUR122V40    | 25                            | 38 | 50                        | 25 |

|           |    |    |    |    |
|-----------|----|----|----|----|
| Heat Pump |    |    |    |    |
| CUR122V35 | 25 | 38 | 50 | 25 |
| CUR122V40 | 25 | 38 | 50 | 25 |

| Hole | Type           |
|------|----------------|
| A    | Communications |
| B    | Mains Power    |
| C    | Suction Line   |
| D    | Liquid Line    |

## Installation Data

### Evacuation

Evacuation for systems operating on R410A refrigerant should be carried out as follows:

1. The procedure should be carried out using a high vacuum pump. The pump should be connected to the high and low pressure sides of the system via a gauge manifold fitted with compound gauges. A high vacuum gauge should be fitted to the system at the furthest point from the vacuum pump.
2. Triple evacuation should be used to ensure that all contaminants are removed or at least reduced to significantly low proportions.
3. The vacuum pump should be operated until a pressure of 1.5 Torr (200 Pa) absolute pressure is reached, at which time the vacuum pump should be stopped and the vacuum broken with oxygen free nitrogen until the pressure rises above zero.
4. The above operation should be repeated a second time.
5. The system should then be evacuated a third time but this time to 0.5 Torr (absolute pressure and broken with the correct refrigerant, until pressures equalise between the charging bottle and the system.

### RECORD

Record on commissioning sheet provided once completed.

The use of a magnetic coil lifter is recommended where any solenoid valves are fitted.

#### CAUTION ⚠

Ensure that the evacuation gauge is isolated before introducing any pressure. The gauge may become dangerous when exposed to any positive pressure.

### Refrigerant Charging

Break the vacuum with R410A refrigerant, until pressures equalise between the charging bottle and the system. Charge the system through manifold gauges into the expansion line (with system running) until the correct superheat and sub cool is established. Ensure a clear dry sight glass.

### Refrigerant Handling

Only certified personnel must charge the systems with refrigerant.

#### CAUTION ⚠

Personal protective equipment must be worn when handling refrigerants.

### Charging Gauges

The refrigerant Schrader connections on the Enviropack units are 5/16" to allow for the increase working pressures of R410A. Gauges designed for R410A must only be used.

### Refrigerant Quality

The system must be charged with clean virgin refrigerant R410A only.

### Refrigerant Charge Weights

The exact refrigerant charge is dependent on site circumstances and operating temperatures. Pipework runs must be taken into consideration. The refrigerant charge must be weighed into the system and recorded within your F-Gas record.

### Schrader Caps

Schrader caps must be replaced following connection of service gauges to the unit.

### Final Leak Test

A final leak test must be carried out following removal of service gauges prior to leaving site ensuring that the system complies with F-Gas regulations.



Refrigeration Pipework Installation - Good Practices

Oil Traps

For long vertical rises in both suction and discharge lines, it is essential that oil traps are located every 4m to ensure proper oil movement / entrapment. In addition there should be an oil trap at the exit of the air handling unit before a vertical riser is applied (refer to example below).

Pipe Supports

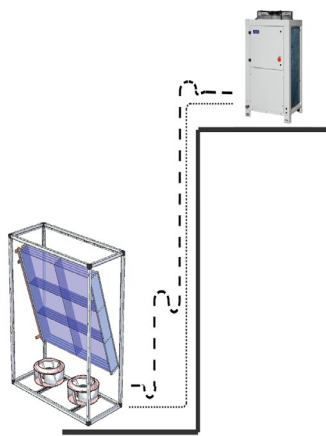
The following table identifies the maximum distance between pipe supports on vertical and horizontal pipe runs.

|                  |                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>CAUTION</b> ⚠ | All pipework should be clamped prior to insulation being applied (Suction Line). Clamping over insulation is not acceptable. |
|------------------|------------------------------------------------------------------------------------------------------------------------------|

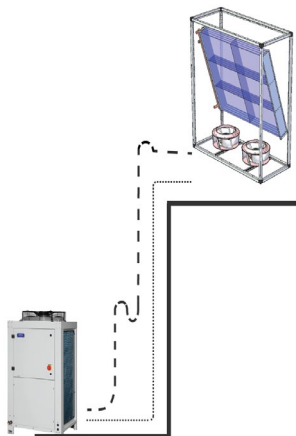
Horizontal Sections

It is good practice to ensure a slight gradient toward the compressor in the direction of the refrigerant flow for suction lines running horizontal. This assists oil return to the compressor. A gradient of approximately 1:200 (0.5%) shall be used.

Condensing Unit Above Air Handling Unit



Condensing Unit Below Air Handling Unit



Traps are required every 4m of vertical rise.

- - - - -Suction Line ..... Liquid

Note the diagram above is for illustration only.

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IMPORTANT</b> ⚠ | <p>The pipe sizes and refrigerant charges quoted are for guidance only. It is the responsibility of the installing contractor/site engineer to check the pipe size/refrigerant charge is correct for each system installation and application.</p> <p>Split systems may require additional oil which should be added to the low pressure side of each compressor.</p> <p>Design should be in accordance with accepted refrigeration practice to ensure good oil return to the compressor(s) under all normal operating conditions.</p> <p>REMEMBER excessive pressure loss in interconnecting pipework will impair system performance; this should be factored in during the design of the system and where necessary oil traps employed.</p> |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Installation Data

### Oil Charging Guide

The compressor(s) is supplied with oil for up to approximately 20m of interconnecting pipework.

#### Compressors

The compressor oil sight glass (where fitted) should indicate a level of between 1/3 and 2/3 to ensure correct operation. Run the compressor(s) for a minimum of 1 hour to check oil return and motor function. For tandem or trio sets, checks should be performed in part load operation.

1. Use a temperature metering device on each circuit:
2. Check operation and superheat readings are within acceptable limits.
3. Check suction and discharge pressure are within acceptable limits.
4. Check there is NO foaming in the compressor sight glass. This would indicate the presence of liquid returning to the compressor.
5. Check sight glass following commissioning and top oil up if level has fallen below minimum.
6. If oil has been added to allow for long pipe runs, large number of oil traps, etc., and the level in the compressors keep decreasing; the oil return in the system is insufficient. A pipework design check is required.

#### IMPORTANT ⚠

It is possible to check the oil level of a compressor a few moments after it is turned off. However the oil level must not be observed when the compressor is turned off. The refrigerant in the system can give a false indication of this level. In this case the oil level should be at about 1/3.

#### IMPORTANT ⚠

For applications with pipework in excess of 20m, long vertical runs, special operating conditions etc., ensure good oil return is guaranteed AND add sufficient oil to the system. REMEMBER, TOO MUCH or TOO LITTLE OIL can cause compressor damage. As a rule NO MORE than 10% additional oil should be added to any system. ALWAYS use the oil specified by the compressor manufacturer.

Polyolester oil is extremely hygroscopic and will rapidly absorb moisture from the air. The oil must therefore not be left open to the atmosphere for long periods of time. The system must be correctly evacuated to ensure all moisture is removed.

#### Pressure switch settings

|                                   |                   |
|-----------------------------------|-------------------|
| High pressure switch cut-out      | 40.3 bar (583psi) |
| High pressure switch cut-in       | 30.0 bar (435psi) |
| High pressure switch differential | 10.3 bar (148psi) |
| Low pressure switch cut-out       | 1.0 bar (14psi)   |
| Low pressure cut-in               | 3.0 bar (43psi)   |
| Low pressure differential         | 2.0 bar (29psi)   |

## Refrigerant Charges

| Unit            | Mass less charge(kg) | Refrigerant charge (kg) | Mass with charge (kg) |
|-----------------|----------------------|-------------------------|-----------------------|
| CUR092V16-1CO-0 | 212.2                | 8.5                     | 220.7                 |
| CUR092V20-1CO-0 | 212.9                | 8.6                     | 221.5                 |
| CUR092V25-1CO-0 | 240.6                | 8.6                     | 249.2                 |
| CUR092V29-1CO-0 | 241.3                | 8.6                     | 249.9                 |
| CUR122V35-1CO-0 | 292.0                | 10.1                    | 302.1                 |
| CUR122V40-1CO-0 | 295.7                | 10.1                    | 305.8                 |
| CUR092V16-VCO-0 | 219.3                | 8.5                     | 227.8                 |
| CUR092V20-VCO-0 | 220.1                | 8.5                     | 228.6                 |
| CUR092V25-VCO-0 | 241.2                | 8.6                     | 249.8                 |
| CUR092V29-VCO-0 | 242.8                | 8.6                     | 251.4                 |
| CUR122V35-VCO-0 | 293.3                | 10.1                    | 303.4                 |
| CUR122V40-VCO-0 | 295.4                | 10.1                    | 305.5                 |
| CUR092V16-1HP-0 | 228.5                | 9.0                     | 237.5                 |
| CUR092V20-1HP-0 | 229.2                | 9.0                     | 238.2                 |
| CUR092V25-1HP-0 | 261.2                | 9.3                     | 270.5                 |
| CUR092V29-1HP-0 | 262.1                | 9.3                     | 271.4                 |
| CUR122V35-1HP-0 | 315.9                | 10.7                    | 326.6                 |
| CUR122V40-1HP-0 | 323.6                | 11.1                    | 334.7                 |
| CUR092V16-VHP-0 | 235.6                | 9.0                     | 244.6                 |
| CUR092V20-VHP-0 | 236.4                | 9.0                     | 245.4                 |
| CUR092V25-VHP-0 | 261.8                | 9.2                     | 271.0                 |
| CUR092V29-VHP-0 | 263.6                | 9.2                     | 272.8                 |
| CUR122V35-VHP-0 | 317.2                | 10.6                    | 327.8                 |
| CUR122V40-VHP-0 | 323.3                | 11.1                    | 334.4                 |

## Assumptions

- 1) Unit is fully populated
- 2) Coil is 60% gas and 40% liquid by volume
- 3) Liquid receiver is 100% vapour by volume
- 4) Evaporating temperature = 7°C
- 5) Condensing temperature = 50°C

Interconnecting Pipework  
Cooling Only

| Outdoor Unit    |                 | Equivalent Pipe Lengths with R410A |          |          |        |            |        |          |        |            |        |          |        |
|-----------------|-----------------|------------------------------------|----------|----------|--------|------------|--------|----------|--------|------------|--------|----------|--------|
|                 |                 | 0-20m                              |          |          |        | 20-40m     |        |          |        | 40-60m     |        |          |        |
|                 |                 | Connection Size                    |          | Liquid   |        | Suction    |        | Liquid   |        | Suction    |        | Liquid   |        |
| Outdoor Unit    | Connection Size | Liquid                             |          | Vertical |        | Horizontal |        | Vertical |        | Horizontal |        | Vertical |        |
|                 |                 | Horizontal                         | Vertical | (1)      | (2)    | (1)        | (1)    | (1)      | (4)    | (1)        | (1)    | (1)      | (4)    |
| CUR092V16-ICO-0 | 3/8"            | 7/8"                               | 1/2"     | 1/2"     | 7/8"   | 1/2"       | 1/2"   | 1/2"     | 1/2"   | 1/2"       | 1/2"   | 5/8"     | 5/8"   |
| CUR092V20-ICO-0 | 1/2"            | 1 1/8"                             | 1/2"     | 1/2"     | 1 1/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR092V25-ICO-0 | 1/2"            | 1 3/8"                             | 1/2"     | 1/2"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR092V29-ICO-0 | 1/2"            | 1 3/8"                             | 5/8"     | 5/8"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR122V35-ICO-0 | 5/8"            | 1 3/8"                             | 5/8"     | 5/8"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR122V40-ICO-0 | 5/8"            | 1 5/8"                             | 5/8"     | 5/8"     | 1 5/8" | 5/8"       | 1 5/8" | 1 5/8"   | 1 5/8" | 5/8"       | 1 5/8" | 5/8"     | 1 5/8" |
| CUR092V16-VCO-0 | 3/8"            | 7/8"                               | 1/2"     | 1/2"     | 7/8"   | 1/2"       | 1 1/8" | 1 1/8"   | 1 1/8" | 1/2"       | 1 1/8" | 5/8"     | 1 1/8" |
| CUR092V20-VCO-0 | 1/2"            | 1 1/8"                             | 1/2"     | 1/2"     | 1 1/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR092V25-VCO-0 | 1/2"            | 1 3/8"                             | 1/2"     | 1/2"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR092V29-VCO-0 | 1/2"            | 1 3/8"                             | 5/8"     | 5/8"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR122V35-VCO-0 | 5/8"            | 1 3/8"                             | 5/8"     | 5/8"     | 1 3/8" | 5/8"       | 1 3/8" | 1 3/8"   | 1 3/8" | 5/8"       | 1 3/8" | 5/8"     | 1 3/8" |
| CUR122V40-VCO-0 | 5/8"            | 1 5/8"                             | 5/8"     | 5/8"     | 1 5/8" | 5/8"       | 1 5/8" | 1 5/8"   | 1 5/8" | 5/8"       | 1 5/8" | 5/8"     | 1 5/8" |

Footnotes

- 1) For interconnecting pipework with a predominantly horizontal layout
- 2) For interconnecting pipework with a predominantly vertical layout
- 3) Double risers should be used on vertical suction / discharge lines for heat pump systems where the BluCube is below AHU. A single riser will not be sufficient to minimise pressure loss.
- 4) Vertical liquid lines greater than 20m are not permitted on any system

Assumptions

- i) In cooling mode - evaporator temperature = 7°C and condensing temperature = 50°C
- ii) In heating mode - evaporator temperature = -10°C and condensing temperature = 50°C

## Interconnecting Pipework Cooling Only

### Below Air Handling Unit

|                 |                 | Equivalent Pipe Lengths with R410A |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |
|-----------------|-----------------|------------------------------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|
| Outdoor Unit    | Connection Size | 0-20m                              |          |            |          |            |          | 20-40m     |          |            |          |            |          | 40-60m     |          |            |          |            |          |
|                 |                 | Liquid                             |          | Suction    |          | Liquid     |          | Suction    |          | Liquid     |          | Suction    |          | Liquid     |          | Suction    |          | Liquid     |          |
|                 |                 | Horizontal                         | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical |
| CUR092V16-ICO-0 | 3/8"            | 1/2"                               | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1 1/8"     | 1 1/8"   |
| CUR092V20-ICO-0 | 1/2"            | 1/2"                               | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 1 3/8"     | 1 3/8"   |
| CUR092V25-ICO-0 | 1/2"            | 1/2"                               | 3/4"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 1 3/8"     | 1 3/8"   |
| CUR092V29-ICO-0 | 1/2"            | 5/8"                               | 3/4"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |
| CUR122V35-ICO-0 | 5/8"            | 5/8"                               | 7/8"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |
| CUR122V40-ICO-0 | 5/8"            | 5/8"                               | 7/8"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |
| CUR092V16-VCO-0 | 3/8"            | 1/2"                               | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1/2"       | 5/8"     | 1 1/8"     | 1 1/8"   | 1 1/8"     | 1 1/8"   |
| CUR092V20-VCO-0 | 1/2"            | 1/2"                               | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 1 3/8"     | 1 3/8"   |
| CUR092V25-VCO-0 | 1/2"            | 1/2"                               | 3/4"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 5/8"       | 5/8"     | 1 3/8"     | 1 3/8"   | 1 3/8"     | 1 3/8"   |
| CUR092V29-VCO-0 | 1/2"            | 5/8"                               | 3/4"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 5/8"       | 5/8"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |
| CUR122V35-VCO-0 | 5/8"            | 5/8"                               | 7/8"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |
| CUR122V40-VCO-0 | 5/8"            | 5/8"                               | 7/8"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 3/4"       | 3/4"     | 1 5/8"     | 1 5/8"   | 1 5/8"     | 1 5/8"   |

### Footnotes

- 1) For interconnecting pipework with a predominantly horizontal layout
- 2) For interconnecting pipework with a predominantly vertical layout
- 3) Double risers should be used on vertical suction / discharge lines for heat pump systems where the BluCube is below AHU. A single riser will not be sufficient to minimise pressure loss.
- 4) Vertical liquid lines greater than 20m are not permitted on any system

### Assumptions

- i) In cooling mode - evaporator temperature = 7°C and condensing temperature = 50°C
- ii) In heating mode - evaporator temperature = -10°C and condensing temperature = 50°C

## Above Air Handling Unit

## Interconnecting Pipework Heat Pump

| Outdoor Unit    |                     | Equivalent Pipe Lengths with R410A |                     |            |          |                     |          |            |          |                   |          |            |          |
|-----------------|---------------------|------------------------------------|---------------------|------------|----------|---------------------|----------|------------|----------|-------------------|----------|------------|----------|
|                 |                     | 0-20m                              |                     |            |          | 20-40m              |          |            |          | 40-60m            |          |            |          |
|                 |                     | Connection Size                    |                     | Liquid     |          | Suction / Discharge |          | Liquid     |          | Suction/Discharge |          | Liquid     |          |
| Outdoor Unit    | Suction / Discharge | Liquid                             | Suction / Discharge | Horizontal | Vertical | Horizontal          | Vertical | Horizontal | Vertical | Horizontal        | Vertical | Horizontal | Vertical |
|                 |                     |                                    |                     |            |          |                     |          |            |          |                   |          |            |          |
| CUR092V16-1HP-0 | 3/8"                | 1/2"                               | 5/8"                | 3/4"       | 7/8"     | 1/2"                | 5/8"     | 3/4"       | 7/8"     | 1/2"              | 5/8"     | 3/4"       | 7/8"     |
| CUR092V20-1HP-0 | 3/8"                | 5/8"                               | 1/2"                | 5/8"       | 1 1/8"   | 5/8"                | 1 1/8"   | 5/8"       | 1 1/8"   | 5/8"              | 1 1/8"   | 5/8"       | 1 1/8"   |
| CUR092V25-1HP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR092V29-1HP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR122V35-1HP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR122V40-1HP-0 | 5/8"                | 1 1/8"                             | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR092V16-VHP-0 | 3/8"                | 1/2"                               | 5/8"                | 3/4"       | 7/8"     | 1/2"                | 5/8"     | 3/4"       | 7/8"     | 1/2"              | 5/8"     | 3/4"       | 7/8"     |
| CUR092V20-VHP-0 | 3/8"                | 5/8"                               | 1/2"                | 5/8"       | 1 1/8"   | 5/8"                | 1 1/8"   | 5/8"       | 1 1/8"   | 5/8"              | 1 1/8"   | 5/8"       | 1 1/8"   |
| CUR092V25-VHP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR092V29-VHP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR122V35-VHP-0 | 1/2"                | 7/8"                               | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |
| CUR122V40-VHP-0 | 5/8"                | 1 1/8"                             | 3/4"                | 1 1/8"     | 1 3/8"   | 1 1/8"              | 1 3/8"   | 1 1/8"     | 1 3/8"   | 1 1/8"            | 1 3/8"   | 1 1/8"     | 1 3/8"   |

## Footnotes

- 1) For interconnecting pipework with a predominantly horizontal layout
- 2) For interconnecting pipework with a predominantly vertical layout
- 3) Double risers should be used on vertical suction / discharge lines for heat pump systems where the BluCube is below AHU. A single riser will not be sufficient to minimise pressure loss.
- 4) Vertical liquid lines greater than 20m are not permitted on any system

## Assumptions

- i) In cooling mode - evaporator temperature = 7°C and condensing temperature = 50°C
- ii) In heating mode - evaporator temperature = -10°C and condensing temperature = 50°C

## Interconnecting Pipework Heat Pump

### Below Air Handling Unit

|                 |                              | Equivalent Pipe Lengths with R410A |          |        |                     |          |        |            |          |        |                   |          |        |
|-----------------|------------------------------|------------------------------------|----------|--------|---------------------|----------|--------|------------|----------|--------|-------------------|----------|--------|
| Outdoor Unit    | Outdoor Unit Connection Size | 0-20m                              |          |        |                     |          |        | 20-40m     |          |        |                   |          |        |
|                 |                              | Liquid                             |          |        | Suction / Discharge |          |        | Liquid     |          |        | Suction/Discharge |          |        |
|                 |                              | Horizontal                         | Vertical | (1)    | Horizontal          | Vertical | (2)    | Horizontal | Vertical | (4)    | Horizontal        | Vertical | (4)    |
| CUR092V16-1HP-0 | 3/8"                         | 1/2"                               | 5/8"     | 3/4"   | 1/2"                | 5/8"     | 3/4"   | 1/2"       | 5/8"     | 3/4"   | 1/2"              | 5/8"     | 3/4"   |
| CUR092V20-1HP-0 | 3/8"                         | 1/2"                               | 5/8"     | 7/8"   | 1/2"                | 5/8"     | 7/8"   | 1/2"       | 5/8"     | 7/8"   | 1/2"              | 5/8"     | 7/8"   |
| CUR092V25-1HP-0 | 1/2"                         | 1/2"                               | 3/4"     | 1 1/8" | 1/2"                | 3/4"     | 1 1/8" | 1/2"       | 3/4"     | 1 1/8" | 1/2"              | 3/4"     | 1 1/8" |
| CUR092V29-1HP-0 | 1/2"                         | 5/8"                               | 3/4"     | 1 1/8" | 5/8"                | 3/4"     | 1 1/8" | 5/8"       | 3/4"     | 1 1/8" | 5/8"              | 3/4"     | 1 1/8" |
| CUR122V35-1HP-0 | 1/2"                         | 3/4"                               | 7/8"     | 1 1/8" | 3/4"                | 7/8"     | 1 1/8" | 3/4"       | 7/8"     | 1 1/8" | 3/4"              | 7/8"     | 1 1/8" |
| CUR122V40-1HP-0 | 5/8"                         | 3/4"                               | 7/8"     | 1 1/8" | 3/4"                | 7/8"     | 1 1/8" | 3/4"       | 7/8"     | 1 1/8" | 3/4"              | 7/8"     | 1 1/8" |
| CUR092V16-VHP-0 | 3/8"                         | 1/2"                               | 5/8"     | 3/4"   | 1/2"                | 5/8"     | 3/4"   | 1/2"       | 5/8"     | 3/4"   | 1/2"              | 5/8"     | 3/4"   |
| CUR092V20-VHP-0 | 3/8"                         | 1/2"                               | 5/8"     | 7/8"   | 1/2"                | 5/8"     | 7/8"   | 1/2"       | 5/8"     | 7/8"   | 1/2"              | 5/8"     | 7/8"   |
| CUR092V25-VHP-0 | 1/2"                         | 1/2"                               | 3/4"     | 1 1/8" | 1/2"                | 3/4"     | 1 1/8" | 1/2"       | 3/4"     | 1 1/8" | 1/2"              | 3/4"     | 1 1/8" |
| CUR092V29-VHP-0 | 1/2"                         | 5/8"                               | 3/4"     | 1 1/8" | 5/8"                | 3/4"     | 1 1/8" | 5/8"       | 3/4"     | 1 1/8" | 5/8"              | 3/4"     | 1 1/8" |
| CUR122V35-VHP-0 | 1/2"                         | 3/4"                               | 7/8"     | 1 1/8" | 3/4"                | 7/8"     | 1 1/8" | 3/4"       | 7/8"     | 1 1/8" | 3/4"              | 7/8"     | 1 1/8" |
| CUR122V40-VHP-0 | 5/8"                         | 3/4"                               | 7/8"     | 1 1/8" | 3/4"                | 7/8"     | 1 1/8" | 3/4"       | 7/8"     | 1 1/8" | 3/4"              | 7/8"     | 1 1/8" |

### Footnotes

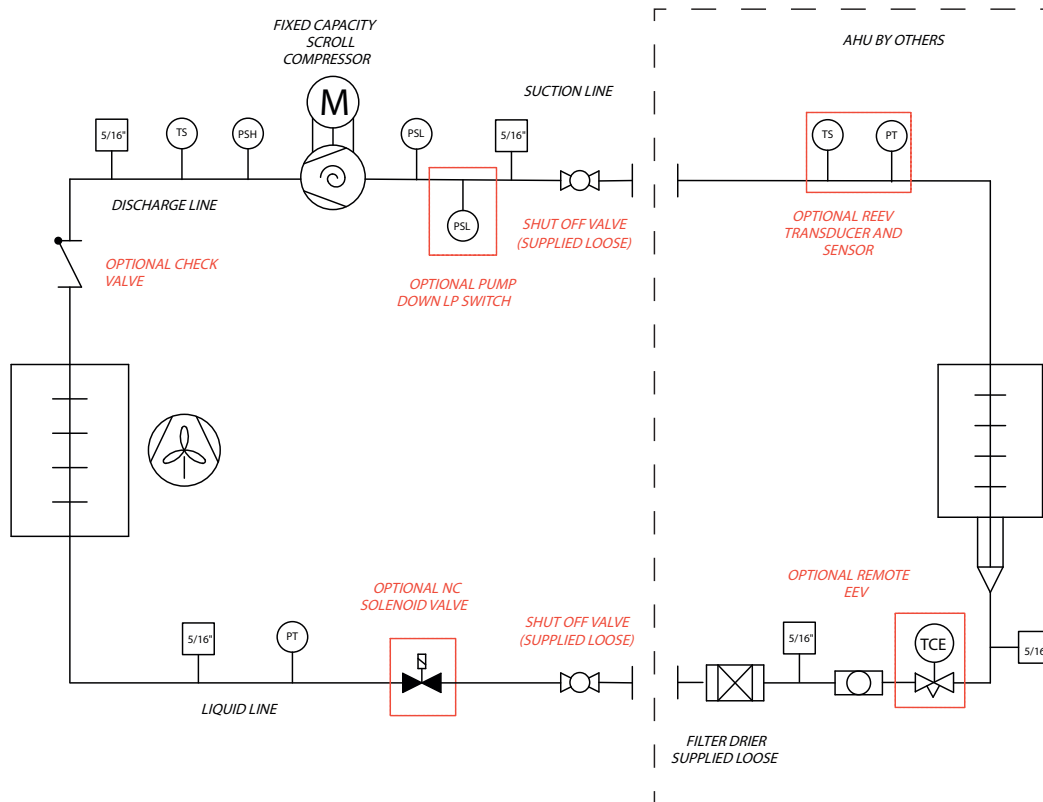
- 1) For interconnecting pipework with a predominantly horizontal layout
- 2) For interconnecting pipework with a predominantly vertical layout
- 3) Double risers should be used on vertical suction / discharge lines for heat pump systems where the BluCube is below AHU. A single riser will not be sufficient to minimise pressure loss.
- 4) Vertical liquid lines greater than 20m are not permitted on any system

### Assumptions

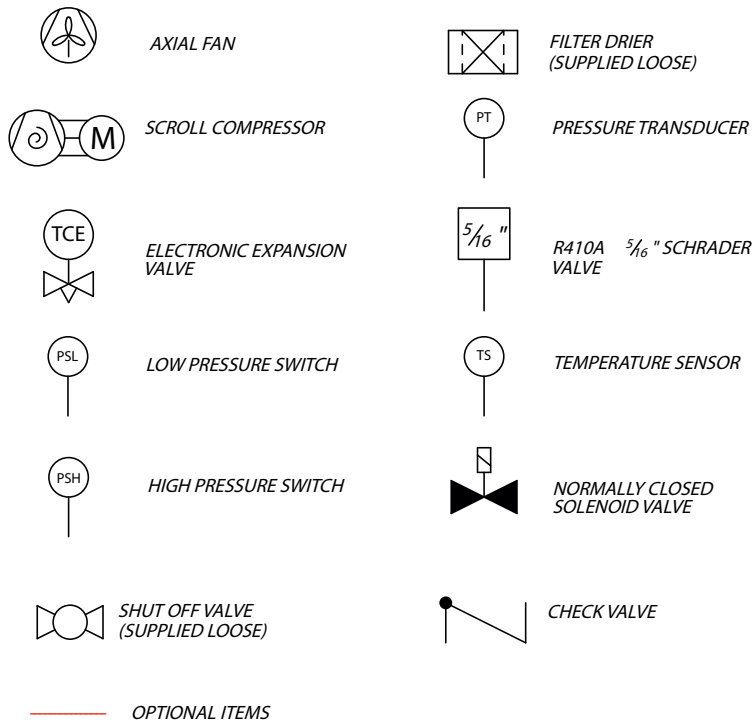
- i) In cooling mode - evaporator temperature = 7°C and condensing temperature = 50°C
- ii) In heating mode - evaporator temperature = -10°C and condensing temperature = 50°C

## Pipework Schematics

### Cooling Only – Fixed Capacity



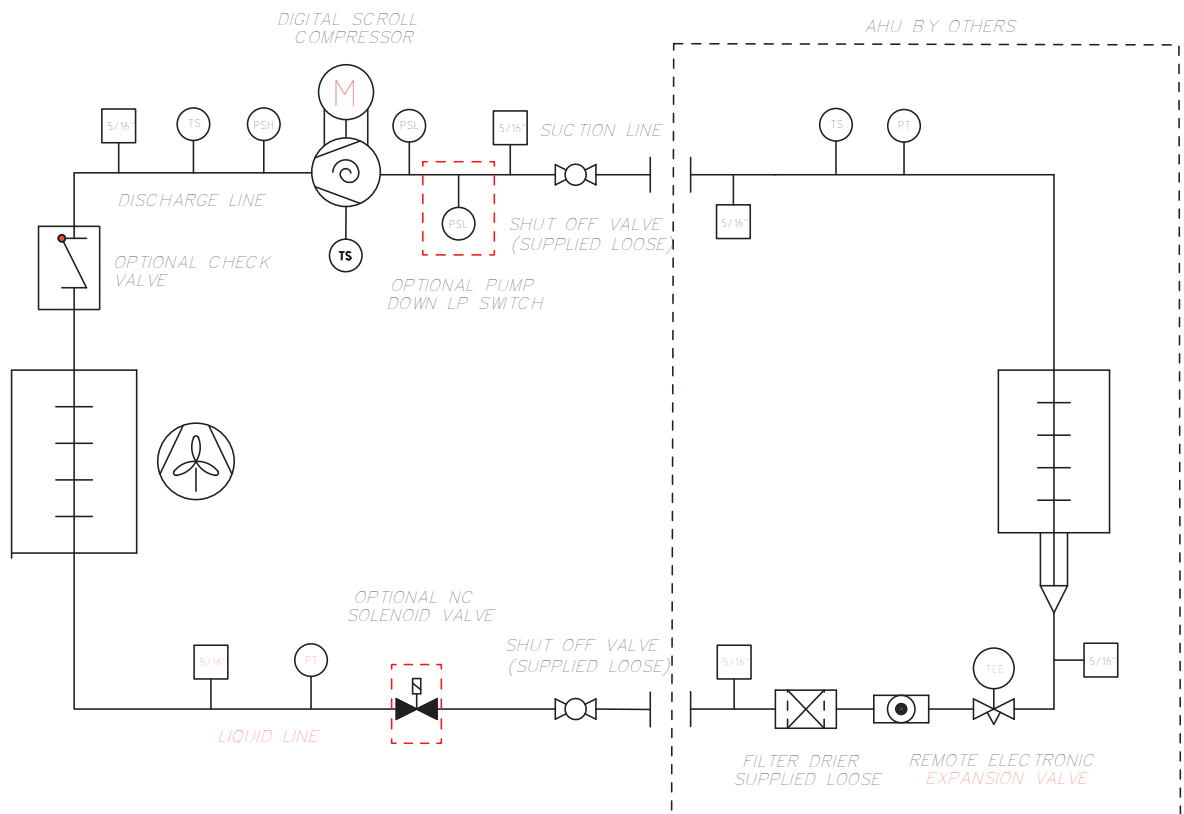
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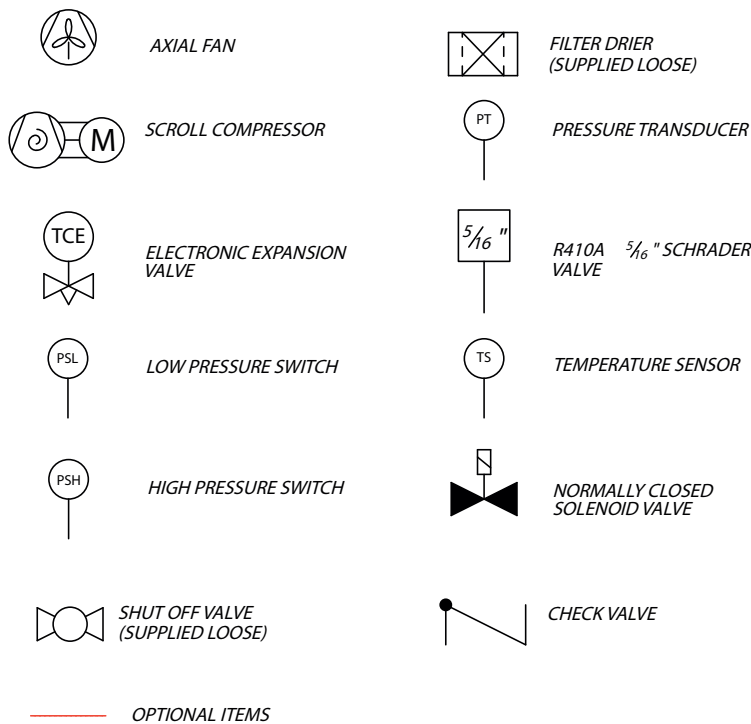


## Pipework Schematics

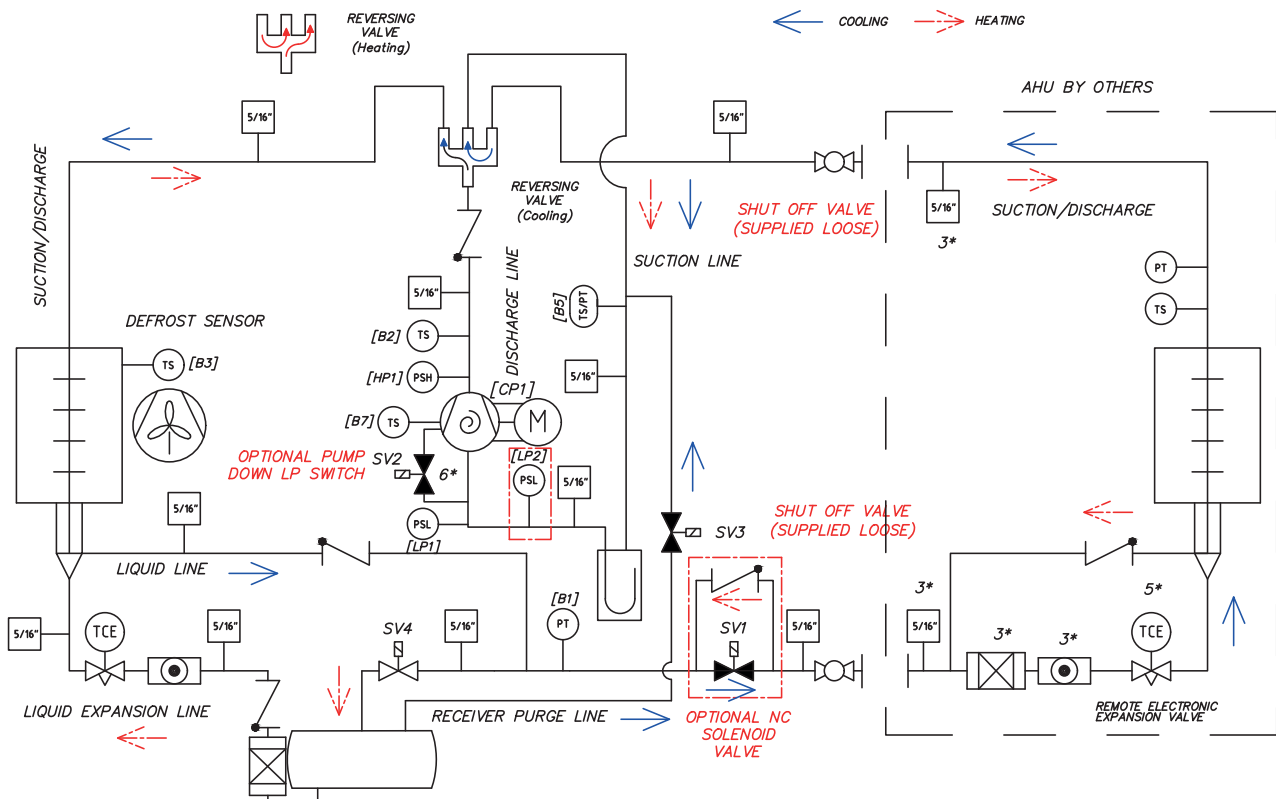
### Cooling Only – Digital Scroll



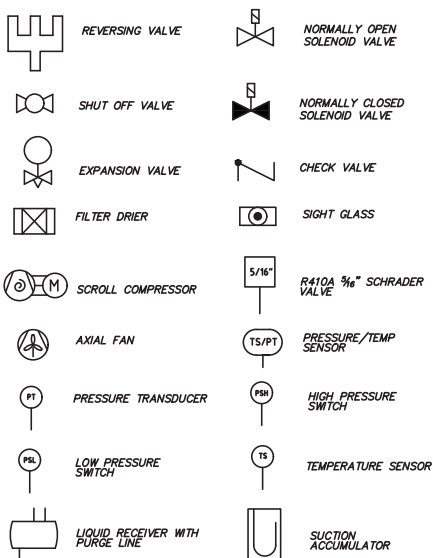
### KEY: ALL ITEMS



# Installation

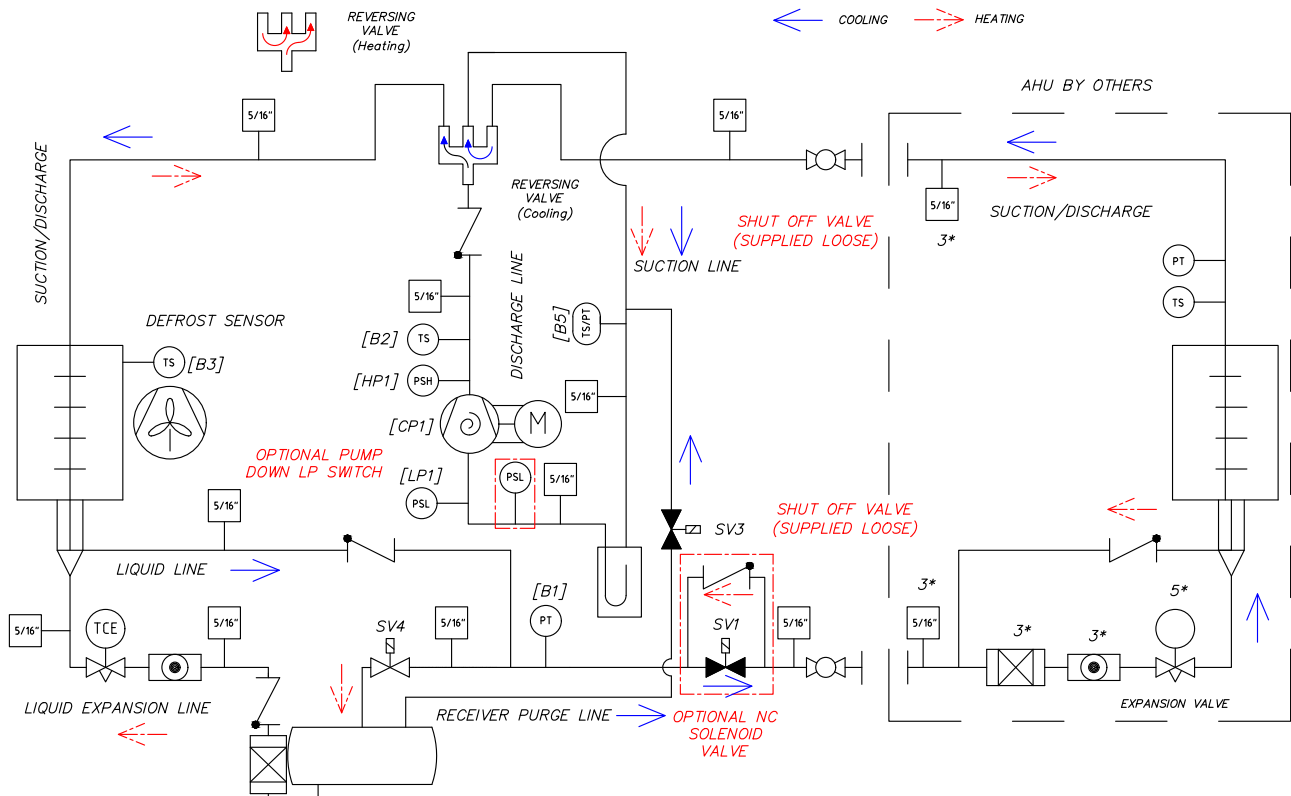


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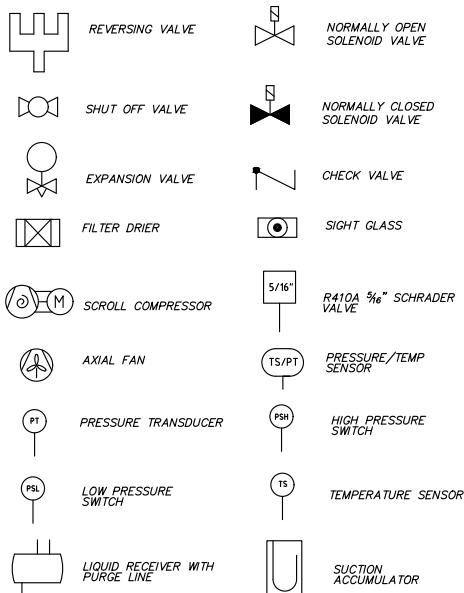
## Pipework Schematics

### Heat Pump – Fixed Capacity – Electronic Expansion Valve



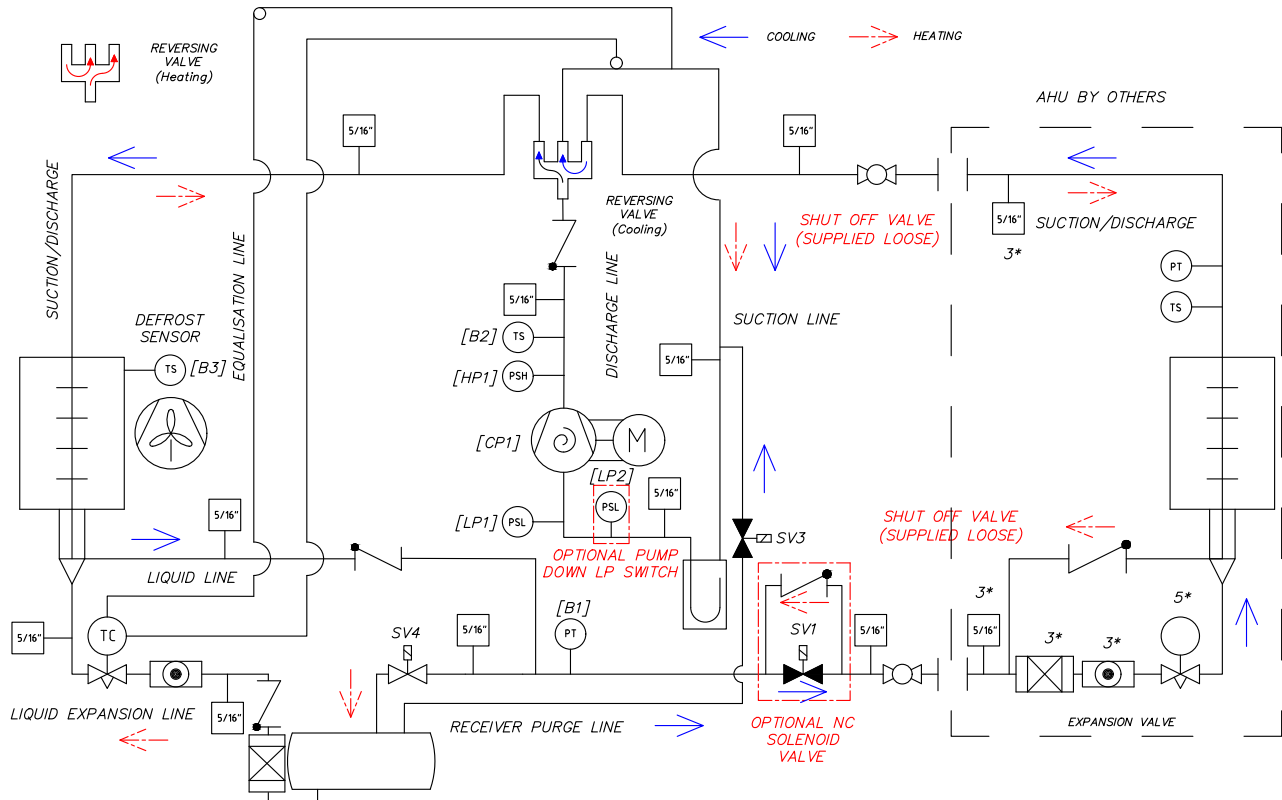
Installation

KEY: ALL ITEMS

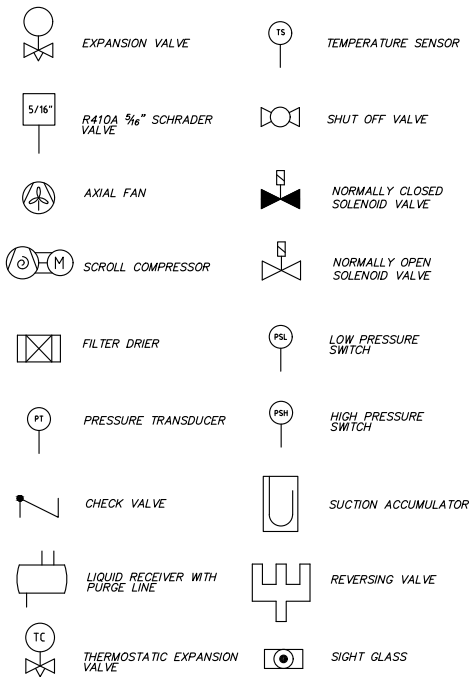


**Pipework Schematics - Fixed Capacity, EEV**  
**Heat Pump- Fixed Capacity- Thermostatic Expansion Valve**

Installation



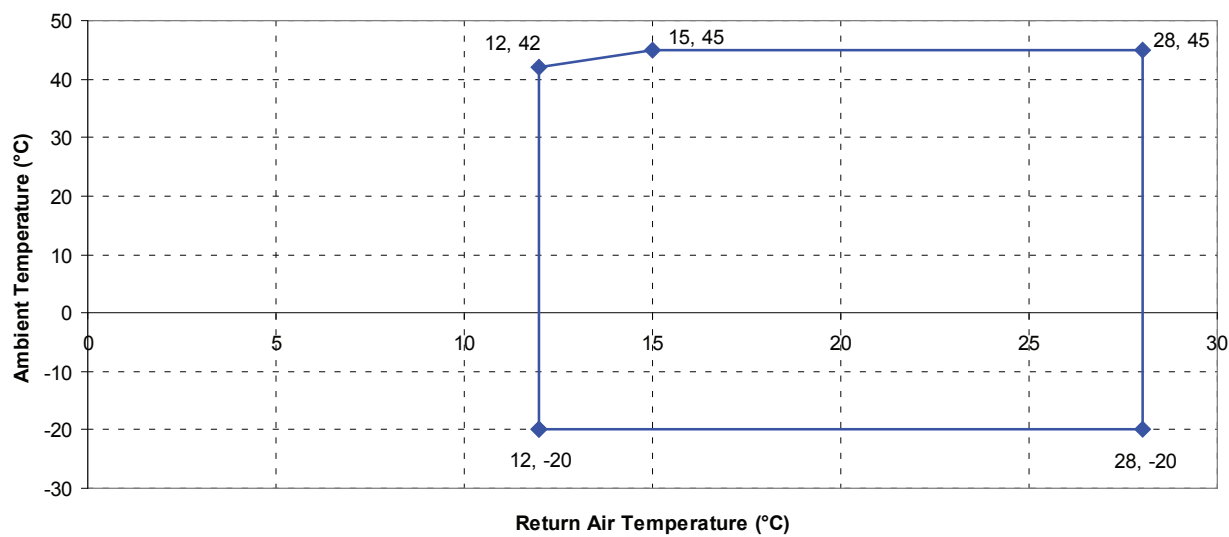
KEY: ALL ITEMS



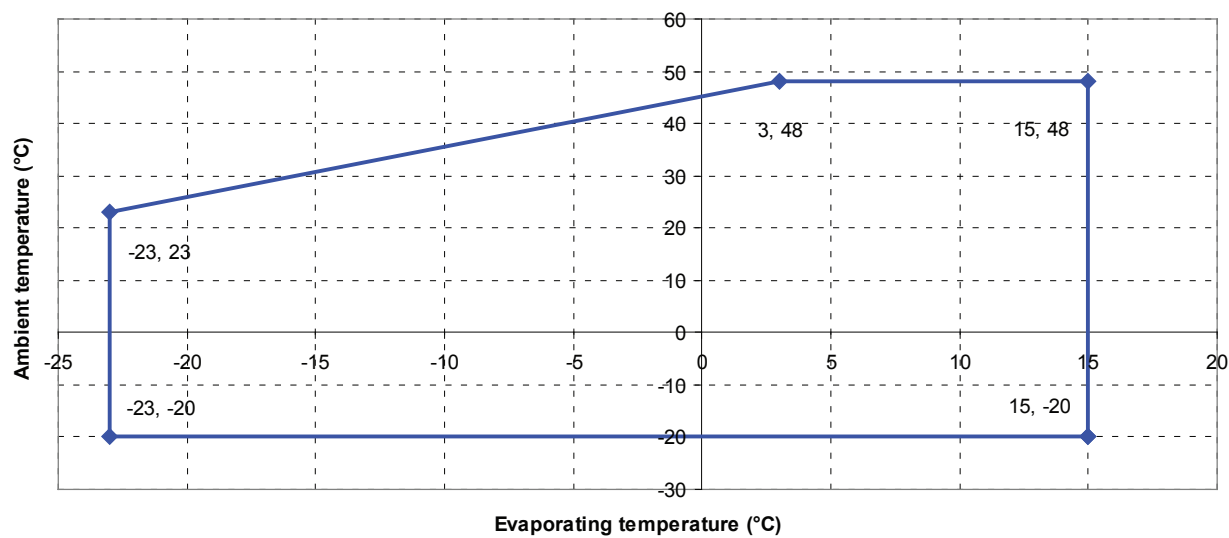
Technical Data Cooling Only  
Operational Limits

Data based upon a 12°C ΔT across the indoor heat exchanger.

Typical Cooling Application Envelope



Operating Limits - Cooling Only



## Cooling Only Fixed Capacities

Cooling Only Fixed Capacity in Cooling

Technical

|                 |               | Summer Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|---------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |               | 25                    |                       | 30                    |                       | 35                    |                       | 40                    |                       | 45                    |                       |
| Unit            | EvapTemp (°C) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-1CO-0 | -5            | 9.6                   | 3.8                   | 9.6                   | 3.8                   | 9.2                   | 4.0                   | 8.6                   | 4.4                   | 8.0                   | 4.8                   |
|                 | 0             | 11.5                  | 3.8                   | 11.5                  | 3.8                   | 11.0                  | 4.0                   | 10.3                  | 4.4                   | 9.6                   | 4.9                   |
|                 | 5             | 13.8                  | 3.8                   | 13.7                  | 3.7                   | 13.0                  | 4.1                   | 12.2                  | 4.5                   | 11.5                  | 4.9                   |
|                 | 7             | 14.8                  | 3.8                   | 14.7                  | 3.7                   | 13.8                  | 4.1                   | 13.0                  | 4.5                   | 12.2                  | 4.9                   |
|                 | 10            | 16.4                  | 3.8                   | 16.2                  | 3.7                   | 15.2                  | 4.1                   | 14.3                  | 4.5                   | 13.5                  | 5.0                   |
| CUR092V20-1CO-0 | -5            | 14.7                  | 5.5                   | 14.5                  | 5.5                   | 13.7                  | 5.9                   | 12.7                  | 6.4                   | 11.7                  | 6.9                   |
|                 | 0             | 17.6                  | 5.4                   | 17.2                  | 5.6                   | 16.2                  | 6.0                   | 15.2                  | 6.5                   | 14.1                  | 7.0                   |
|                 | 5             | 21.1                  | 5.3                   | 20.2                  | 5.6                   | 19.1                  | 6.1                   | 17.9                  | 6.6                   | 16.8                  | 7.2                   |
|                 | 7             | 22.6                  | 5.3                   | 21.5                  | 5.7                   | 20.3                  | 6.2                   | 19.1                  | 6.7                   | 17.9                  | 7.2                   |
|                 | 10            | 25.0                  | 5.3                   | 23.6                  | 5.7                   | 22.2                  | 6.2                   | 20.9                  | 6.7                   | 19.6                  | 7.3                   |
| CUR092V25-1CO-0 | -5            | 19.2                  | 6.8                   | 18.6                  | 7.1                   | 17.5                  | 7.7                   | 16.4                  | 8.4                   | N/A                   | N/A                   |
|                 | 0             | 23.2                  | 6.9                   | 22.1                  | 7.4                   | 20.9                  | 8.0                   | 19.5                  | 8.7                   | 18.0                  | 9.5                   |
|                 | 5             | 27.6                  | 7.1                   | 26.1                  | 7.7                   | 24.5                  | 8.3                   | 22.8                  | 9.0                   | 21.0                  | 9.8                   |
|                 | 7             | 29.4                  | 7.2                   | 27.7                  | 7.8                   | 26.0                  | 8.4                   | 24.2                  | 9.1                   | 22.3                  | 9.9                   |
|                 | 10            | 32.1                  | 7.5                   | 30.3                  | 8.0                   | 28.4                  | 8.7                   | 26.5                  | 9.3                   | 24.3                  | 10.1                  |
| CUR092V29-1CO-0 | -5            | 21.8                  | 7.5                   | 20.7                  | 8.0                   | 19.3                  | 8.7                   | 17.9                  | 9.5                   | N/A                   | N/A                   |
|                 | 0             | 26.1                  | 7.6                   | 24.5                  | 8.3                   | 22.9                  | 9.0                   | 21.2                  | 9.9                   | 19.4                  | 10.8                  |
|                 | 5             | 30.6                  | 8.0                   | 28.8                  | 8.6                   | 26.9                  | 9.4                   | 24.9                  | 10.2                  | 22.8                  | 11.1                  |
|                 | 7             | 32.5                  | 8.1                   | 30.6                  | 8.8                   | 28.6                  | 9.5                   | 26.5                  | 10.4                  | 24.3                  | 11.3                  |
|                 | 10            | 35.4                  | 8.3                   | 33.4                  | 9.0                   | 31.2                  | 9.8                   | 28.9                  | 10.6                  | 26.5                  | 11.5                  |
| CUR122V35-1CO-0 | -5            | 28.5                  | 9.6                   | 27.9                  | 10.8                  | 26.1                  | 11.8                  | 24.2                  | 12.9                  | 22.2                  | 14.1                  |
|                 | 0             | 34.3                  | 10.0                  | 33.1                  | 11.1                  | 31.0                  | 12.1                  | 28.8                  | 13.2                  | 26.4                  | 14.4                  |
|                 | 5             | 41.0                  | 10.5                  | 38.9                  | 11.4                  | 36.5                  | 12.4                  | 33.9                  | 13.5                  | 31.1                  | 14.7                  |
|                 | 7             | 43.7                  | 10.7                  | 41.3                  | 11.6                  | 38.8                  | 12.5                  | 36.1                  | 13.6                  | 33.1                  | 14.8                  |
|                 | 10            | 47.8                  | 11.0                  | 45.2                  | 11.8                  | 42.4                  | 12.8                  | 39.5                  | 13.8                  | 36.3                  | 15.0                  |
| CUR122V40-1CO-0 | -5            | 32.7                  | 11.2                  | 31.6                  | 12.3                  | 29.6                  | 13.3                  | 27.6                  | 14.4                  | N/A                   | N/A                   |
|                 | 0             | 39.3                  | 11.9                  | 37.3                  | 12.8                  | 35.0                  | 13.8                  | 32.6                  | 14.9                  | 30.0                  | 16.1                  |
|                 | 5             | 46.2                  | 12.4                  | 43.6                  | 13.3                  | 40.9                  | 14.3                  | 38.1                  | 15.4                  | 35.0                  | 16.6                  |
|                 | 7             | 49.0                  | 12.6                  | 46.3                  | 13.5                  | 43.4                  | 14.5                  | 40.4                  | 15.6                  | 37.2                  | 16.9                  |
|                 | 10            | 53.5                  | 12.9                  | 50.5                  | 13.9                  | 47.4                  | 14.9                  | 44.1                  | 16.0                  | 40.6                  | 17.2                  |

Notes:

1 Cooling Capacity kW refers to the compressor duty.

2 Input kW refers to the compressor and fan input power only.

All performance data is supplied in accordance with BS EN 14511-1:2018

## Cooling Only Modulating Capacities

Cooling Only Modulated Capacity in Cooling

|                 |                | Summer Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |                | 25                    |                       | 30                    |                       | 35                    |                       | 40                    |                       | 45                    |                       |
| Unit            | Evap Temp (°C) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-VCO-0 | -5             | 10.9                  | 4.0                   | 10.9                  | 4.1                   | 10.4                  | 4.2                   | 9.7                   | 4.7                   | 9.0                   | 5.1                   |
|                 | 0              | 13.1                  | 4.1                   | 13.1                  | 4.1                   | 12.4                  | 4.4                   | 11.6                  | 4.8                   | 10.7                  | 5.2                   |
|                 | 5              | 15.7                  | 4.2                   | 15.6                  | 4.1                   | 14.7                  | 4.5                   | 13.7                  | 4.9                   | 12.7                  | 5.4                   |
|                 | 7              | 16.8                  | 4.2                   | 16.6                  | 4.1                   | 15.6                  | 4.5                   | 14.6                  | 5.0                   | 13.5                  | 5.5                   |
|                 | 10             | 18.6                  | 4.2                   | 18.3                  | 4.2                   | 17.2                  | 4.6                   | 16.0                  | 5.1                   | 14.8                  | 5.6                   |
| CUR092V20-VCO-0 | -5             | 14.9                  | 5.3                   | 14.8                  | 5.2                   | 13.9                  | 5.8                   | 12.9                  | 6.3                   | 12.0                  | 6.9                   |
|                 | 0              | 17.8                  | 5.4                   | 17.4                  | 5.4                   | 16.4                  | 5.9                   | 15.3                  | 6.5                   | 14.1                  | 7.1                   |
|                 | 5              | 21.1                  | 5.4                   | 20.3                  | 5.6                   | 19.1                  | 6.1                   | 17.8                  | 6.7                   | 16.5                  | 7.4                   |
|                 | 7              | 22.5                  | 5.4                   | 21.6                  | 5.7                   | 20.3                  | 6.2                   | 18.9                  | 6.8                   | 17.5                  | 7.5                   |
|                 | 10             | 24.7                  | 5.4                   | 23.5                  | 5.8                   | 22.1                  | 6.4                   | 20.6                  | 7.0                   | 19.1                  | 7.6                   |
| CUR092V25-VCO-0 | -5             | 18.5                  | 6.2                   | 18.0                  | 6.4                   | 16.9                  | 7.1                   | 15.6                  | 7.9                   | N/A                   | N/A                   |
|                 | 0              | 22.2                  | 6.2                   | 21.3                  | 6.6                   | 20.0                  | 7.2                   | 18.6                  | 8.0                   | 17.1                  | 8.9                   |
|                 | 5              | 26.3                  | 6.2                   | 24.9                  | 6.8                   | 23.4                  | 7.5                   | 21.8                  | 8.2                   | 20.0                  | 9.1                   |
|                 | 7              | 28.0                  | 6.3                   | 26.4                  | 6.9                   | 24.8                  | 7.6                   | 23.1                  | 8.3                   | 21.3                  | 9.1                   |
|                 | 10             | 30.5                  | 6.5                   | 28.7                  | 7.1                   | 27.0                  | 7.7                   | 25.1                  | 8.5                   | 23.2                  | 9.3                   |
| CUR092V29-VCO-0 | -5             | 21.9                  | 7.2                   | 20.8                  | 7.7                   | 19.4                  | 8.6                   | 17.8                  | 9.6                   | N/A                   | N/A                   |
|                 | 0              | 26.1                  | 7.2                   | 24.6                  | 8.0                   | 22.9                  | 8.8                   | 21.1                  | 9.8                   | 19.2                  | 10.9                  |
|                 | 5              | 30.4                  | 7.5                   | 28.7                  | 8.2                   | 26.8                  | 9.1                   | 24.7                  | 10.0                  | 22.5                  | 11.1                  |
|                 | 7              | 32.3                  | 7.6                   | 30.4                  | 8.3                   | 28.4                  | 9.2                   | 26.2                  | 10.1                  | 23.9                  | 11.2                  |
|                 | 10             | 35.1                  | 7.8                   | 33.1                  | 8.5                   | 30.9                  | 9.4                   | 28.5                  | 10.3                  | 26.0                  | 11.4                  |
| CUR122V35-VCO-0 | -5             | 27.5                  | 9.1                   | 27.0                  | 10.3                  | 25.5                  | 11.2                  | 23.8                  | 12.2                  | 21.9                  | 13.3                  |
|                 | 0              | 32.8                  | 9.4                   | 31.9                  | 10.6                  | 30.0                  | 11.5                  | 28.0                  | 12.5                  | 25.8                  | 13.7                  |
|                 | 5              | 39.0                  | 10.0                  | 37.2                  | 10.9                  | 35.0                  | 11.8                  | 32.6                  | 12.9                  | 30.0                  | 14.0                  |
|                 | 7              | 41.7                  | 10.3                  | 39.5                  | 11.1                  | 37.1                  | 12.0                  | 34.5                  | 13.0                  | 31.8                  | 14.1                  |
|                 | 10             | 45.7                  | 10.5                  | 43.1                  | 11.3                  | 40.5                  | 12.2                  | 37.6                  | 13.3                  | 34.6                  | 14.4                  |
| CUR122V40-VCO-0 | -5             | 32.9                  | 11.1                  | 31.9                  | 12.3                  | 30.2                  | 13.3                  | 28.3                  | 14.5                  | N/A                   | N/A                   |
|                 | 0              | 38.8                  | 11.7                  | 37.1                  | 12.7                  | 35.0                  | 13.7                  | 32.8                  | 14.9                  | 30.4                  | 16.2                  |
|                 | 5              | 45.2                  | 12.1                  | 42.8                  | 13.1                  | 40.3                  | 14.1                  | 37.7                  | 15.3                  | 34.8                  | 16.6                  |
|                 | 7              | 47.9                  | 12.3                  | 45.3                  | 13.3                  | 42.6                  | 14.3                  | 39.8                  | 15.5                  | 36.7                  | 16.8                  |
|                 | 10             | 52.1                  | 12.6                  | 49.2                  | 13.6                  | 46.2                  | 14.6                  | 43.0                  | 15.8                  | 39.7                  | 17.1                  |

Notes:

1 Cooling Capacity kW refers to the compressor duty.

2 Input kW refers to the compressor and fan input power only.

All performance data is supplied in accordance with BS EN 14511-1:2018

**Mechanical Data Cooling Only Fixed Capacities**

**CUR092V16-1CO-0 - CUR092V20-1CO-0 - CUR092V25-1CO-0**

|                                |      | CUR092V16-1CO-0                                                                  | CUR092V20-1CO-0  | CUR092V25-1CO-0  |
|--------------------------------|------|----------------------------------------------------------------------------------|------------------|------------------|
| Capacity                       |      |                                                                                  |                  |                  |
| Nominal Cooling Capacity (1)   | kW   | 13.8                                                                             | 20.3             | 26.0             |
| Capacity Steps                 |      | 1                                                                                | 1                | 1                |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1736                                                                 | 922 x 764 x 1736 | 922 x 764 x 1736 |
| Mass – Machine / Operating (3) | kg   | 212                                                                              | 213              | 241              |
| Construction                   |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                  |                  |
| Material/Colour                |      |                                                                                  |                  |                  |
| Condenser                      |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                  |                  |
| Fan Motor                      |      | Axial                                                                            |                  |                  |
| Motor Type                     |      | AC 1ph                                                                           | AC 1ph           | AC 1ph           |
| Quantity x Motor Size          | kW   | 1 x 0.6                                                                          | 1 x 0.6          | 1 x 0.6          |
| Diameter                       | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed              | RPM  | 895                                                                              | 895              | 895              |
| Maximum Airflow                | m³/s | 2.0                                                                              | 2.0              | 2.0              |
| Compressor                     |      | Fixed Capacity Scroll                                                            |                  |                  |
| Compressor Type                |      |                                                                                  |                  |                  |
| Quantity                       |      | 1                                                                                | 1                | 1                |
| Oil Charge Volume              | l    | 1.57                                                                             | 1.57             | 3.3              |
| Oil Type                       |      | Polyolester                                                                      |                  |                  |
| Refrigeration                  |      | Single Circuit - 2 pipe configuration                                            |                  |                  |
| Refrigerant control and type   |      | Optional REEV package                                                            |                  |                  |
| Refrigerant type               |      | R410A                                                                            |                  |                  |
| Holding Charge                 |      | Inert Gas                                                                        |                  |                  |
| Coil Volume                    | l    | 18.59                                                                            | 18.59            | 18.59            |
| Refrigerant Charge (4)         | kg   | 8.5                                                                              | 8.6              | 8.6              |
| GWP Tonnes Equivalent CO2      | tCO2 | 17.7                                                                             | 18.0             | 18.0             |
| Connections                    |      |                                                                                  |                  |                  |
| Liquid (sweat)                 | in   | 3/8                                                                              | 1/2              | 1/2              |
| Suction (sweat)                | in   | 7/8                                                                              | 1 1/8            | 1 3/8            |
| Optional Extras                |      |                                                                                  |                  |                  |
| EC Fan                         |      |                                                                                  |                  |                  |
| Quantity x Motor Size          | kW   | 1 x 0.72                                                                         | 1 x 0.72         | 1 x 0.72         |
| Diameter                       | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed              | RPM  | 1000                                                                             | 1000             | 1000             |
| Maximum Airflow                | m³/s | 2.3                                                                              | 2.3              | 2.3              |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1750                                                                 | 922 x 764 x 1750 | 922 x 764 x 1750 |
| Mass – Machine / Operating (3) | kg   | 204                                                                              | 205              | 232              |
| Short Case Axial Fan           |      | Designed to 75Pa ESP                                                             |                  |                  |
| Quantity x Motor Size          | kW   | 1 x 1.6                                                                          | 1 x 1.6          | 1 x 1.6          |
| Diameter                       | mm   | 560                                                                              | 560              | 560              |
| Maximum Fan Speed              | RPM  | 1330                                                                             | 1330             | 1330             |
| Maximum Airflow                | m³/s | 2.8                                                                              | 2.8              | 2.8              |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1753                                                                 | 922 x 764 x 1753 | 922 x 764 x 1753 |
| Mass – Machine / Operating (3) | kg   | 218                                                                              | 219              | 247              |
| REEV Selection                 |      | E2V - 24                                                                         | E2V - 35         | E2V - 35         |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package

All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Overall dimensions for clearance

(3) Unit mass excludes a refrigerant charge

(4) For guidance only



## Electrical Data Cooling Only Fixed Capacities

### CUR092V16-1CO-0 - CUR092V20-1CO-0 - CUR092V25-1CO-0

|                                  |                 | CUR092V16-1CO-0       | CUR092V20-1CO-0 | CUR092V25-1CO-0 |
|----------------------------------|-----------------|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 11                    | 16              | 18              |
| Maximum Start Amps               | A               | 73                    | 103             | 145             |
| Recommended Mains Fuse Size      | A               | 16                    | 25              | 32              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> | 35                    | 35              | 35              |
| Mains Supply                     | V               | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |                       |                 |                 |
| Motor Type                       |                 | AC                    | AC              | AC              |
|                                  |                 | 1~                    | 1~              | 1~              |
| Quantity x Motor Size -2         | kW              | 1 x 0.6               | 1 x 0.6         | 1 x 0.6         |
| Full Load Amps                   | A               | 2.6                   | 2.6             | 2.6             |
| Locked Rotor Amps                | A               | 9.2                   | 9.2             | 9.2             |
| Compressor                       |                 |                       |                 |                 |
| Motor Size                       | kW              | 5                     | 6               | 8               |
| Nominal Run Amps                 | A               | 7.8                   | 13.3            | 15.8            |
| Locked Rotor Amps                | A               | 70                    | 100             | 142             |
| Type of Start                    |                 | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 11                    | 16              | 18              |
| Maximum Start Amps               | A               | 45                    | 63              | 88              |
| Recommended Mains Fuse Size      | A               | 16                    | 25              | 32              |
| Power Factor Correction          |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 10                    | 16              | 18              |
| Maximum Start Amps               | A               | 73                    | 103             | 145             |
| Recommended Mains Fuse Size      | A               | 16                    | 25              | 32              |
| Compressor Nominal Run Amps      | A               | 7.5                   | 12.8            | 14.9            |
| First upgrade EC Motor - Per Fan |                 |                       |                 |                 |
|                                  |                 | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              | 1 x 0.73              | 1 x 0.73        | 1 x 0.73        |
| Full Load Amps                   | A               | 3.3                   | 3.3             | 3.3             |
| Locked Rotor Amps                | A               | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |                       |                 |                 |
|                                  |                 | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              | 1 x 1.4               | 1 x 1.4         | 1 x 1.4         |
| Full Load Amps                   | A               | 6                     | 6               | 6               |
| Locked Rotor Amps                | A               | 18                    | 18              | 18              |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

# Mechanical Data Cooling Only Fixed Capacities

## CUR092V29-1CO-0 - CUR122V35-1CO-0 - CUR122V40-1CO-0

|                                |      | CUR092V29-1CO-0                                                                  | CUR122V35-1CO-0   | CUR122V40-1CO-0   |
|--------------------------------|------|----------------------------------------------------------------------------------|-------------------|-------------------|
| Capacity                       |      |                                                                                  |                   |                   |
| Nominal Cooling Capacity (1)   | kW   | 28.6                                                                             | 38.8              | 43.4              |
| Capacity Steps                 |      | 1                                                                                | 1                 | 1                 |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1736                                                                 | 1222 x 861 x 1840 | 1222 x 861 x 1840 |
| Mass – Machine / Operating (3) | kg   | 241                                                                              | 292               | 296               |
| Construction                   |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                   |                   |
| Material/Colour                |      |                                                                                  |                   |                   |
| Condenser                      |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                   |                   |
| Fan Motor                      |      | Axial                                                                            |                   |                   |
| Motor Type                     |      | AC 1ph                                                                           | AC 3ph            | AC 3ph            |
| Quantity x Motor Size          | kW   | 1 x 0.6                                                                          | 1 x 1.94          | 1 x 1.94          |
| Diameter                       | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed              | RPM  | 895                                                                              | 1330              | 1330              |
| Maximum Airflow                | m³/s | 2.0                                                                              | 3.5               | 3.5               |
| Compressor                     |      | Fixed Capacity Scroll                                                            |                   |                   |
| Compressor Type                |      |                                                                                  |                   |                   |
| Quantity                       |      | 1                                                                                | 1                 | 1                 |
| Oil Charge Volume              | l    | 3.3                                                                              | 3.3               | 3.6               |
| Oil Type                       |      | Polyolester                                                                      |                   |                   |
| Refrigeration                  |      | Single Circuit - 2 pipe configuration                                            |                   |                   |
| Refrigerant control and type   |      | Optional REEV package                                                            |                   |                   |
| Refrigerant type               |      | R410A                                                                            |                   |                   |
| Holding Charge                 |      | Inert Gas                                                                        |                   |                   |
| Coil Volume                    | l    | 18.59                                                                            | 19.96             | 19.96             |
| Refrigerant Charge (4)         | kg   | 8.6                                                                              | 10.1              | 10.1              |
| GWP Tonnes Equivalent CO2      | tCO2 | 18.0                                                                             | 21.1              | 21.1              |
| Connections                    |      |                                                                                  |                   |                   |
| Liquid (sweat)                 | in   | 1/2                                                                              | 5/8               | 5/8               |
| Suction (sweat)                | in   | 1 3/8                                                                            | 1 3/8             | 1 5/8             |
| Optional Extras                |      |                                                                                  |                   |                   |
| EC Fan                         |      |                                                                                  |                   |                   |
| Quantity x Motor Size          | kW   | 1 x 0.72                                                                         | 1 x 1.85          | 1 x 1.85          |
| Diameter                       | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed              | RPM  | 1000                                                                             | 1230              | 1230              |
| Maximum Airflow                | m³/s | 2.3                                                                              | 3.5               | 3.5               |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1750                                                                 | 1222 x 861 x 1849 | 1222 x 861 x 1849 |
| Mass – Machine / Operating (3) | kg   | 233                                                                              | 295               | 298               |
| Short Case Axial Fan           |      | Designed to 75Pa ESP                                                             |                   |                   |
| Quantity x Motor Size          | kW   | 1 x 1.6                                                                          | N/A               | N/A               |
| Diameter                       | mm   | 560                                                                              | N/A               | N/A               |
| Maximum Fan Speed              | RPM  | 1330                                                                             | N/A               | N/A               |
| Maximum Airflow                | m³/s | 2.8                                                                              | N/A               | N/A               |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1753                                                                 | N/A               | N/A               |
| Mass – Machine / Operating (3) | kg   | 247                                                                              | N/A               | N/A               |
| REEV Selection                 |      | E2V - 35                                                                         | E3V - 45          | E3V - 45          |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Overall dimensions for clearance

(3) Unit mass excludes a refrigerant charge

(4) For guidance only

## Electrical Data Cooling Only Fixed Capacities

### CUR092V29-1CO-0 - CUR122V35-1CO-0 - CUR122V40-1CO-0

|                                  |                 | CUR092V29-1CO-0       | CUR122V35-1CO-0 | CUR122V40-1CO-0 |
|----------------------------------|-----------------|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 20                    | 26              | 30              |
| Maximum Start Amps               | A               | 145                   | 163             | 202             |
| Recommended Mains Fuse Size      | A               | 32                    | 40              | 50              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> | 35                    | 35              | 35              |
| Mains Supply                     | V               | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |                       |                 |                 |
| Motor Type                       |                 | AC                    | AC              | AC              |
|                                  |                 | 1~                    | 3~              | 3~              |
| Quantity x Motor Size -2         | kW              | 1 x 0.6               | 1 x 1.97        | 1 x 1.97        |
| Full Load Amps                   | A               | 2.6                   | 3.4             | 3.4             |
| Locked Rotor Amps                | A               | 9.2                   | 14.0            | 14.0            |
| Compressor                       |                 |                       |                 |                 |
| Motor Size                       | kW              | 9                     | 12              | 14              |
| Nominal Run Amps                 | A               | 17                    | 21              | 25              |
| Locked Rotor Amps                | A               | 142                   | 158             | 197             |
| Type of Start                    |                 | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 19.6                  | 26.1            | 30              |
| Maximum Start Amps               | A               | 87.82                 | 100.2           | 123.6           |
| Recommended Mains Fuse Size      | A               | 32                    | 40              | 50              |
| Power Factor Correction          |                 |                       |                 |                 |
| Nominal Run Amps                 | A               | 19                    | 25              | 29              |
| Maximum Start Amps               | A               | 145                   | 163             | 202             |
| Recommended Mains Fuse Size      | A               | 32                    | 40              | 50              |
| Compressor Nominal Run Amps      | A               | 16.2                  | 19.3            | 23.0            |
| First upgrade EC Motor - Per Fan |                 |                       |                 |                 |
|                                  |                 | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | kW              | 1 x 0.73              | 1 x 1.85        | 1 x 1.85        |
| Full Load Amps                   | A               | 3.3                   | 2.9             | 2.9             |
| Locked Rotor Amps                | A               | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |                       |                 |                 |
|                                  |                 | 1~                    | N/A             | N/A             |
| Quantity x Motor Size            | kW              | 1 x 1.4               | N/A             | N/A             |
| Full Load Amps                   | A               | 6                     | N/A             | N/A             |
| Locked Rotor Amps                | A               | 18                    | N/A             | N/A             |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

**Mechanical Data Cooling Only Variable Capacities**  
**CUR092V16-VCO-0 - CUR092V20-VCO-0 - CUR092V25-VCO-0**

|                                |      | CUR092V16-VCO-0                                                                  | CUR092V20-VCO-0  | CUR092V25-VCO-0  |
|--------------------------------|------|----------------------------------------------------------------------------------|------------------|------------------|
| Capacity                       |      |                                                                                  |                  |                  |
| Nominal Cooling Capacity (1)   | kW   | 15.6                                                                             | 20.3             | 24.8             |
| Capacity Steps                 |      | 10-100%                                                                          | 10-100%          | 10-100%          |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1736                                                                 | 922 x 764 x 1736 | 922 x 764 x 1736 |
| Mass – Machine / Operating (3) | kg   | 219                                                                              | 220              | 241              |
| Construction                   |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                  |                  |
| Material/Colour                |      |                                                                                  |                  |                  |
| Condenser                      |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                  |                  |
| Fan Motor                      |      | Axial                                                                            |                  |                  |
| Motor Type                     |      | AC 1ph                                                                           | AC 1ph           | AC 1ph           |
| Quantity x Motor Size          | kW   | 1 x 0.6                                                                          | 1 x 0.6          | 1 x 0.6          |
| Diameter                       | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed              | RPM  | 895                                                                              | 895              | 895              |
| Maximum Airflow                | m³/s | 2.0                                                                              | 2.0              | 2.0              |
| Compressor                     |      | Modulating Capacity Scroll                                                       |                  |                  |
| Compressor Type                |      |                                                                                  |                  |                  |
| Quantity                       |      | 1                                                                                | 1                | 1                |
| Oil Charge Volume              | l    | 1.9                                                                              | 1.9              | 3.2              |
| Oil Type                       |      | Polyolester                                                                      |                  |                  |
| Refrigeration                  |      | Single Circuit - 2 pipe configuration                                            |                  |                  |
| Refrigerant control and type   |      | Optional REEV package                                                            |                  |                  |
| Refrigerant type               |      | R410A                                                                            |                  |                  |
| Holding Charge                 |      | Inert Gas                                                                        |                  |                  |
| Coil Volume                    | l    | 18.59                                                                            | 18.59            | 18.59            |
| Refrigerant Charge (4)         | kg   | 8.5                                                                              | 8.5              | 8.6              |
| GWP Tonnes Equivalent CO2      | tCO2 | 17.7                                                                             | 17.7             | 18.0             |
| Connections                    |      |                                                                                  |                  |                  |
| Liquid (sweat)                 | in   | 3/8                                                                              | 1/2              | 1/2              |
| Suction (sweat)                | in   | 7/8                                                                              | 1 1/8            | 1 3/8            |
| Optional Extras                |      |                                                                                  |                  |                  |
| EC Fan                         |      |                                                                                  |                  |                  |
| Quantity x Motor Size          | kW   | 1 x 0.72                                                                         | 1 x 0.72         | 1 x 0.72         |
| Diameter                       | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed              | RPM  | 1000                                                                             | 1000             | 1000             |
| Maximum Airflow                | m³/s | 2.3                                                                              | 2.3              | 2.3              |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1750                                                                 | 922 x 764 x 1750 | 922 x 764 x 1750 |
| Mass – Machine / Operating (3) | kg   | 211                                                                              | 212              | 233              |
| Short Case Axial Fan           |      | Designed to 75Pa ESP                                                             |                  |                  |
| Quantity x Motor Size          | kW   | 1 x 1.6                                                                          | 1 x 1.6          | 1 x 1.6          |
| Diameter                       | mm   | 560                                                                              | 560              | 560              |
| Maximum Fan Speed              | RPM  | 1330                                                                             | 1330             | 1330             |
| Maximum Airflow                | m³/s | 2.8                                                                              | 2.8              | 2.8              |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1753                                                                 | 922 x 764 x 1753 | 922 x 764 x 1753 |
| Mass – Machine / Operating (3) | kg   | 218                                                                              | 219              | 247              |
| REEV Selection                 |      | E2V - 24                                                                         | E2V - 35         | E2V - 35         |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package

All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Overall dimensions for clearance

(3) Unit mass excludes a refrigerant charge

(4) For guidance only

## Mechanical Data Cooling Only Variable Capacities

### CUR092V16-VCO-0 - CUR092V20-VCO-0 - CUR092V25-VCO-0

|                                  |                 |  | CUR092V16-VCO-0       | CUR092V20-VCO-0 | CUR092V25-VCO-0 |
|----------------------------------|-----------------|--|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11.2                  | 14.7            | 17.2            |
| Maximum Start Amps               | A               |  | 66.6                  | 103.6           | 113.6           |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 25              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> |  | 35                    | 35              | 35              |
| Mains Supply                     | V               |  | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             |  | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |  |                       |                 |                 |
| Motor Type                       |                 |  | AC                    | AC              | AC              |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | -2 kW           |  | 1 x 0.6               | 1 x 0.6         | 1 x 0.6         |
| Full Load Amps                   | A               |  | 2.6                   | 2.6             | 2.6             |
| Locked Rotor Amps                | A               |  | 9.2                   | 9.2             | 9.2             |
| Compressor                       |                 |  |                       |                 |                 |
| Motor Size                       | kW              |  | 5                     | 7               | 8               |
| Nominal Run Amps                 | A               |  | 9                     | 12              | 15              |
| Locked Rotor Amps                | A               |  | 64                    | 101             | 111             |
| Type of Start                    |                 |  | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11                    | 15              | 17              |
| Maximum Start Amps               | A               |  | 41                    | 63              | 69              |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 25              |
| Power Factor Correction          |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | N/A                   |                 |                 |
| Maximum Start Amps               | A               |  |                       |                 |                 |
| Recommended Mains Fuse Size      | A               |  |                       |                 |                 |
| Compressor Nominal Run Amps      | A               |  |                       |                 |                 |
| First upgrade EC Motor - Per Fan |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 0.73              | 1 x 0.73        | 1 x 0.73        |
| Full Load Amps                   | A               |  | 3.3                   | 3.3             | 3.3             |
| Locked Rotor Amps                | A               |  | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 1.4               | 1 x 1.4         | 1 x 1.4         |
| Full Load Amps                   | A               |  | 6                     | 6               | 6               |
| Locked Rotor Amps                | A               |  | 18                    | 18              | 18              |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

**Mechanical Data Cooling Only Variable Capacities**  
**CUR092V29-VCO-0 - CUR122V35-VCO-0 - CUR122V40-VCO-0**

|                                |      | CUR092V29-VCO-0                                                                  | CUR122V35-VCO-0   | CUR122V40-VCO-0   |
|--------------------------------|------|----------------------------------------------------------------------------------|-------------------|-------------------|
| Capacity                       |      |                                                                                  |                   |                   |
| Nominal Cooling Capacity (1)   | kW   | 28.4                                                                             | 37.1              | 42.6              |
| Capacity Steps                 |      | 10-100%                                                                          | 10-100%           | 10-100%           |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1736                                                                 | 1222 x 861 x 1840 | 1222 x 861 x 1840 |
| Mass – Machine / Operating (3) | kg   | 243                                                                              | 293               | 295               |
| Construction                   |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                   |                   |
| Material/Colour                |      |                                                                                  |                   |                   |
| Condenser                      |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                   |                   |
| Fan Motor                      |      | Axial                                                                            |                   |                   |
| Motor Type                     |      | AC 1ph                                                                           | AC 3ph            | AC 3ph            |
| Quantity x Motor Size          | kW   | 1 x 0.6                                                                          | 1 x 1.94          | 1 x 1.94          |
| Diameter                       | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed              | RPM  | 895                                                                              | 1330              | 1330              |
| Maximum Airflow                | m³/s | 2.0                                                                              | 3.5               | 3.5               |
| Compressor                     |      | Modulating Capacity Scroll                                                       |                   |                   |
| Compressor Type                |      |                                                                                  |                   |                   |
| Quantity                       |      | 1                                                                                | 1                 | 1                 |
| Oil Charge Volume              | l    | 3.2                                                                              | 3.2               | 3.2               |
| Oil Type                       |      | Polyolester                                                                      |                   |                   |
| Refrigeration                  |      | Single Circuit - 2 pipe configuration                                            |                   |                   |
| Refrigerant control and type   |      | Optional REEV package                                                            |                   |                   |
| Refrigerant type               |      | R410A                                                                            |                   |                   |
| Holding Charge                 |      | Inert Gas                                                                        |                   |                   |
| Coil Volume                    | l    | 18.59                                                                            | 19.96             | 19.96             |
| Refrigerant Charge (4)         | kg   | 8.6                                                                              | 10.1              | 10.1              |
| GWP Tonnes Equivalent CO2      | tCO2 | 18.0                                                                             | 21.1              | 21.1              |
| Connections                    |      |                                                                                  |                   |                   |
| Liquid (sweat)                 | in   | 1/2                                                                              | 5/8               | 5/8               |
| Suction (sweat)                | in   | 1 3/8                                                                            | 1 3/8             | 1 5/8             |
| Optional Extras                |      |                                                                                  |                   |                   |
| EC Fan                         |      |                                                                                  |                   |                   |
| Quantity x Motor Size          | kW   | 1 x 0.72                                                                         | 1 x 1.85          | 1 x 1.85          |
| Diameter                       | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed              | RPM  | 1000                                                                             | 1230              | 1230              |
| Maximum Airflow                | m³/s | 2.3                                                                              | 3.5               | 3.5               |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1750                                                                 | 1222 x 861 x 1849 | 1222 x 861 x 1849 |
| Mass – Machine / Operating (3) | kg   | 234                                                                              | 296               | 298               |
| Short Case Axial Fan           |      | Designed to 75Pa ESP                                                             |                   |                   |
| Quantity x Motor Size          | kW   | 1 x 1.6                                                                          | N/A               | N/A               |
| Diameter                       | mm   | 560                                                                              | N/A               | N/A               |
| Maximum Fan Speed              | RPM  | 1330                                                                             | N/A               | N/A               |
| Maximum Airflow                | m³/s | 2.8                                                                              | N/A               | N/A               |
| Dimensions – W x D x H (2)     | mm   | 922 x 764 x 1753                                                                 | N/A               | N/A               |
| Mass – Machine / Operating (3) | kg   | 247                                                                              | N/A               | N/A               |
| REEV Selection                 |      | E2V - 35                                                                         | E3V - 45          | E3V - 45          |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
 All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Overall dimensions for clearance

(3) Unit mass excludes a refrigerant charge

(4) For guidance only

## Electrical Data Cooling Only Variable Capacities

### CUR092V29-VCO-0 - CUR122V35-VCO-0 - CUR122V40-VCO-0

|                                  |       |  | CUR092V29-VCO-0       | CUR122V35-VCO-0 | CUR122V40-VCO-0 |
|----------------------------------|-------|--|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | 19                    | 27              | 32              |
| Maximum Start Amps               | A     |  | 121                   | 145             | 178             |
| Recommended Mains Fuse Size      | A     |  | 32                    | 40              | 50              |
| Max Mains Incoming Cable Size    | mm²   |  | 35                    | 35              | 35              |
| Mains Supply                     | V     |  | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC   |  | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |       |  |                       |                 |                 |
| Motor Type                       |       |  | AC                    | AC              | AC              |
|                                  |       |  | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | -2 kW |  | 1 x 0.6               | 1 x 1.97        | 1 x 1.97        |
| Full Load Amps                   | A     |  | 2.6                   | 3.4             | 3.4             |
| Locked Rotor Amps                | A     |  | 9.2                   | 14.0            | 14.0            |
| Compressor                       |       |  |                       |                 |                 |
| Motor Size                       | kW    |  | 9                     | 12              | 14              |
| Nominal Run Amps                 | A     |  | 17                    | 21              | 26              |
| Locked Rotor Amps                | A     |  | 118                   | 140             | 173             |
| Type of Start                    |       |  | Direct On Line        |                 |                 |
| Electronic Soft-start            |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | 19                    | 27              | 32              |
| Maximum Start Amps               | A     |  | 73                    | 89              | 109             |
| Recommended Mains Fuse Size      | A     |  | 32                    | 40              | 50              |
| Power Factor Correction          |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | N/A                   |                 |                 |
| Maximum Start Amps               | A     |  | N/A                   |                 |                 |
| Recommended Mains Fuse Size      | A     |  | N/A                   |                 |                 |
| Compressor Nominal Run Amps      | A     |  | N/A                   |                 |                 |
| First upgrade EC Motor - Per Fan |       |  |                       |                 |                 |
|                                  |       |  | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | kW    |  | 1 x 0.73              | 1 x 1.85        | 1 x 1.85        |
| Full Load Amps                   | A     |  | 3.3                   | 2.85            | 2.85            |
| Locked Rotor Amps                | A     |  | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |       |  |                       |                 |                 |
|                                  |       |  | 1~                    | N/A             | N/A             |
| Quantity x Motor Size            | kW    |  | 1 x 1.4               | N/A             | N/A             |
| Full Load Amps                   | A     |  | 6.0                   | N/A             | N/A             |
| Locked Rotor Amps                | A     |  | 18                    | N/A             | N/A             |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

## Interconnecting Wiring

|    |   |   |  |                                        |
|----|---|---|--|----------------------------------------|
| L1 | ○ | ← |  | Mains incoming supply 400V/3PH +N/50Hz |
| L2 | ○ | ← |  |                                        |
| L3 | ○ | ← |  |                                        |
| N  | ○ | ← |  |                                        |
| PE | ○ | ← |  |                                        |

|     |   |   |  |                |
|-----|---|---|--|----------------|
| 502 | ○ | → |  | 24 Volts AC    |
| 551 | ○ | ← |  | Cooling Signal |

|     |   |   |                                   |                              |
|-----|---|---|-----------------------------------|------------------------------|
| 845 | ○ | ← | Variable Capacity Compressor Only | 0-10 Volts Compressor demand |
| 500 | ○ | → |                                   | 0 Volts                      |

|     |   |   |        |                                |
|-----|---|---|--------|--------------------------------|
| 561 | ○ | → | NO     | Critical Alarm Normally Open   |
| 562 | ○ | → | Common | GND                            |
| 563 | ○ | → | NC     | Critical Alarm Normally Closed |

|     |   |   |  |                           |
|-----|---|---|--|---------------------------|
| 590 | ○ | → |  | REEV Compressor Interlock |
| 500 | ○ | ← |  | 0 Volts                   |

|        |   |   |                                                                         |                                         |
|--------|---|---|-------------------------------------------------------------------------|-----------------------------------------|
| Rx-Tx- | ○ | ← | Use Awg20/22 twisted pair (with overall shield) cable, Belden ref. 8762 | Network Connections (Inward connection) |
| Rx+Tx+ | ○ | ← |                                                                         |                                         |
| GND    | ○ | ← |                                                                         |                                         |

|        |   |   |                                                                         |                                          |
|--------|---|---|-------------------------------------------------------------------------|------------------------------------------|
| Rx-Tx- | ○ | → | Use Awg20/22 twisted pair (with overall shield) cable, Belden ref. 8762 | Network Connections (Outward connection) |
| Rx+Tx+ | ○ | → |                                                                         |                                          |
| GND    | ○ | → |                                                                         |                                          |

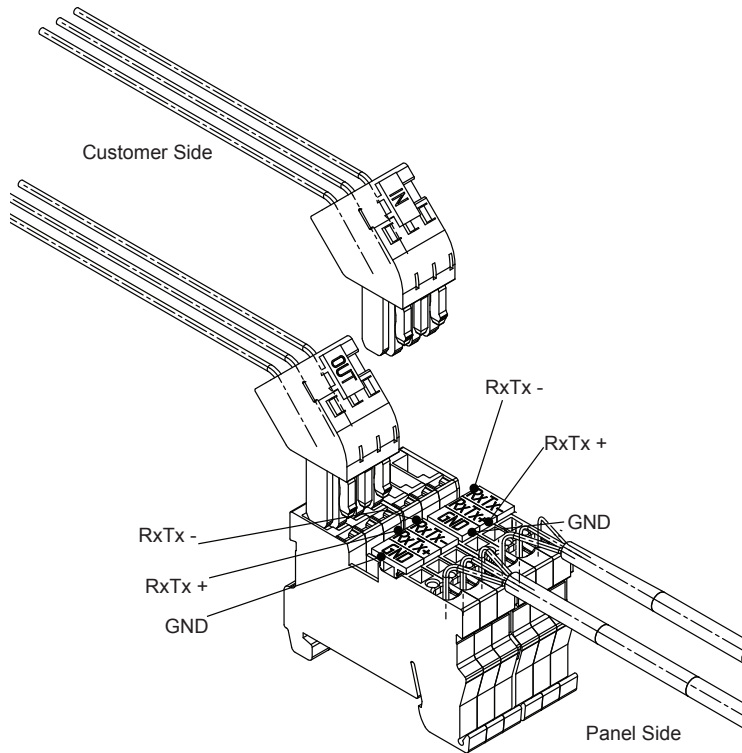
### IMPORTANT ⚠

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



## pLAN Termination

The plugged termination ensures that the connections are made simultaneously. Failure to attach the cables this way may cause damage to the controller.



### Noise Data Cooling Only

|                 | Sound Measurement |       | Frequency (Hz) |      |      |      |      |      |      |      |      |
|-----------------|-------------------|-------|----------------|------|------|------|------|------|------|------|------|
|                 |                   |       | dBa            | 63   | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| CUR092V16-1CO-0 | Power             | dB    | 86.4           | 81.2 | 84.9 | 79.5 | 84.6 | 83.9 | 73.6 | 63.4 | 57.1 |
|                 | Pressure          | @ 1m  | 78.4           | 73.2 | 76.9 | 71.5 | 76.6 | 75.9 | 65.6 | 55.4 | 49.1 |
|                 | Pressure          | @ 10m | 58.4           | 53.2 | 56.9 | 51.5 | 56.6 | 55.9 | 45.6 | 35.4 | 29.1 |
| CUR092V20-1CO-0 | Power             | dB    | 86.6           | 81.5 | 84.9 | 79.5 | 84.6 | 84.1 | 74.2 | 64.4 | 57.9 |
|                 | Pressure          | @ 1m  | 78.6           | 73.5 | 76.9 | 71.5 | 76.6 | 76.1 | 66.2 | 56.4 | 49.9 |
|                 | Pressure          | @ 10m | 58.6           | 53.5 | 56.9 | 51.5 | 56.6 | 56.1 | 46.2 | 36.4 | 29.9 |
| CUR092V25-1CO-0 | Power             | dB    | 86.6           | 81.0 | 85.0 | 79.5 | 84.6 | 84.1 | 73.9 | 64.4 | 58.3 |
|                 | Pressure          | @ 1m  | 78.6           | 73.0 | 77.0 | 71.5 | 76.6 | 76.1 | 65.9 | 56.4 | 50.3 |
|                 | Pressure          | @ 10m | 58.6           | 53.0 | 57.0 | 51.5 | 56.6 | 56.1 | 45.9 | 36.4 | 30.3 |
| CUR092V29-1CO-0 | Power             | dB    | 86.6           | 81.5 | 84.9 | 79.5 | 84.6 | 84.1 | 74.2 | 64.4 | 57.9 |
|                 | Pressure          | @ 1m  | 78.6           | 73.5 | 76.9 | 71.5 | 76.6 | 76.1 | 66.2 | 56.4 | 49.9 |
|                 | Pressure          | @ 10m | 58.6           | 53.5 | 56.9 | 51.5 | 56.6 | 56.1 | 46.2 | 36.4 | 29.9 |
| CUR122V35-1CO-0 | Power             | dB    | 86.9           | 96.5 | 95.4 | 87.2 | 85.0 | 80.5 | 75.2 | 68.3 | 68.2 |
|                 | Pressure          | @ 1m  | 78.9           | 88.5 | 87.4 | 79.2 | 77.0 | 72.5 | 67.2 | 60.3 | 60.2 |
|                 | Pressure          | @ 10m | 58.9           | 68.5 | 67.4 | 59.2 | 57.0 | 52.5 | 47.2 | 40.3 | 40.2 |
| CUR122V40-1CO-0 | Power             | dB    | 87.3           | 96.5 | 95.4 | 87.3 | 85.0 | 81.4 | 76.3 | 69.5 | 68.5 |
|                 | Pressure          | @ 1m  | 79.3           | 88.5 | 87.4 | 79.3 | 77.0 | 73.4 | 68.3 | 61.5 | 60.5 |
|                 | Pressure          | @ 10m | 59.3           | 68.5 | 67.4 | 59.3 | 57.0 | 53.4 | 48.3 | 41.5 | 40.5 |
| CUR092V16-VCO-0 | Power             | dB    | 86.7           | 80.9 | 84.9 | 79.6 | 84.8 | 84.2 | 73.4 | 64.4 | 60.8 |
|                 | Pressure          | @ 1m  | 78.7           | 72.9 | 76.9 | 71.6 | 76.8 | 76.2 | 65.4 | 56.4 | 52.8 |
|                 | Pressure          | @ 10m | 58.7           | 52.9 | 56.9 | 51.6 | 56.8 | 56.2 | 45.4 | 36.4 | 32.8 |
| CUR092V20-VCO-0 | Power             | dB    | 86.7           | 80.9 | 84.9 | 79.6 | 84.9 | 84.2 | 73.7 | 66.1 | 59.8 |
|                 | Pressure          | @ 1m  | 78.7           | 72.9 | 76.9 | 71.6 | 76.9 | 76.2 | 65.7 | 58.1 | 51.8 |
|                 | Pressure          | @ 10m | 58.7           | 52.9 | 56.9 | 51.6 | 56.9 | 56.2 | 45.7 | 38.1 | 31.8 |
| CUR092V25-VCO-0 | Power             | dB    | 87.0           | 80.9 | 84.9 | 79.8 | 85.4 | 84.1 | 74.9 | 67.1 | 60.2 |
|                 | Pressure          | @ 1m  | 79.0           | 72.9 | 76.9 | 71.8 | 77.4 | 76.1 | 66.9 | 59.1 | 52.2 |
|                 | Pressure          | @ 10m | 59.0           | 52.9 | 56.9 | 51.8 | 57.4 | 56.1 | 46.9 | 39.1 | 32.2 |
| CUR092V29-VCO-0 | Power             | dB    | 87.0           | 80.9 | 84.9 | 79.7 | 85.5 | 84.3 | 74.6 | 66.4 | 59.9 |
|                 | Pressure          | @ 1m  | 79.0           | 72.9 | 76.9 | 71.7 | 77.5 | 76.3 | 66.6 | 58.4 | 51.9 |
|                 | Pressure          | @ 10m | 59.0           | 52.9 | 56.9 | 51.7 | 57.5 | 56.3 | 46.6 | 38.4 | 31.9 |
| CUR122V35-VCO-0 | Power             | dB    | 87.5           | 96.4 | 95.4 | 87.3 | 85.8 | 81.2 | 76.5 | 70.5 | 68.8 |
|                 | Pressure          | @ 1m  | 79.5           | 88.4 | 87.4 | 79.3 | 77.8 | 73.2 | 68.5 | 62.5 | 60.8 |
|                 | Pressure          | @ 10m | 59.5           | 68.4 | 67.4 | 59.3 | 57.8 | 53.2 | 48.5 | 42.5 | 40.8 |
| CUR122V40-VCO-0 | Power             | dB    | 87.6           | 96.4 | 95.4 | 87.3 | 85.7 | 81.4 | 77.2 | 70.9 | 69.0 |
|                 | Pressure          | @ 1m  | 79.6           | 88.4 | 87.4 | 79.3 | 77.7 | 73.4 | 69.2 | 62.9 | 61.0 |
|                 | Pressure          | @ 10m | 59.6           | 68.4 | 67.4 | 59.3 | 57.7 | 53.4 | 49.2 | 42.9 | 41.0 |

\*sound data is for AC fan at full speed and modulating compressor at 100%

\*\*sound pressure calculated using hemi-spherical propagation

#### Notes:

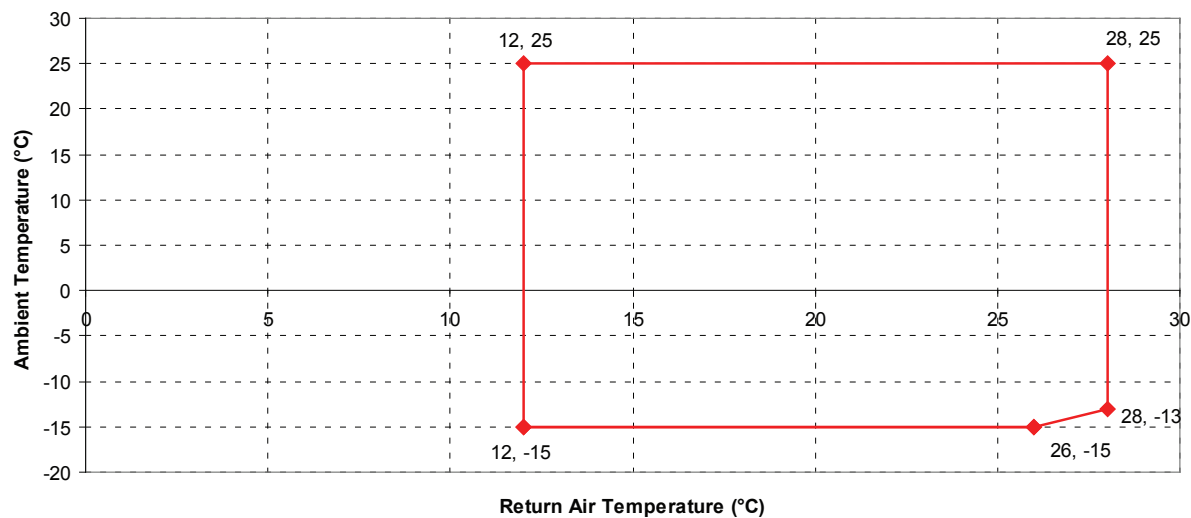
- 1 Sound Power Reference Power =  $10^{-12}$  Watts.
- 2 Sound Pressure Reference Pressure =  $2 \times 10^{-5}$  N/m<sup>2</sup>.
- 3 dBA is the overall noise level, measured on the A scale.
- 4 Sound Pressure data is only valid in free field conditions, where a reflective surface, such as a roof is found.

Intentionally Blank

Technical

Technical Data Heat Pump  
Operational Limits

Typical Heating Application Envelope

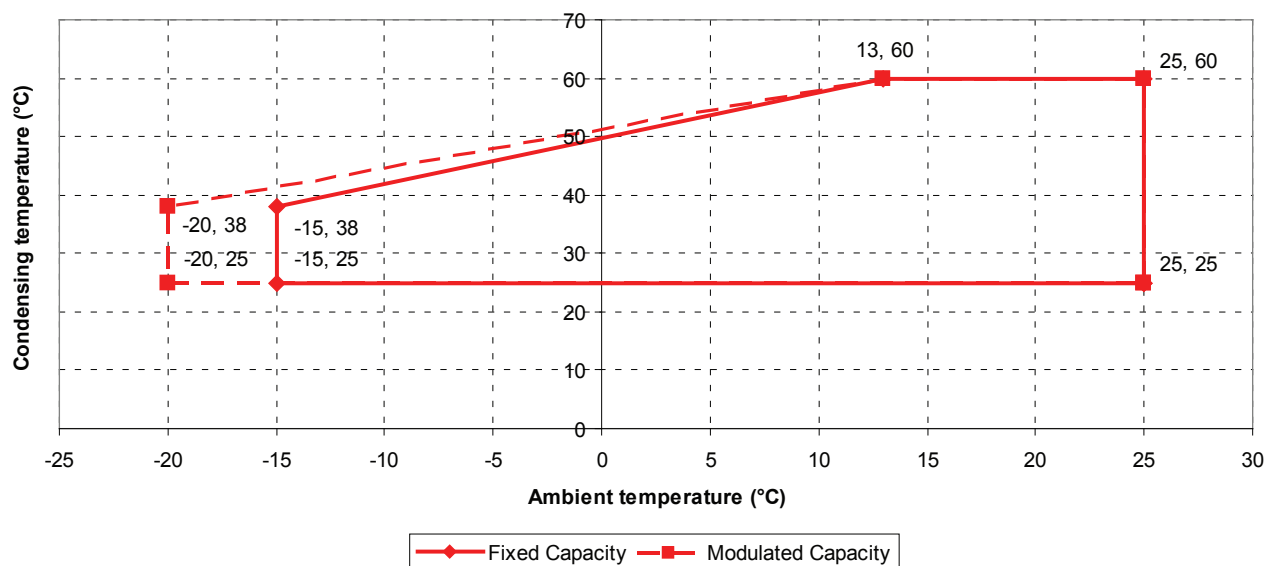


CAUTION

A minimum air on temperature limit of 12°C must be adhered to ensure correct unit operation.

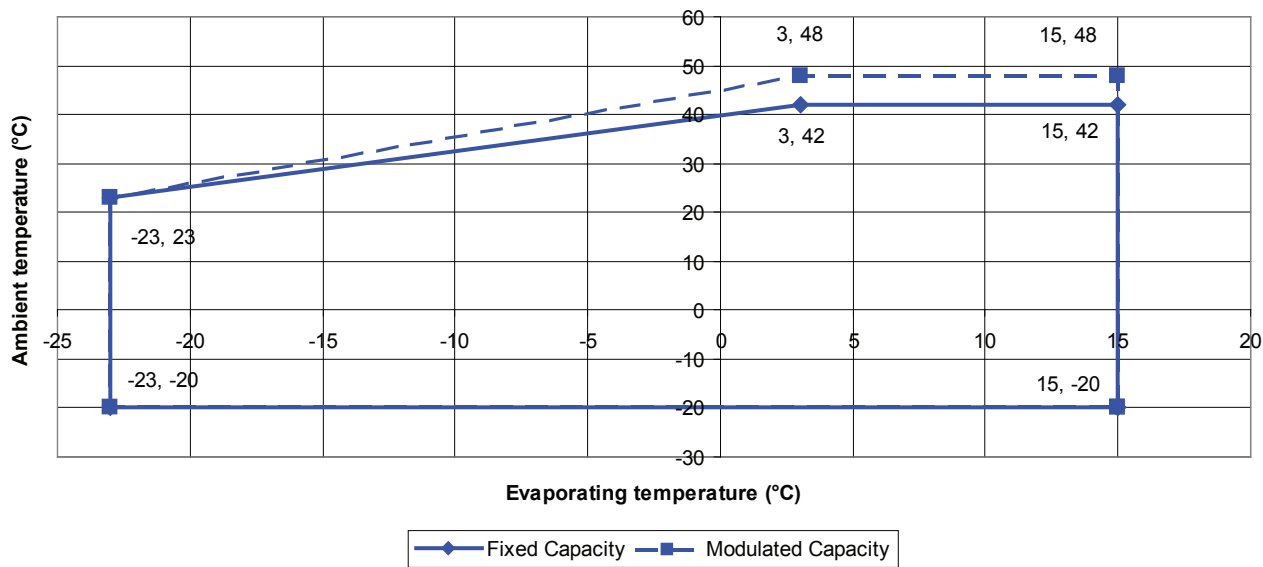
Any fresh air introduced to the unit must have pre-heaters to maintain this minimum temperature.

Operating Limits - Heat Pump Heating Cycle



Data Based on a 12°C ΔT across coil.

Operating Limits - Heat Pump Cooling Cycle



Technical

## Heat Pump Cooling Fixed Capacities

Heat Pump Fixed Capacity in Cooling

|                 |                | Summer Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |                | 25                    |                       | 30                    |                       | 35                    |                       | 40                    |                       | 45                    |                       |
| Unit            | Evap Temp (°C) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-1HP-0 | -5             | 10.3                  | 3.9                   | 10.3                  | 3.8                   | 9.8                   | 4.2                   | 9.2                   | 4.6                   | 8.5                   | 5.0                   |
|                 | 0              | 12.4                  | 3.9                   | 12.2                  | 3.9                   | 11.6                  | 4.3                   | 11.0                  | 4.7                   | 10.3                  | 5.2                   |
|                 | 5              | 14.8                  | 3.9                   | 14.4                  | 4.0                   | 13.7                  | 4.4                   | 13.0                  | 4.8                   | 12.2                  | 5.3                   |
|                 | 7              | 15.9                  | 3.8                   | 15.4                  | 4.0                   | 14.6                  | 4.4                   | 13.8                  | 4.8                   | 13.0                  | 5.3                   |
|                 | 10             | 17.6                  | 3.7                   | 16.9                  | 4.0                   | 16.0                  | 4.4                   | 15.2                  | 4.9                   | 14.3                  | 5.3                   |
| CUR092V20-1HP-0 | -5             | 15.8                  | 5.5                   | 15.1                  | 5.8                   | 14.3                  | 6.3                   | 13.3                  | 6.8                   | N/A                   | N/A                   |
|                 | 0              | 18.7                  | 5.5                   | 17.9                  | 6.0                   | 17.0                  | 6.5                   | 15.9                  | 7.0                   | 14.8                  | 7.6                   |
|                 | 5              | 21.9                  | 5.7                   | 20.9                  | 6.1                   | 19.8                  | 6.6                   | 18.7                  | 7.2                   | 17.5                  | 7.7                   |
|                 | 7              | 23.3                  | 5.7                   | 22.2                  | 6.2                   | 21.1                  | 6.7                   | 19.9                  | 7.2                   | 18.7                  | 7.8                   |
|                 | 10             | 25.4                  | 5.8                   | 24.2                  | 6.3                   | 23.0                  | 6.8                   | 21.8                  | 7.3                   | 21.1                  | 6.7                   |
| CUR092V25-1HP-0 | -5             | 20.3                  | 7.0                   | 19.3                  | 7.7                   | 18.3                  | 8.4                   | 17.1                  | 9.1                   | N/A                   | N/A                   |
|                 | 0              | 24.0                  | 7.4                   | 22.8                  | 8.0                   | 21.5                  | 8.7                   | 20.1                  | 9.5                   | N/A                   | N/A                   |
|                 | 5              | 28.1                  | 7.8                   | 26.6                  | 8.4                   | 25.0                  | 9.1                   | 23.3                  | 9.9                   | N/A                   | N/A                   |
|                 | 7              | 29.8                  | 8.0                   | 28.2                  | 8.6                   | 26.5                  | 9.3                   | 24.6                  | 10.1                  | N/A                   | N/A                   |
|                 | 10             | 32.4                  | 8.2                   | 30.6                  | 8.9                   | 28.8                  | 9.6                   | 26.7                  | 10.3                  | N/A                   | N/A                   |
| CUR092V29-1HP-0 | -5             | 22.5                  | 8.0                   | 21.2                  | 8.7                   | 19.9                  | 9.5                   | 28.7                  | 10.6                  | N/A                   | N/A                   |
|                 | 0              | 26.5                  | 8.4                   | 25.0                  | 9.1                   | 23.4                  | 10.0                  | 21.6                  | 10.9                  | N/A                   | N/A                   |
|                 | 5              | 30.8                  | 8.9                   | 29.0                  | 9.6                   | 27.1                  | 10.4                  | 25.1                  | 11.4                  | N/A                   | N/A                   |
|                 | 7              | 32.6                  | 9.0                   | 30.7                  | 9.8                   | 28.7                  | 10.6                  | 26.6                  | 11.6                  | N/A                   | N/A                   |
|                 | 10             | 35.4                  | 9.3                   | 33.3                  | 10.1                  | 31.1                  | 11.0                  | 28.7                  | 10.6                  | N/A                   | N/A                   |
| CUR122V35-1HP-0 | -5             | 30.5                  | 10.7                  | 29.0                  | 11.6                  | 27.2                  | 12.7                  | 25.3                  | 13.9                  | N/A                   | N/A                   |
|                 | 0              | 36.1                  | 11.1                  | 34.2                  | 12.0                  | 32.1                  | 13.1                  | 29.8                  | 14.3                  | N/A                   | N/A                   |
|                 | 5              | 42.1                  | 11.5                  | 39.9                  | 12.5                  | 37.4                  | 13.5                  | 34.8                  | 14.7                  | 31.9                  | 16.1                  |
|                 | 7              | 44.6                  | 11.7                  | 42.3                  | 12.7                  | 39.7                  | 13.7                  | 36.9                  | 14.9                  | 33.9                  | 16.2                  |
|                 | 10             | 48.6                  | 12.0                  | 46.0                  | 13.0                  | 43.2                  | 14.0                  | 40.2                  | 15.2                  | 39.7                  | 13.7                  |
| CUR122V40-1HP-0 | -5             | 34.5                  | 12.3                  | 32.7                  | 13.3                  | 30.7                  | 14.3                  | 28.6                  | 15.5                  | N/A                   | N/A                   |
|                 | 0              | 40.4                  | 12.9                  | 38.3                  | 13.9                  | 36.0                  | 14.9                  | 33.5                  | 16.1                  | N/A                   | N/A                   |
|                 | 5              | 46.9                  | 13.5                  | 44.4                  | 14.5                  | 41.7                  | 15.6                  | 38.8                  | 16.8                  | N/A                   | N/A                   |
|                 | 7              | 49.6                  | 13.8                  | 47.0                  | 14.8                  | 44.1                  | 15.9                  | 41.0                  | 17.1                  | N/A                   | N/A                   |
|                 | 10             | 53.9                  | 14.2                  | 51.0                  | 15.2                  | 47.8                  | 16.4                  | 44.5                  | 17.6                  | N/A                   | N/A                   |

Notes:

1 Cooling Capacity kW refers to the compressor duty.

All performance data is supplied in accordance with BS EN 14511-1:2018

2 Input kW refers to the compressor and fan input power only.

## Heat Pump Cooling Modulating Capacities

Heat Pump Modulated Capacity in Cooling

|                 |                | Summer Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |                | 25                    |                       | 30                    |                       | 35                    |                       | 40                    |                       | 45                    |                       |
| Unit            | Evap Temp (°C) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) | Cooling Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-VHP-0 | -5             | 11.7                  | 4.2                   | 11.7                  | 4.1                   | 11.1                  | 4.5                   | 10.4                  | 4.9                   | 9.7                   | 5.4                   |
|                 | 0              | 14.1                  | 4.2                   | 13.9                  | 4.2                   | 13.1                  | 4.7                   | 12.3                  | 5.1                   | 11.5                  | 5.6                   |
|                 | 5              | 16.9                  | 4.2                   | 16.3                  | 4.4                   | 15.4                  | 4.8                   | 14.5                  | 5.3                   | 13.4                  | 5.8                   |
|                 | 7              | 18.1                  | 4.2                   | 17.4                  | 4.5                   | 16.4                  | 4.9                   | 15.4                  | 5.3                   | 14.3                  | 5.9                   |
|                 | 10             | 20.0                  | 4.2                   | 19.0                  | 4.6                   | 18.0                  | 5.0                   | 16.8                  | 5.5                   | 15.6                  | 6.0                   |
| CUR092V20-VHP-0 | -5             | 16.0                  | 5.4                   | 15.4                  | 5.6                   | 14.6                  | 6.2                   | 13.7                  | 6.7                   | N/A                   | N/A                   |
|                 | 0              | 19.1                  | 5.3                   | 18.1                  | 5.9                   | 17.1                  | 6.4                   | 16.0                  | 7.0                   | 14.9                  | 7.7                   |
|                 | 5              | 22.2                  | 5.6                   | 21.0                  | 6.1                   | 19.8                  | 6.7                   | 18.6                  | 7.3                   | 17.2                  | 8.0                   |
|                 | 7              | 23.5                  | 5.7                   | 22.3                  | 6.2                   | 21.0                  | 6.8                   | 19.7                  | 7.4                   | 18.2                  | 8.1                   |
|                 | 10             | 25.5                  | 5.8                   | 24.2                  | 6.4                   | 22.8                  | 7.0                   | 21.4                  | 7.6                   | 19.8                  | 8.4                   |
| CUR092V25-VHP-0 | -5             | 19.7                  | 6.3                   | 18.7                  | 7.0                   | 17.5                  | 7.8                   | 16.2                  | 8.6                   | N/A                   | N/A                   |
|                 | 0              | 23.2                  | 6.6                   | 22.0                  | 7.2                   | 20.6                  | 8.0                   | 19.2                  | 8.8                   | N/A                   | N/A                   |
|                 | 5              | 26.9                  | 6.9                   | 25.5                  | 7.5                   | 24.0                  | 8.3                   | 22.3                  | 9.1                   | N/A                   | N/A                   |
|                 | 7              | 28.4                  | 7.0                   | 26.9                  | 7.7                   | 25.3                  | 8.4                   | 23.6                  | 9.2                   | N/A                   | N/A                   |
|                 | 10             | 30.8                  | 7.2                   | 29.2                  | 7.9                   | 27.4                  | 8.6                   | 25.6                  | 9.5                   | N/A                   | N/A                   |
| CUR092V29-VHP-0 | -5             | 22.7                  | 7.7                   | 21.3                  | 8.6                   | 19.8                  | 9.5                   | 18.4                  | 10.4                  | N/A                   | N/A                   |
|                 | 0              | 26.5                  | 8.0                   | 25.0                  | 8.9                   | 23.3                  | 9.9                   | 21.4                  | 10.9                  | N/A                   | N/A                   |
|                 | 5              | 30.7                  | 8.4                   | 28.9                  | 9.3                   | 26.9                  | 10.2                  | 24.8                  | 11.3                  | N/A                   | N/A                   |
|                 | 7              | 32.4                  | 8.6                   | 30.5                  | 9.4                   | 28.4                  | 10.4                  | 26.2                  | 11.5                  | N/A                   | N/A                   |
|                 | 10             | 35.1                  | 8.8                   | 33.0                  | 9.7                   | 30.8                  | 10.6                  | 28.3                  | 11.7                  | N/A                   | N/A                   |
| CUR122V35-VHP-0 | -5             | 29.5                  | 10.1                  | 28.2                  | 11.0                  | 26.7                  | 12.0                  | 24.9                  | 13.1                  | N/A                   | N/A                   |
|                 | 0              | 34.8                  | 10.5                  | 33.1                  | 11.4                  | 31.2                  | 12.4                  | 29.2                  | 13.5                  | 26.9                  | 14.7                  |
|                 | 5              | 40.4                  | 11.0                  | 38.3                  | 11.9                  | 36.1                  | 12.9                  | 33.6                  | 14.0                  | 31.0                  | 15.2                  |
|                 | 7              | 42.8                  | 11.2                  | 40.5                  | 12.1                  | 38.1                  | 13.1                  | 35.5                  | 14.2                  | 32.7                  | 15.4                  |
|                 | 10             | 46.5                  | 11.5                  | 44.0                  | 12.4                  | 41.3                  | 13.4                  | 38.5                  | 14.5                  | 35.3                  | 15.7                  |
| CUR122V40-VHP-0 | -5             | 34.7                  | 12.2                  | 33.1                  | 13.3                  | 31.4                  | 14.4                  | 29.5                  | 15.8                  | N/A                   | N/A                   |
|                 | 0              | 40.1                  | 12.7                  | 38.3                  | 13.8                  | 36.2                  | 15.0                  | 33.9                  | 16.3                  | N/A                   | N/A                   |
|                 | 5              | 46.1                  | 13.3                  | 43.8                  | 14.3                  | 41.3                  | 15.5                  | 38.6                  | 16.8                  | N/A                   | N/A                   |
|                 | 7              | 48.6                  | 13.5                  | 46.1                  | 14.6                  | 43.5                  | 15.7                  | 40.5                  | 17.0                  | N/A                   | N/A                   |
|                 | 10             | 52.6                  | 13.9                  | 49.8                  | 14.9                  | 46.8                  | 16.1                  | 43.6                  | 17.4                  | N/A                   | N/A                   |

Notes:

1 Cooling Capacity kW refers to the compressor duty.

All performance data is supplied in accordance with BS EN 14511-1:2018

2 Input kW refers to the compressor and fan input power only.

## Heat Pump Heating Fixed Capacities

Heat Pump Fixed Capacity in Heating

|                 |                | Winter Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |                | -5                    |                       | 0                     |                       | 5                     |                       | 10                    |                       | 15                    |                       |
| Unit            | Cond Temp (°C) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-1HP-0 | 40             | 11.2                  | 4.2                   | 12.5                  | 4.2                   | 13.9                  | 4.2                   | 15.4                  | 4.2                   | 17.1                  | 4.2                   |
|                 | 45             | 11.1                  | 4.6                   | 12.4                  | 4.6                   | 13.8                  | 4.6                   | 15.3                  | 4.6                   | 16.9                  | 4.6                   |
|                 | 50             | N/A                   | N/A                   | 12.3                  | 5.1                   | 13.7                  | 5.1                   | 15.2                  | 5.1                   | 16.7                  | 5.1                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | 13.6                  | 5.7                   | 15.1                  | 5.7                   | 16.6                  | 5.6                   |
| CUR092V20-1HP-0 | 40             | 16.0                  | 6.0                   | 17.8                  | 6.0                   | 19.7                  | 6.0                   | 21.7                  | 6.0                   | 23.9                  | 6.0                   |
|                 | 45             | 15.8                  | 6.5                   | 17.7                  | 6.6                   | 19.6                  | 6.6                   | 21.5                  | 6.6                   | 23.7                  | 6.6                   |
|                 | 50             | N/A                   | N/A                   | 17.4                  | 7.1                   | 19.4                  | 7.2                   | 21.3                  | 7.2                   | 23.4                  | 7.2                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 21.1                  | 7.8                   | 23.1                  | 7.8                   |
| CUR092V25-1HP-0 | 40             | 19.7                  | 7.5                   | 21.8                  | 7.5                   | 24.2                  | 7.6                   | 26.7                  | 7.6                   | 29.4                  | 7.7                   |
|                 | 45             | 19.9                  | 8.2                   | 22.0                  | 8.3                   | 24.2                  | 8.3                   | 26.6                  | 8.4                   | 29.3                  | 8.4                   |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 24.2                  | 9.1                   | 26.6                  | 9.2                   | 29.1                  | 9.3                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 26.5                  | 10.2                  | 28.9                  | 10.2                  |
| CUR092V29-1HP-0 | 40             | 21.6                  | 8.2                   | 24.0                  | 8.3                   | 26.5                  | 8.3                   | 29.2                  | 8.4                   | 32.0                  | 8.5                   |
|                 | 45             | 21.7                  | 9.0                   | 24.0                  | 9.1                   | 26.4                  | 9.2                   | 29.0                  | 9.3                   | 31.8                  | 9.3                   |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 26.4                  | 10.2                  | 28.9                  | 10.2                  | 31.6                  | 10.3                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 28.8                  | 11.3                  | 31.4                  | 11.4                  |
| CUR122V35-1HP-0 | 40             | N/A                   | N/A                   | 32.0                  | 11.8                  | 35.6                  | 11.8                  | 39.2                  | 11.8                  | 43.2                  | 11.8                  |
|                 | 45             | 29.1                  | 12.9                  | 32.1                  | 12.9                  | 35.5                  | 13.0                  | 39.0                  | 13.0                  | 42.9                  | 13.0                  |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 35.5                  | 14.3                  | 38.8                  | 14.3                  | 42.6                  | 14.3                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 38.6                  | 15.8                  | 42.2                  | 15.8                  |
| CUR122V40-1HP-0 | 40             | 32.0                  | 12.8                  | 35.4                  | 12.9                  | 39.4                  | 13.1                  | 43.3                  | 13.2                  | 47.8                  | 13.4                  |
|                 | 45             | 32.2                  | 14.0                  | 35.5                  | 14.1                  | 39.3                  | 14.2                  | 43.1                  | 14.4                  | 47.5                  | 14.5                  |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 39.2                  | 15.6                  | 42.9                  | 15.7                  | 47.1                  | 15.8                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 42.7                  | 17.2                  | 46.7                  | 17.3                  |

Notes:

1 Heating Capacity kW refers to the compressor duty.

All performance data is supplied in accordance with BS EN 14511-1:2018

2 Input kW refers to the compressor and fan input power only.



## Heat Pump Heating Modulating Capacities

Heat Pump Modulated Capacity in Heating

| Unit            | Cond Temp (°C) | Winter Ambient (°C)   |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                 |                | -5                    |                       | 0                     |                       | 5                     |                       | 10                    |                       | 15                    |                       |
|                 |                | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) | Heating Capacity (kW) | Unit Input Power (kW) |
| CUR092V16-VHP-0 | 40             | 12.1                  | 4.4                   | 13.6                  | 4.4                   | 15.2                  | 4.5                   | 17.0                  | 4.5                   | 18.9                  | 4.6                   |
|                 | 45             | 12.1                  | 4.8                   | 13.6                  | 4.9                   | 15.1                  | 5.0                   | 16.8                  | 5.0                   | 18.6                  | 5.1                   |
|                 | 50             | N/A                   | N/A                   | 13.5                  | 5.4                   | 15.0                  | 5.5                   | 16.6                  | 5.5                   | 18.3                  | 5.6                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | 14.8                  | 6.0                   | 16.4                  | 6.1                   | 18.0                  | 6.2                   |
| CUR092V20-VHP-0 | 40             | 15.9                  | 5.7                   | 17.7                  | 5.8                   | 19.6                  | 5.9                   | 21.7                  | 5.9                   | 23.9                  | 6.0                   |
|                 | 45             | 15.9                  | 6.2                   | 17.7                  | 6.4                   | 19.5                  | 6.5                   | 21.5                  | 6.5                   | 23.7                  | 6.6                   |
|                 | 50             | N/A                   | N/A                   | 17.6                  | 7.0                   | 19.4                  | 7.1                   | 21.4                  | 7.2                   | 23.4                  | 7.3                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 21.2                  | 8.0                   | 23.2                  | 8.1                   |
| CUR092V25-VHP-0 | 40             | 19.0                  | 7.0                   | 21.0                  | 7.0                   | 23.2                  | 7.0                   | 25.5                  | 7.0                   | 28.0                  | 7.0                   |
|                 | 45             | 19.1                  | 7.9                   | 21.1                  | 7.8                   | 23.2                  | 7.8                   | 25.4                  | 7.7                   | 27.8                  | 7.7                   |
|                 | 50             | N/A                   | N/A                   | 21.1                  | 8.8                   | 23.2                  | 8.7                   | 25.3                  | 8.6                   | 27.7                  | 8.6                   |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 25.3                  | 9.7                   | 27.5                  | 9.6                   |
| CUR092V29-VHP-0 | 40             | 21.6                  | 8.2                   | 23.9                  | 8.2                   | 26.4                  | 8.1                   | 29.0                  | 8.1                   | 31.7                  | 8.1                   |
|                 | 45             | 21.7                  | 9.2                   | 24.0                  | 9.2                   | 26.4                  | 9.1                   | 28.9                  | 9.1                   | 31.6                  | 9.1                   |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 26.5                  | 10.2                  | 28.9                  | 10.2                  | 31.4                  | 10.1                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 28.9                  | 11.5                  | 31.3                  | 11.4                  |
| CUR122V35-VHP-0 | 40             | 27.9                  | 11.1                  | 31.0                  | 11.2                  | 34.5                  | 11.2                  | 37.9                  | 11.3                  | 41.8                  | 11.4                  |
|                 | 45             | 28.1                  | 12.2                  | 31.1                  | 12.3                  | 34.5                  | 12.3                  | 37.8                  | 12.4                  | 41.6                  | 12.5                  |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 34.4                  | 13.6                  | 37.7                  | 13.6                  | 41.3                  | 13.7                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 37.5                  | 15.0                  | 40.9                  | 15.1                  |
| CUR122V40-VHP-0 | 40             | 32.7                  | 12.9                  | 36.0                  | 12.9                  | 39.8                  | 13.0                  | 43.4                  | 13.1                  | 47.6                  | 13.2                  |
|                 | 45             | 33.0                  | 14.1                  | 36.3                  | 14.2                  | 39.9                  | 14.3                  | 43.5                  | 14.3                  | 47.4                  | 14.4                  |
|                 | 50             | N/A                   | N/A                   | N/A                   | N/A                   | 40.0                  | 15.7                  | 43.5                  | 15.7                  | 47.3                  | 15.8                  |
|                 | 55             | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | N/A                   | 47.0                  | 17.4                  |

Notes:

1 Heating Capacity kW refers to the compressor duty.

All performance data is supplied in accordance with BS EN 14511-1:2018

2 Input kW refers to the compressor and fan input power only.

## Mechanical Data - Heat Pump Fixed Capacities

### CUR092V16-1HP-0 - CUR09V20-1HP-0 - CUR092V25-1HP-0

|                                  |      | CUR092V16-1HP-0                                                                  | CUR092V20-1HP-0  | CUR092V25-1HP-0  |
|----------------------------------|------|----------------------------------------------------------------------------------|------------------|------------------|
| Capacity                         |      |                                                                                  |                  |                  |
| Nominal Cooling Capacity (1)     | kW   | 14.6                                                                             | 21.1             | 26.5             |
| Nominal Heating Capacity (2)     | kW   | 13.7                                                                             | 19.4             | 24.2             |
| Capacity Steps                   |      | 1                                                                                | 1                | 1                |
| Dimensions – W x D x H (3)       | mm   | 922 x 764 x 1755                                                                 | 922 x 764 x 1755 | 922 x 764 x 1755 |
| Mass – Machine / Operating (4)   | kg   | 229                                                                              | 229              | 261              |
| Construction                     |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                  |                  |
| Material/Colour                  |      |                                                                                  |                  |                  |
| Heat Pump Evaporator / Condenser |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                  |                  |
| Fan Motor                        |      | Axial                                                                            |                  |                  |
| Motor Type                       |      | AC 1ph                                                                           | AC 1ph           | AC 1ph           |
| Quantity x Motor Size            | kW   | 1 x 0.6                                                                          | 1 x 0.6          | 1 x 0.6          |
| Diameter                         | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed                | RPM  | 895                                                                              | 895              | 895              |
| Maximum Airflow                  | m³/s | 2.0                                                                              | 2.0              | 2.0              |
| Compressor                       |      | 1                                                                                | 1                | 1                |
| Compressor Type                  |      | Fixed Capacity Scroll                                                            |                  |                  |
| Quantity                         |      | 1                                                                                | 1                | 1                |
| Oil Charge Volume                | l    | 1.57                                                                             | 1.57             | 3.3              |
| Oil Type                         |      | Polyolester                                                                      |                  |                  |
| Refrigeration                    |      | Single Circuit - 2 pipe configuration                                            |                  |                  |
| Refrigerant control and type     |      | Optional REEV package                                                            |                  |                  |
| Refrigerant type                 |      | R410A                                                                            |                  |                  |
| Holding Charge                   |      | Inert Gas                                                                        |                  |                  |
| Coil Volume                      | l    | 18.67                                                                            | 18.67            | 18.67            |
| Refrigerant Charge (5)           | kg   | 9.0                                                                              | 9.0              | 9.3              |
| GWP Tonnes Equivalent CO2        | tCO2 | 18.8                                                                             | 18.8             | 19.4             |
| Connections                      |      |                                                                                  |                  |                  |
| Liquid (sweat)                   | in   | 3/8                                                                              | 3/8              | 1/2              |
| Suction / Discharge (sweat)      | in   | 1/2                                                                              | 5/8              | 7/8              |
| Optional Extras                  |      |                                                                                  |                  |                  |
| EC Fan                           |      |                                                                                  |                  |                  |
| Quantity x Motor Size            | kW   | 1 x 0.72                                                                         | 1 x 0.72         | 1 x 0.72         |
| Diameter                         | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed                | RPM  | 1000                                                                             | 1000             | 1000             |
| Maximum Airflow                  | m³/s | 2.3                                                                              | 2.3              | 2.3              |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1750                                                                 | 922 x 764 x 1750 | 922 x 764 x 1750 |
| Mass – Machine / Operating (3)   | kg   | 221                                                                              | 221              | 253              |
| Short Case Axial Fan             |      | Designed to 75Pa ESP                                                             |                  |                  |
| Quantity x Motor Size            | kW   | 1 x 1.6                                                                          | 1 x 1.6          | 1 x 1.6          |
| Diameter                         | mm   | 560                                                                              | 560              | 560              |
| Maximum Fan Speed                | RPM  | 1330                                                                             | 1330             | 1330             |
| Maximum Airflow                  | m³/s | 2.8                                                                              | 2.8              | 2.8              |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1753                                                                 | 922 x 764 x 1753 | 922 x 764 x 1753 |
| Mass – Machine / Operating (3)   | kg   | 235                                                                              | 235              | 267              |
| REEV Selection                   |      | E2V - 24                                                                         | E2V - 35         | E2V - 35         |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Condensing temperature 50°C, Ambient 5°C with an AC fan matched with a REEV package

(3) Overall dimensions for clearance

(4) Unit mass excludes a refrigerant charge

(5) For guidance only

## Electrical Data - Heat Pump Fixed Capacities

### CUR092V16-1HP-0 - CUR09V20-1HP-0 - CUR092V25-1HP-0

|                                  |                 |  | CUR092V16-1HP-0       | CUR092V20-1HP-0 | CUR092V25-1HP-0 |
|----------------------------------|-----------------|--|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11                    | 16              | 18              |
| Maximum Start Amps               | A               |  | 76                    | 103             | 145             |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 32              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> |  | 35                    | 35              | 35              |
| Mains Supply                     | V               |  | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             |  | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |  |                       |                 |                 |
| Motor Type                       |                 |  | AC                    | AC              | AC              |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | -2 kW           |  | 1 x 0.6               | 1 x 0.6         | 1 x 0.6         |
| Full Load Amps                   | A               |  | 2.6                   | 2.6             | 2.6             |
| Locked Rotor Amps                | A               |  | 9.2                   | 9.2             | 9.2             |
| Compressor                       |                 |  |                       |                 |                 |
| Motor Size                       | kW              |  | 5                     | 6               | 8               |
| Nominal Run Amps                 | A               |  | 8                     | 13              | 16              |
| Locked Rotor Amps                | A               |  | 70                    | 100             | 142             |
| Type of Start                    |                 |  | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11                    | 16              | 18              |
| Maximum Start Amps               | A               |  | 48                    | 63              | 88              |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 32              |
| Power Factor Correction          |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 10                    | 16              | 18              |
| Maximum Start Amps               | A               |  | 76                    | 103             | 145             |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 32              |
| Compressor Nominal Run Amps      | A               |  | 7.5                   | 12.8            | 14.9            |
| First upgrade EC Motor - Per Fan |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 0.73              | 1 x 0.73        | 1 x 0.73        |
| Full Load Amps                   | A               |  | 3.3                   | 3.3             | 3.3             |
| Locked Rotor Amps                | A               |  | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 1.4               | 1 x 1.4         | 1 x 1.4         |
| Full Load Amps                   | A               |  | 6.0                   | 6.0             | 6.0             |
| Locked Rotor Amps                | A               |  | 18                    | 18              | 18              |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

## Mechanical Data - Heat Pump Fixed Capacities

### CUR092V29-1HP-0 - CUR122V35-1HP-0 - CUR122V40-1HP-0

|                                  |      | CUR092V29-1HP-0                                                                  | CUR122V35-1HP-0   | CUR122V40-1HP-0   |
|----------------------------------|------|----------------------------------------------------------------------------------|-------------------|-------------------|
| Capacity                         |      |                                                                                  |                   |                   |
| Nominal Cooling Capacity (1)     | kW   | 28.7                                                                             | 39.7              | 44.1              |
| Nominal Heating Capacity (2)     | kW   | 26.4                                                                             | 35.5              | 39.2              |
| Capacity Steps                   |      | 1                                                                                | 1                 | 1                 |
| Dimensions – W x D x H (3)       | mm   | 922 x 764 x 1755                                                                 | 1222 x 861 x 1840 | 1222 x 861 x 1840 |
| Mass – Machine / Operating (4)   | kg   | 262                                                                              | 316               | 324               |
| Construction                     |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                   |                   |
| Material/Colour                  |      |                                                                                  |                   |                   |
| Heat Pump Evaporator / Condenser |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                   |                   |
| Fan Motor                        |      | Axial                                                                            |                   |                   |
| Motor Type                       |      | AC 1ph                                                                           | AC 3ph            | AC 3ph            |
| Quantity x Motor Size            | kW   | 1 x 0.6                                                                          | 1 x 1.94          | 1 x 1.94          |
| Diameter                         | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed                | RPM  | 895                                                                              | 1330              | 1330              |
| Maximum Airflow                  | m³/s | 2.0                                                                              | 3.5               | 3.5               |
| Compressor                       |      | 1                                                                                | 1                 | 1                 |
| Compressor Type                  |      | Fixed Capacity Scroll                                                            |                   |                   |
| Quantity                         |      | 1                                                                                | 1                 | 1                 |
| Oil Charge Volume                | l    | 3.3                                                                              | 3.3               | 3.6               |
| Oil Type                         |      | Polyolester                                                                      |                   |                   |
| Refrigeration                    |      | Single Circuit - 2 pipe configuration                                            |                   |                   |
| Refrigerant control and type     |      | Optional REEV package                                                            |                   |                   |
| Refrigerant type                 |      | R410A                                                                            |                   |                   |
| Holding Charge                   |      | Inert Gas                                                                        |                   |                   |
| Coil Volume                      | l    | 18.67                                                                            | 21.65             | 21.65             |
| Refrigerant Charge (5)           | kg   | 9.3                                                                              | 10.7              | 11.1              |
| GWP Tonnes Equivalent CO2        | tCO2 | 19.4                                                                             | 22.3              | 23.2              |
| Connections                      |      |                                                                                  |                   |                   |
| Liquid (sweat)                   | in   | 1/2                                                                              | 1/2               | 5/8               |
| Suction / Discharge (sweat)      | in   | 7/8                                                                              | 7/8               | 1 1/8             |
| Optional Extras                  |      |                                                                                  |                   |                   |
| EC Fan                           |      |                                                                                  |                   |                   |
| Quantity x Motor Size            | kW   | 1 x 0.72                                                                         | 1 x 1.85          | 1 x 1.85          |
| Diameter                         | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed                | RPM  | 1000                                                                             | 1230              | 1230              |
| Maximum Airflow                  | m³/s | 2.3                                                                              | 3.5               | 3.5               |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1750                                                                 | 1222 x 861 x 1849 | 1222 x 861 x 1849 |
| Mass – Machine / Operating (3)   | kg   | 254                                                                              | 319               | 327               |
| Short Case Axial Fan             |      | Designed to 75Pa ESP                                                             |                   |                   |
| Quantity x Motor Size            | kW   | 1 x 1.6                                                                          | N/A               | N/A               |
| Diameter                         | mm   | 560                                                                              | N/A               | N/A               |
| Maximum Fan Speed                | RPM  | 1330                                                                             | N/A               | N/A               |
| Maximum Airflow                  | m³/s | 2.8                                                                              | N/A               | N/A               |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1753                                                                 | N/A               | N/A               |
| Mass – Machine / Operating (3)   | kg   | 268                                                                              | N/A               | N/A               |
| REEV Selection                   |      | E2V - 35                                                                         | E3V - 45          | E3V - 45          |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Condensing temperature 50°C, Ambient 5°C with an AC fan matched with a REEV package

(3) Overall dimensions for clearance

(4) Unit mass excludes a refrigerant charge

(5) For guidance only

## Electrical Data - Heat Pump Fixed Capacities

### CUR092V29-1HP-0 - CUR122V35-1HP-0 - CUR122V40-1HP-0

|                                  |       |  | CUR092V29-1HP-0       | CUR122V35-1HP-0 | CUR122V40-1HP-0 |
|----------------------------------|-------|--|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | 20                    | 26              | 30              |
| Maximum Start Amps               | A     |  | 145                   | 163             | 202             |
| Recommended Mains Fuse Size      | A     |  | 32                    | 40              | 50              |
| Max Mains Incoming Cable Size    | mm²   |  | 35                    | 35              | 35              |
| Mains Supply                     | V     |  | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC   |  | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |       |  |                       |                 |                 |
| Motor Type                       |       |  | AC                    | AC              | AC              |
|                                  |       |  | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | -2 kW |  | 1 x 0.6               | 1 x 1.97        | 1 x 1.97        |
| Full Load Amps                   | A     |  | 2.6                   | 3.4             | 3.4             |
| Locked Rotor Amps                | A     |  | 9.2                   | 14.0            | 14.0            |
| Compressor                       |       |  |                       |                 |                 |
| Motor Size                       | kW    |  | 9.5                   | 12.1            | 13.7            |
| Nominal Run Amps                 | A     |  | 17                    | 21              | 25              |
| Locked Rotor Amps                | A     |  | 142                   | 158             | 197             |
| Type of Start                    |       |  | Direct On Line        |                 |                 |
| Electronic Soft-start            |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | 20                    | 26              | 30              |
| Maximum Start Amps               | A     |  | 88                    | 100             | 124             |
| Recommended Mains Fuse Size      | A     |  | 32                    | 40              | 50              |
| Power Factor Correction          |       |  |                       |                 |                 |
| Nominal Run Amps                 | A     |  | 19                    | 25              | 29              |
| Maximum Start Amps               | A     |  | 145                   | 163             | 202             |
| Recommended Mains Fuse Size      | A     |  | 32                    | 40              | 50              |
| Compressor Nominal Run Amps      | A     |  | 16.2                  | 19.3            | 23.0            |
| First upgrade EC Motor - Per Fan |       |  |                       |                 |                 |
|                                  |       |  | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | kW    |  | 1 x 0.73              | 1 x 1.85        | 1 x 1.85        |
| Full Load Amps                   | A     |  | 3.3                   | 2.85            | 2.85            |
| Locked Rotor Amps                | A     |  | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |       |  |                       |                 |                 |
|                                  |       |  | 1~                    | N/A             | N/A             |
| Quantity x Motor Size            | kW    |  | 1 x 1.4               | N/A             | N/A             |
| Full Load Amps                   | A     |  | 6.0                   | N/A             | N/A             |
| Locked Rotor Amps                | A     |  | 18                    | N/A             | N/A             |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

**Mechanical Data - Heat Pump Modulating Capacities**  
**CUR092V16-VHP-0 - CUR09V20-VHP-0 - CUR092V25-VHP-0**

|                                  |      | CUR092V16-VHP-0                                                                  | CUR092V20-VHP-0  | CUR092V25-VHP-0  |
|----------------------------------|------|----------------------------------------------------------------------------------|------------------|------------------|
| Capacity                         |      |                                                                                  |                  |                  |
| Nominal Cooling Capacity (1)     | kW   | 16.4                                                                             | 21.0             | 25.3             |
| Nominal Heating Capacity (2)     | kW   | 15.0                                                                             | 19.4             | 23.2             |
| Capacity Steps                   |      | 10-100%                                                                          | 10-100%          | 10-100%          |
| Dimensions – W x D x H (3)       | mm   | 922 x 764 x 1755                                                                 | 922 x 764 x 1755 | 922 x 764 x 1755 |
| Mass – Machine / Operating (4)   | kg   | 236                                                                              | 236              | 262              |
| Construction                     |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                  |                  |
| Material/Colour                  |      |                                                                                  |                  |                  |
| Heat Pump Evaporator / Condenser |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                  |                  |
| Fan Motor                        |      | Axial                                                                            |                  |                  |
| Motor Type                       |      | AC 1ph                                                                           | AC 1ph           | AC 1ph           |
| Quantity x Motor Size            | kW   | 1 x 0.6                                                                          | 1 x 0.6          | 1 x 0.6          |
| Diameter                         | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed                | RPM  | 895                                                                              | 895              | 895              |
| Maximum Airflow                  | m³/s | 2.0                                                                              | 2.0              | 2.0              |
| Compressor                       |      | 1                                                                                | 1                | 1                |
| Compressor Type                  |      | Modulating Capacity Scroll                                                       |                  |                  |
| Quantity                         |      | 1                                                                                | 1                | 1                |
| Oil Charge Volume                | l    | 1.9                                                                              | 1.9              | 3.2              |
| Oil Type                         |      | Polyolester                                                                      |                  |                  |
| Refrigeration                    |      | Single Circuit - 2 pipe configuration                                            |                  |                  |
| Refrigerant control and type     |      | Optional REEV package                                                            |                  |                  |
| Refrigerant type                 |      | R410A                                                                            |                  |                  |
| Holding Charge                   |      | Inert Gas                                                                        |                  |                  |
| Coil Volume                      | l    | 18.67                                                                            | 18.67            | 18.67            |
| Refrigerant Charge (5)           | kg   | 9.0                                                                              | 9.0              | 9.2              |
| GWP Tonnes Equivalent CO2        | tCO2 | 18.8                                                                             | 18.8             | 19.2             |
| Connections                      |      |                                                                                  |                  |                  |
| Liquid (sweat)                   | in   | 3/8                                                                              | 3/8              | 1/2              |
| Suction / Discharge (sweat)      | in   | 1/2                                                                              | 5/8              | 7/8              |
| Optional Extras                  |      |                                                                                  |                  |                  |
| EC Fan                           |      | 1                                                                                |                  |                  |
| Quantity x Motor Size            | kW   | 1 x 0.72                                                                         | 1 x 0.72         | 1 x 0.72         |
| Diameter                         | mm   | 630                                                                              | 630              | 630              |
| Maximum Fan Speed                | RPM  | 1000                                                                             | 1000             | 1000             |
| Maximum Airflow                  | m³/s | 2.3                                                                              | 2.3              | 2.3              |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1750                                                                 | 922 x 764 x 1750 | 922 x 764 x 1750 |
| Mass – Machine / Operating (3)   | kg   | 228                                                                              | 228              | 254              |
| Short Case Axial Fan             |      | Designed to 75Pa ESP                                                             |                  |                  |
| Quantity x Motor Size            | kW   | 1 x 1.6                                                                          | 1 x 1.6          | 1 x 1.6          |
| Diameter                         | mm   | 560                                                                              | 560              | 560              |
| Maximum Fan Speed                | RPM  | 1330                                                                             | 1330             | 1330             |
| Maximum Airflow                  | m³/s | 2.8                                                                              | 2.8              | 2.8              |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1753                                                                 | 922 x 764 x 1753 | 922 x 764 x 1753 |
| Mass – Machine / Operating (3)   | kg   | 242                                                                              | 242              | 268              |
| REEV Selection                   |      | E2V - 24                                                                         | E2V - 35         | E2V - 35         |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
 All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Condensing temperature 50°C, Ambient 5°C with an AC fan matched with a REEV package

(3) Overall dimensions for clearance

(4) Unit mass excludes a refrigerant charge

(5) For guidance only

## Electrical Data - Heat Pump Modulating Capacities

### CUR092V16-VHP-0 - CUR09V20-VHP-0 - CUR092V25-VHP-0

|                                  |                 |  | CUR092V16-VHP-0       | CUR092V20-VHP-0 | CUR092V25-VHP-0 |
|----------------------------------|-----------------|--|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11                    | 15              | 17              |
| Maximum Start Amps               | A               |  | 67                    | 104             | 114             |
| Recommended Mains Fuse Size      | A               |  | 16                    | 25              | 25              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> |  | 35                    | 35              | 35              |
| Mains Supply                     | V               |  | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             |  | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |  |                       |                 |                 |
| Motor Type                       |                 |  | AC                    | AC              | AC              |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | -2 kW           |  | 1 x 0.6               | 1 x 0.6         | 1 x 0.6         |
| Full Load Amps                   | A               |  | 2.6                   | 2.6             | 2.6             |
| Locked Rotor Amps                | A               |  | 9                     | 9               | 9               |
| Compressor                       |                 |  |                       |                 |                 |
| Motor Size                       | kW              |  | 5                     | 7               | 8               |
| Nominal Run Amps                 | A               |  | 9                     | 12              | 15              |
| Locked Rotor Amps                | A               |  | 64                    | 101             | 111             |
| Type of Start                    |                 |  | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | 11                    | 15              | 17              |
| Maximum Start Amps               | A               |  | 41                    | 63              | 69              |
| Recommended                      | A               |  | 16                    | 25              | 25              |
| Mains Fuse Size                  |                 |  |                       |                 |                 |
| Power Factor Correction          |                 |  |                       |                 |                 |
| Nominal Run Amps                 | A               |  | N/A                   |                 |                 |
| Maximum Start Amps               | A               |  |                       |                 |                 |
| Recommended Mains Fuse Size      | A               |  |                       |                 |                 |
| Compressor Nominal Run Amps      | A               |  |                       |                 |                 |
| First upgrade EC Motor - Per Fan |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 0.73              | 1 x 0.73        | 1 x 0.73        |
| Full Load Amps                   | A               |  | 3.3                   | 3.3             | 3.3             |
| Locked Rotor Amps                | A               |  | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |  |                       |                 |                 |
|                                  |                 |  | 1~                    | 1~              | 1~              |
| Quantity x Motor Size            | kW              |  | 1 x 1.4               | 1 x 1.4         | 1 x 1.4         |
| Full Load Amps                   | A               |  | 6.0                   | 6.0             | 6.0             |
| Locked Rotor Amps                | A               |  | 18                    | 18              | 18              |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

## Mechanical Data -Heat Pump Modulating Capacities CUR092V29-VHP-0 - CUR122V35-VHP-0 - CUR122V40-VHP-0

|                                  |      | CUR092V29-VHP-0                                                                  | CUR122V35-VHP-0   | CUR122V40-VHP-0   |
|----------------------------------|------|----------------------------------------------------------------------------------|-------------------|-------------------|
| Capacity                         |      |                                                                                  |                   |                   |
| Nominal Cooling Capacity (1)     | kW   | 28.4                                                                             | 38.1              | 43.5              |
| Nominal Heating Capacity (2)     | kW   | 26.5                                                                             | 34.4              | 40.0              |
| Capacity Steps                   |      | 10-100%                                                                          | 10-100%           | 10-100%           |
| Dimensions – W x D x H (3)       | mm   | 922 x 764 x 1755                                                                 | 1222 x 861 x 1840 | 1222 x 861 x 1840 |
| Mass – Machine / Operating (4)   | kg   | 264                                                                              | 317               | 323               |
| Construction                     |      | Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035) |                   |                   |
| Material/Colour                  |      |                                                                                  |                   |                   |
| Heat Pump Evaporator / Condenser |      | Rifled Copper Tube/Louvered Hydrophilic Coated Aluminium Fins                    |                   |                   |
| Fan Motor                        |      | Axial                                                                            |                   |                   |
| Motor Type                       |      | AC 1ph                                                                           | AC 3ph            | AC 3ph            |
| Quantity x Motor Size            | kW   | 1 x 0.6                                                                          | 1 x 1.94          | 1 x 1.94          |
| Diameter                         | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed                | RPM  | 895                                                                              | 1330              | 1330              |
| Maximum Airflow                  | m³/s | 2.0                                                                              | 3.5               | 3.5               |
| Compressor                       |      | 1                                                                                | 1                 | 1                 |
| Compressor Type                  |      | Modulating Capacity Scroll                                                       |                   |                   |
| Quantity                         |      | 1                                                                                | 1                 | 1                 |
| Oil Charge Volume                | l    | 3.2                                                                              | 3.2               | 3.2               |
| Oil Type                         |      | Polyolester                                                                      |                   |                   |
| Refrigeration                    |      | Single Circuit - 2 pipe configuration                                            |                   |                   |
| Refrigerant control and type     |      | Optional REEV package                                                            |                   |                   |
| Refrigerant type                 |      | R410A                                                                            |                   |                   |
| Holding Charge                   |      | Inert Gas                                                                        |                   |                   |
| Coil Volume                      | l    | 18.67                                                                            | 21.65             | 21.65             |
| Refrigerant Charge (5)           | kg   | 9.2                                                                              | 10.6              | 11.1              |
| GWP Tonnes Equivalent CO2        | tCO2 | 19.2                                                                             | 22.1              | 23.2              |
| Connections                      |      |                                                                                  |                   |                   |
| Liquid (sweat)                   | in   | 1/2                                                                              | 1/2               | 5/8               |
| Suction / Discharge (sweat)      | in   | 7/8                                                                              | 7/8               | 1 1/8             |
| Optional Extras                  |      |                                                                                  |                   |                   |
| EC Fan                           |      |                                                                                  |                   |                   |
| Quantity x Motor Size            | kW   | 1 x 0.72                                                                         | 1 x 1.85          | 1 x 1.85          |
| Diameter                         | mm   | 630                                                                              | 630               | 630               |
| Maximum Fan Speed                | RPM  | 1000                                                                             | 1230              | 1230              |
| Maximum Airflow                  | m³/s | 2.3                                                                              | 3.5               | 3.5               |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1750                                                                 | 1222 x 861 x 1849 | 1222 x 861 x 1849 |
| Mass – Machine / Operating (3)   | kg   | 256                                                                              | 320               | 326               |
| Short Case Axial Fan             |      | Designed to 75Pa ESP                                                             |                   |                   |
| Quantity x Motor Size            | kW   | 1 x 1.6                                                                          | N/A               | N/A               |
| Diameter                         | mm   | 560                                                                              | N/A               | N/A               |
| Maximum Fan Speed                | RPM  | 1330                                                                             | N/A               | N/A               |
| Maximum Airflow                  | m³/s | 2.8                                                                              | N/A               | N/A               |
| Dimensions – W x D x H (2)       | mm   | 922 x 764 x 1753                                                                 | N/A               | N/A               |
| Mass – Machine / Operating (3)   | kg   | 270                                                                              | N/A               | N/A               |
| REEV Selection                   |      | E2V - 35                                                                         | E3V - 45          | E3V - 45          |

(1) Evaporating temperature 7°C, Ambient 35°C with an AC fan matched with a REEV package  
All performance data is supplied in accordance with BS EN 14511-1:2018

(2) Condensing temperature 50°C, Ambient 5°C with an AC fan matched with a REEV package

(3) Overall dimensions for clearance

(4) Unit mass excludes a refrigerant charge

(5) For guidance only



## Mechanical Data -Heat Pump Modulating Capacities

### CUR092V29-VHP-0 - CUR122V35-VHP-0 - CUR122V40-VHP-0

|                                  |                 |    | CUR092V29-VHP-0       | CUR122V35-VHP-0 | CUR122V40-VHP-0 |
|----------------------------------|-----------------|----|-----------------------|-----------------|-----------------|
| Unit Data (1)                    |                 |    |                       |                 |                 |
| Nominal Run Amps                 | A               |    | 19                    | 27              | 32              |
| Maximum Start Amps               | A               |    | 121                   | 145             | 178             |
| Recommended Mains Fuse Size      | A               |    | 32                    | 40              | 50              |
| Max Mains Incoming Cable Size    | mm <sup>2</sup> |    | 35                    | 35              | 35              |
| Mains Supply                     | V               |    | 400V / 3PH + N / 50Hz |                 |                 |
| Control circuit                  | VAC             |    | 24                    | 24              | 24              |
| Condenser Fan - Motor - Per Fan  |                 |    |                       |                 |                 |
| Motor Type                       |                 |    | AC                    | AC              | AC              |
|                                  |                 |    | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | -2              | kW | 1 x 0.6               | 1 x 1.97        | 1 x 1.97        |
| Full Load Amps                   | A               |    | 2.6                   | 3.4             | 3.4             |
| Locked Rotor Amps                | A               |    | 9                     | 14              | 14              |
| Compressor                       |                 |    |                       |                 |                 |
| Motor Size                       | kW              |    | 9                     | 12              | 14              |
| Nominal Run Amps                 | A               |    | 17                    | 21              | 26              |
| Locked Rotor Amps                | A               |    | 118                   | 140             | 173             |
| Type of Start                    |                 |    | Direct On Line        |                 |                 |
| Electronic Soft-start            |                 |    |                       |                 |                 |
| Nominal Run Amps                 | A               |    | 19                    | 27              | 32              |
| Maximum Start Amps               | A               |    | 73                    | 89              | 109             |
| Recommended Mains Fuse Size      | A               |    | 32                    | 40              | 50              |
| Power Factor Correction          |                 |    |                       |                 |                 |
| Nominal Run Amps                 | A               |    | N/A                   |                 |                 |
| Maximum Start Amps               | A               |    | N/A                   |                 |                 |
| Recommended Mains Fuse Size      | A               |    | N/A                   |                 |                 |
| Compressor Nominal Run Amps      | A               |    | N/A                   |                 |                 |
| First upgrade EC Motor - Per Fan |                 |    |                       |                 |                 |
|                                  |                 |    | 1~                    | 3~              | 3~              |
| Quantity x Motor Size            | kW              |    | 1 x 0.73              | 1 x 1.85        | 1 x 1.85        |
| Full Load Amps                   | A               |    | 3.3                   | 2.9             | 2.9             |
| Locked Rotor Amps                | A               |    | N/A                   | N/A             | N/A             |
| Second upgrade SCAF - Per Fan    |                 |    |                       |                 |                 |
|                                  |                 |    | 1~                    | N/A             | N/A             |
| Quantity x Motor Size            | kW              |    | 1 x 1.4               | N/A             | N/A             |
| Full Load Amps                   | A               |    | 6.0                   | N/A             | N/A             |
| Locked Rotor Amps                | A               |    | 18                    | N/A             | N/A             |

(1) Based upon ARI conditions, Evaporating at 7°C, Condensing at 54.4°C.

Interconnecting Wiring - Heat Pump

|    |   |   |  |                                       |
|----|---|---|--|---------------------------------------|
| L1 | ○ | ← |  | Mains incoming supply 400V/3PH+N/50Hz |
| L2 | ○ | ← |  |                                       |
| L3 | ○ | ← |  |                                       |
| N  | ○ | ← |  |                                       |
| PE | ○ | ← |  |                                       |

|     |   |   |  |                 |
|-----|---|---|--|-----------------|
| 502 | ○ | → |  | 24 Volts AC     |
| 551 | ○ | ← |  | Cooling Signal* |
| 552 | ○ | ← |  | Heating Signal* |
| 500 | ○ | → |  | 0 Volts         |

|     |   |   |                                   |                              |
|-----|---|---|-----------------------------------|------------------------------|
| 845 | ○ | ← | Variable Capacity Compressor Only | 0-10 Volts Compressor demand |
| 500 | ○ | → |                                   | 0 Volts                      |

|     |   |   |  |                                |
|-----|---|---|--|--------------------------------|
| 567 | ○ | → |  | Defrost Status Normally Open   |
| 568 | ○ | → |  | Defrost Status Normally Closed |
| 569 | ○ | → |  | Common                         |

|     |   |   |        |                                |
|-----|---|---|--------|--------------------------------|
| 561 | ○ | → | NO     | Critical Alarm Normally Open   |
| 562 | ○ | → | Common | GND                            |
| 563 | ○ | → | NC     | Critical Alarm Normally Closed |

|     |   |   |  |                           |
|-----|---|---|--|---------------------------|
| 590 | ○ | → |  | REEV Compressor Interlock |
| 500 | ○ | ← |  | 0 Volts                   |

|        |   |   |                                                                         |                                         |
|--------|---|---|-------------------------------------------------------------------------|-----------------------------------------|
| Rx-Tx- | ○ | ← | Use Awg20/22 twisted pair (with overall shield) cable, Belden ref. 8762 | Network Connections (Inward connection) |
| Rx+Tx+ | ○ | ← |                                                                         |                                         |
| GND    | ○ | ← |                                                                         |                                         |

|        |   |   |                                                                         |                                          |
|--------|---|---|-------------------------------------------------------------------------|------------------------------------------|
| Rx-Tx- | ○ | → | Use Awg20/22 twisted pair (with overall shield) cable, Belden ref. 8762 | Network Connections (Outward connection) |
| Rx+Tx+ | ○ | → |                                                                         |                                          |
| GND    | ○ | → |                                                                         |                                          |

**CAUTION** ⚠

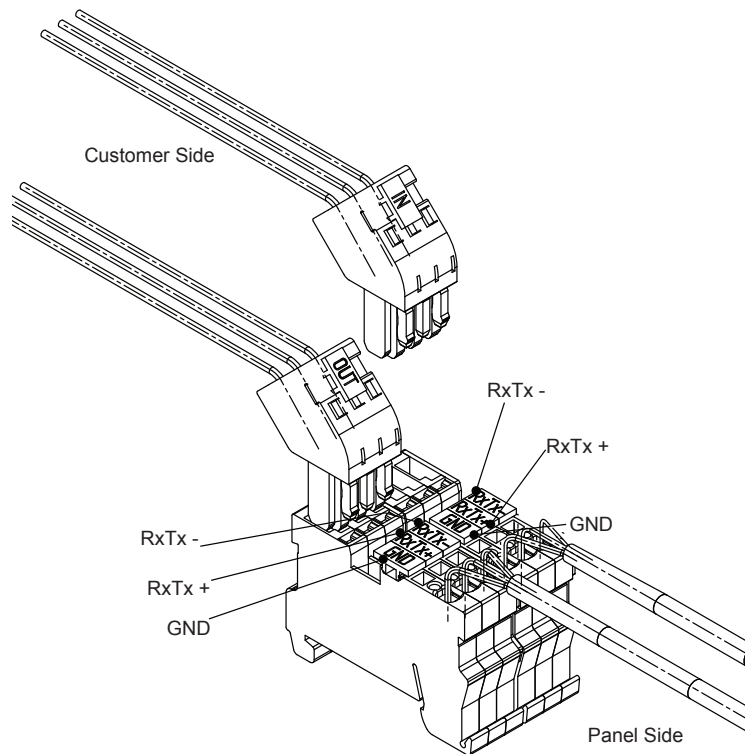
\* The BMS must have independent control of the cooling and heating signals. Signals should never remain on when cooling/heating is not required. As such changeover contacts to command cooling or heating should not be used.

**IMPORTANT** ⚠

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

## pLAN Termination

The plugged termination ensures that the connections are made simultaneously. Failure to attach the cables this way may cause damage to the controller.



### Noise Data Heat Pump

|                  |                   |       | Frequency (Hz) |      |      |      |      |      |      |      |      |
|------------------|-------------------|-------|----------------|------|------|------|------|------|------|------|------|
|                  | Sound Measurement |       | dBa            | 63   | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| CUR092V16-1HP-0  | Power             | dB    | 86.4           | 81.2 | 84.9 | 79.5 | 84.6 | 83.9 | 73.6 | 63.4 | 57.1 |
|                  | Pressure          | @ 1m  | 78.4           | 73.2 | 76.9 | 71.5 | 76.6 | 75.9 | 65.6 | 55.4 | 49.1 |
|                  | Pressure          | @ 10m | 58.4           | 53.2 | 56.9 | 51.5 | 56.6 | 55.9 | 45.6 | 35.4 | 29.1 |
| CUR092V20-1HP-0  | Power             | dB    | 86.6           | 81.5 | 84.9 | 79.5 | 84.6 | 84.1 | 74.2 | 64.4 | 57.9 |
|                  | Pressure          | @ 1m  | 78.6           | 73.5 | 76.9 | 71.5 | 76.6 | 76.1 | 66.2 | 56.4 | 49.9 |
|                  | Pressure          | @ 10m | 58.6           | 53.5 | 56.9 | 51.5 | 56.6 | 56.1 | 46.2 | 36.4 | 29.9 |
| CUR092V25-1HP-0  | Power             | dB    | 86.6           | 81   | 85   | 79.5 | 84.6 | 84.1 | 73.9 | 64.4 | 58.3 |
|                  | Pressure          | @ 1m  | 78.6           | 73   | 77   | 71.5 | 76.6 | 76.1 | 65.9 | 56.4 | 50.3 |
|                  | Pressure          | @ 10m | 58.6           | 53   | 57   | 51.5 | 56.6 | 56.1 | 45.9 | 36.4 | 30.3 |
| CUR092V29-1HP-0  | Power             | dB    | 86.6           | 81.5 | 84.9 | 79.5 | 84.6 | 84.1 | 74.2 | 64.4 | 57.9 |
|                  | Pressure          | @ 1m  | 78.6           | 73.5 | 76.9 | 71.5 | 76.6 | 76.1 | 66.2 | 56.4 | 49.9 |
|                  | Pressure          | @ 10m | 58.6           | 53.5 | 56.9 | 51.5 | 56.6 | 56.1 | 46.2 | 36.4 | 29.9 |
| CUR0122V35-1HP-0 | Power             | dB    | 86.9           | 96.5 | 95.4 | 87.2 | 85   | 80.5 | 75.2 | 68.3 | 68.2 |
|                  | Pressure          | @ 1m  | 78.9           | 88.5 | 87.4 | 79.2 | 77   | 72.5 | 67.2 | 60.3 | 60.2 |
|                  | Pressure          | @ 10m | 58.9           | 68.5 | 67.4 | 59.2 | 57   | 52.5 | 47.2 | 40.3 | 40.2 |
| CUR0122V40-1HP-0 | Power             | dB    | 87.3           | 96.5 | 95.4 | 87.3 | 85   | 81.4 | 76.3 | 69.5 | 68.5 |
|                  | Pressure          | @ 1m  | 79.3           | 88.5 | 87.4 | 79.3 | 77   | 73.4 | 68.3 | 61.5 | 60.5 |
|                  | Pressure          | @ 10m | 59.3           | 68.5 | 67.4 | 59.3 | 57   | 53.4 | 48.3 | 41.5 | 40.5 |
| CUR092V16-VHP-0  | Power             | dB    | 86.7           | 80.9 | 84.9 | 79.6 | 84.8 | 84.2 | 73.4 | 64.4 | 60.8 |
|                  | Pressure          | @ 1m  | 78.7           | 72.9 | 76.9 | 71.6 | 76.8 | 76.2 | 65.4 | 56.4 | 52.8 |
|                  | Pressure          | @ 10m | 58.7           | 52.9 | 56.9 | 51.6 | 56.8 | 56.2 | 45.4 | 36.4 | 32.8 |
| CUR092V20-VHP-0  | Power             | dB    | 86.7           | 80.9 | 84.9 | 79.6 | 84.9 | 84.2 | 73.7 | 66.1 | 59.8 |
|                  | Pressure          | @ 1m  | 78.7           | 72.9 | 76.9 | 71.6 | 76.9 | 76.2 | 65.7 | 58.1 | 51.8 |
|                  | Pressure          | @ 10m | 58.7           | 52.9 | 56.9 | 51.6 | 56.9 | 56.2 | 45.7 | 38.1 | 31.8 |
| CUR092V25-VHP-0  | Power             | dB    | 87             | 80.9 | 84.9 | 79.8 | 85.4 | 84.1 | 74.9 | 67.1 | 60.2 |
|                  | Pressure          | @ 1m  | 79             | 72.9 | 76.9 | 71.8 | 77.4 | 76.1 | 66.9 | 59.1 | 52.2 |
|                  | Pressure          | @ 10m | 59             | 52.9 | 56.9 | 51.8 | 57.4 | 56.1 | 46.9 | 39.1 | 32.2 |
| CUR092V29-VHP-0  | Power             | dB    | 87             | 80.9 | 84.9 | 79.7 | 85.5 | 84.3 | 74.6 | 66.4 | 59.9 |
|                  | Pressure          | @ 1m  | 79             | 72.9 | 76.9 | 71.7 | 77.5 | 76.3 | 66.6 | 58.4 | 51.9 |
|                  | Pressure          | @ 10m | 59             | 52.9 | 56.9 | 51.7 | 57.5 | 56.3 | 46.6 | 38.4 | 31.9 |
| CUR0122V35-VHP-0 | Power             | dB    | 87.5           | 96.4 | 95.4 | 87.3 | 85.8 | 81.2 | 76.5 | 70.5 | 68.8 |
|                  | Pressure          | @ 1m  | 79.5           | 88.4 | 87.4 | 79.3 | 77.8 | 73.2 | 68.5 | 62.5 | 60.8 |
|                  | Pressure          | @ 10m | 59.5           | 68.4 | 67.4 | 59.3 | 57.8 | 53.2 | 48.5 | 42.5 | 40.8 |
| CUR0122V40-VHP-0 | Power             | dB    | 87.6           | 96.4 | 95.4 | 87.3 | 85.7 | 81.4 | 77.2 | 70.9 | 69   |
|                  | Pressure          | @ 1m  | 79.6           | 88.4 | 87.4 | 79.3 | 77.7 | 73.4 | 69.2 | 62.9 | 61   |
|                  | Pressure          | @ 10m | 59.6           | 68.4 | 67.4 | 59.3 | 57.7 | 53.4 | 49.2 | 42.9 | 41   |

#### Notes:

- 1 Sound Power Reference Power =  $10^{-12}$  Watts.
- 2 Sound Pressure Reference Pressure =  $2 \times 10^{-5}$  N/m<sup>2</sup>.
- 3 dBA is the overall noise level, measured on the A scale.
- 4 Sound Pressure data is only valid in free field conditions, where a reflective surface, such as a roof is found





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