Airedale
APPLIED THERMAL INNOVATION

BluCube™
Cooling Only and Heat Pump Condensing Unit

Technical Manual

ecoDesign COMPLIANT

CE

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

Customer Services

Warranty, Commissioning & Maintenance

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

ChillerGuard

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

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

Spares

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

Training

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

Customer Services

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

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

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

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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.

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:

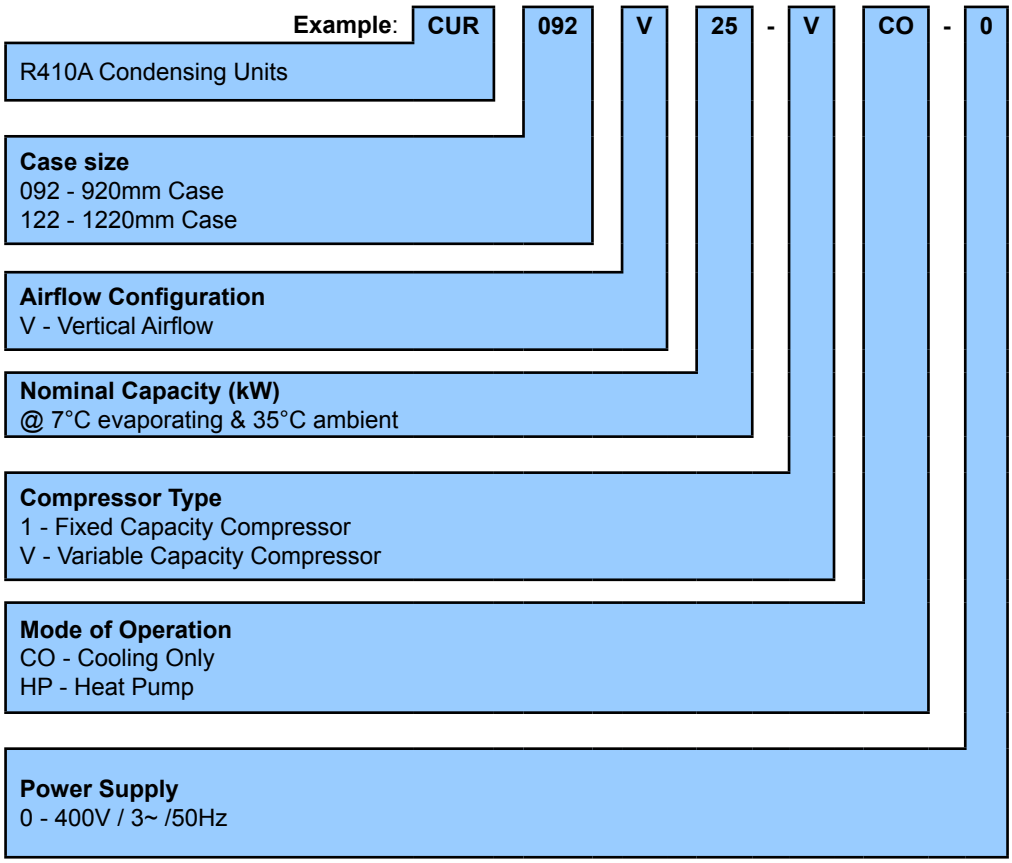
Electromagnetic Compatibility Directive (EMC)	2014/30/EU
Machinery Directive (MD)	89/392/EEC version 2006/42/EC
Pressure Equipment Directive (PED)	2014/68/EU
Ecodesign	2009/125/EC

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

Specifier's Guide

Nomenclature



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	1750 x 764 x 1222
CUR122V40-1CO-0	43.4	14.5	3.00	1750 x 764 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	1750 x 764 x 1222
CUR122V40-VCO-0	42.6	14.3	2.98	1750 x 764 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	1750 x 764 x 1222
CUR122V40-1HP-0	44.1	15.9	2.77	39.2	15.6	2.51	1750 x 764 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	1750 x 764 x 1222
CUR122V40-VHP-0	43.5	15.7	2.77	40.0	15.7	2.55	1750 x 764 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:

(Loaded Time x 100%) + (Unloaded Time x 16%) = Averaged Power
(Loaded Time + Unloaded Time)

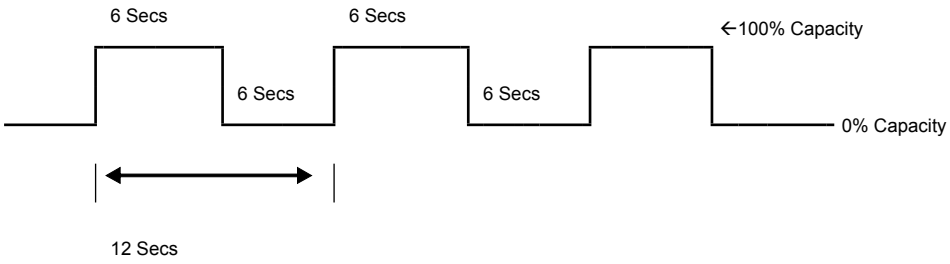
Operation

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

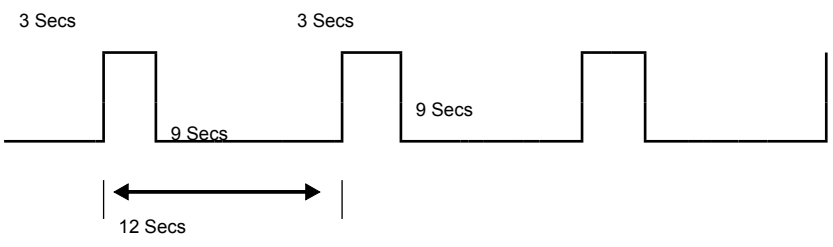
$$\frac{(6 \times 100\%) + (6 \times 16\%)}{12} = 58\%$$



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

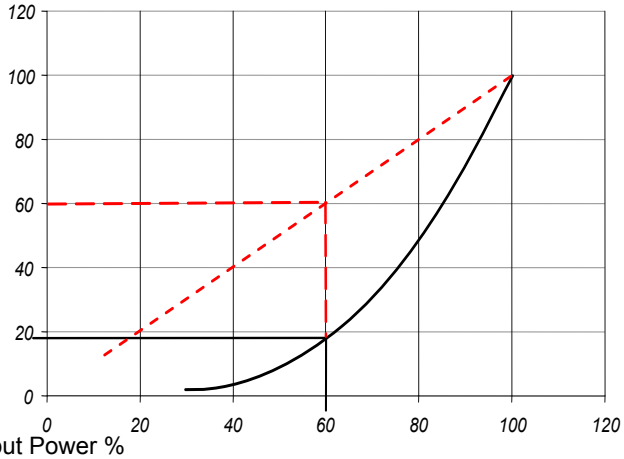
The BluCube comes with a series of optional features.

	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.



Key**Fan Speed %**

EC (Electronically Commutated) Fan Speed Control

Voltage Regulated (VR) Fan Speed Control

Example:
Fan speed of 60%
VR input power required 60%
EC input power required 18%

Short Case Axial Fans

SCAF fans are available for the 092 models only. They can achieve a 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.

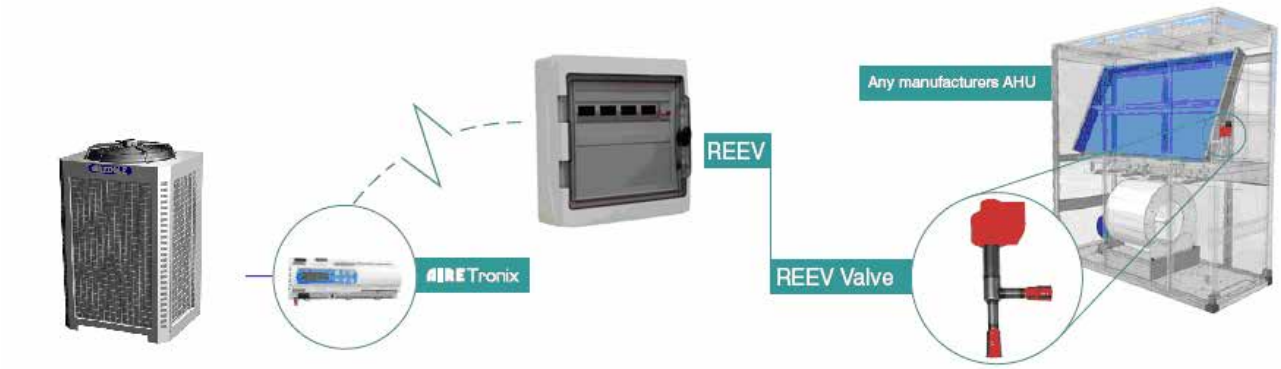
Remote Electronic Expansion valve

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

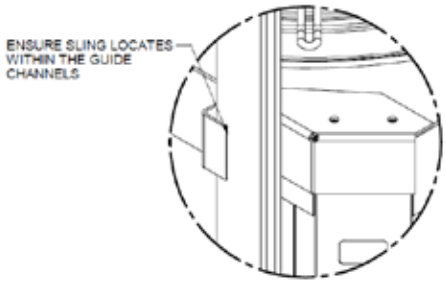
Heating - up to 3 stages

Installation Data

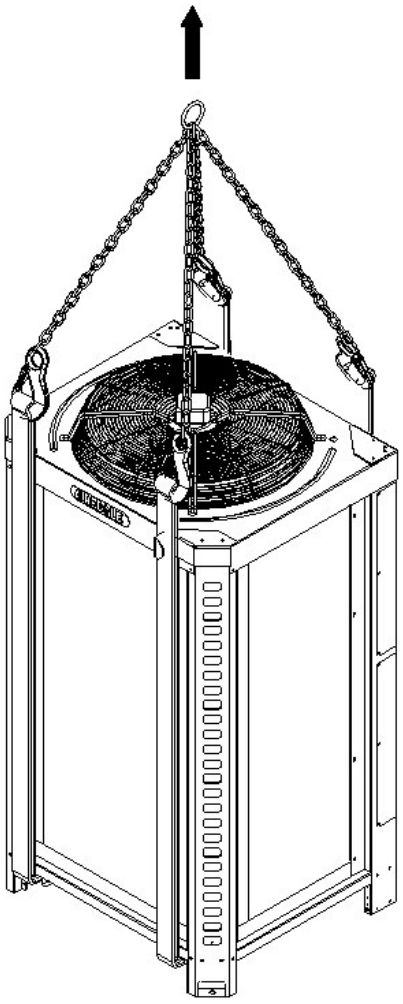
Lifting

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/slings 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
Only use lifting points provided.
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:

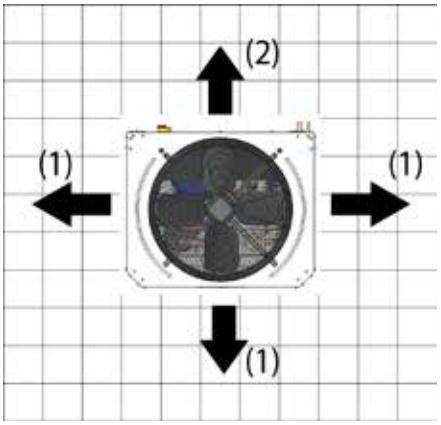
- Position on a stable and even base, levelled to ensure that the compressor operates correctly.
- Levelling should be to +/- 5mm.
- Where vibration transmission to the building structure is possible, fit pad anti-vibration mounts.
- Observe airflow and maintenance clearances.
- Pipework and electrical 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

REAR



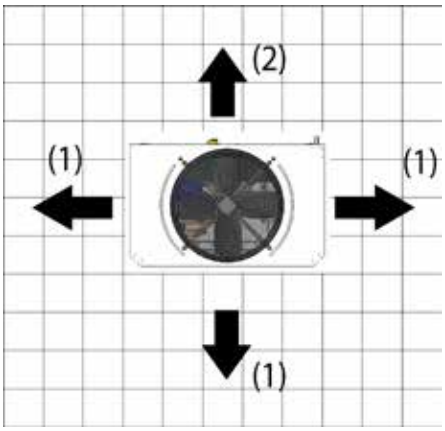
LEFT RIGHT

FRONT

(1) Airflow clearance minimum 300(mm),
(2) Maintenance clearance minimum: Single unit minimum 750mm

122 Models

REAR

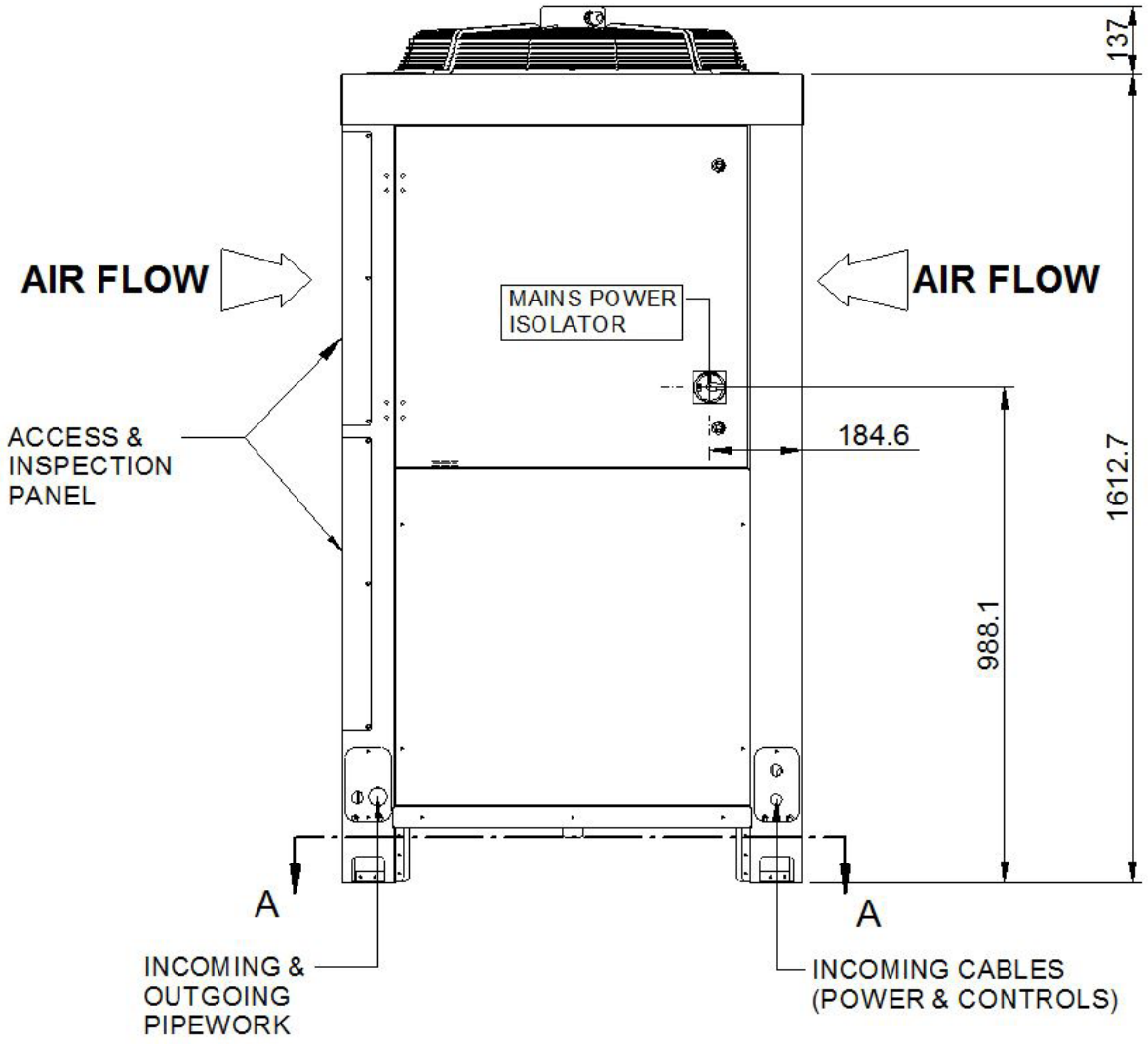


LEFT RIGHT

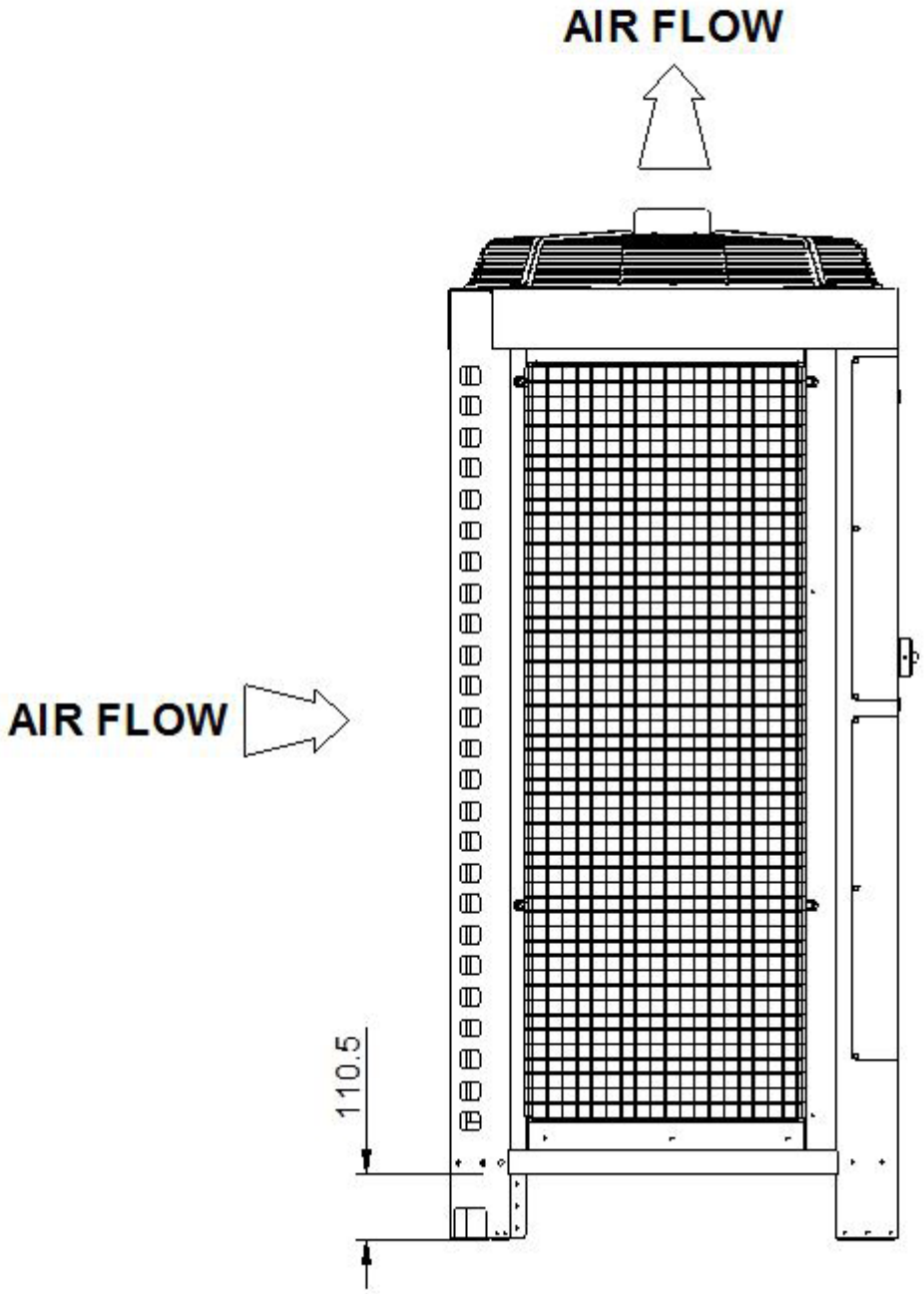
FRONT

(1) Airflow clearance minimum 300(mm),
(2) Maintenance clearance minimum: Single unit minimum 750mm

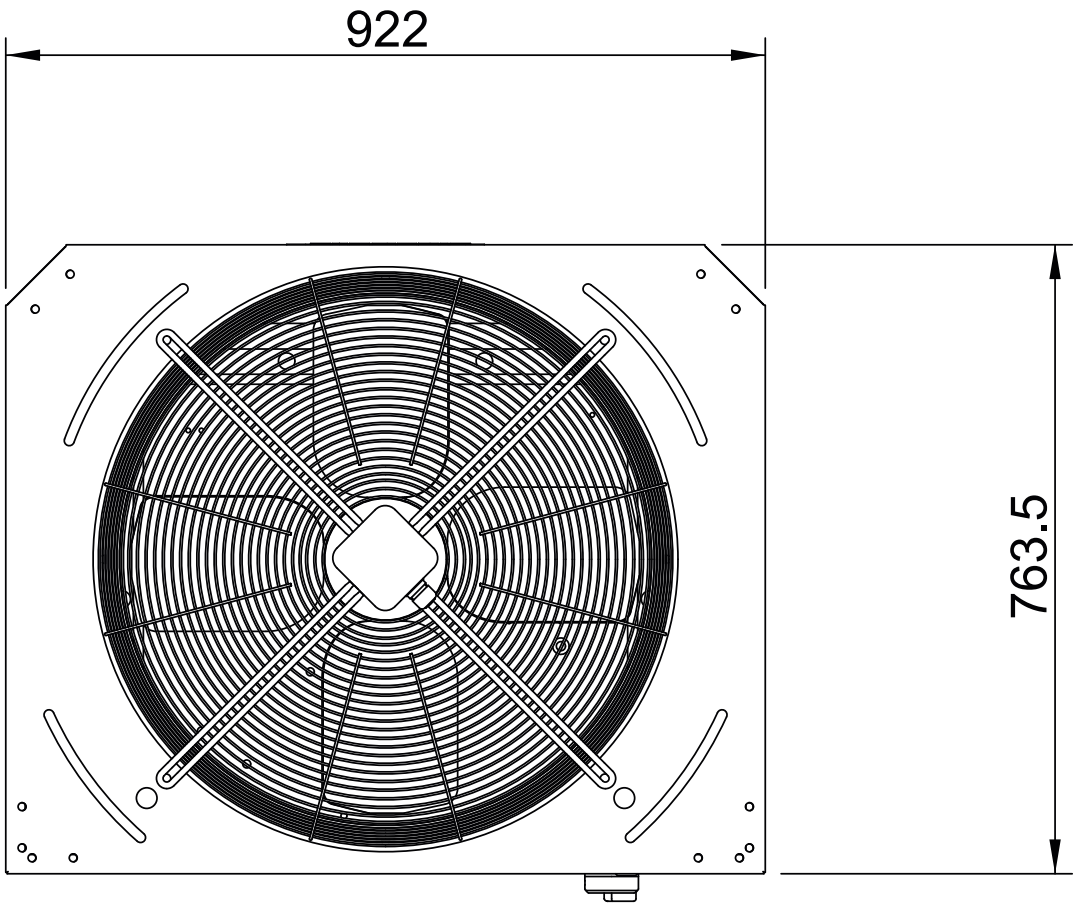
Dimensional Data
092 Models

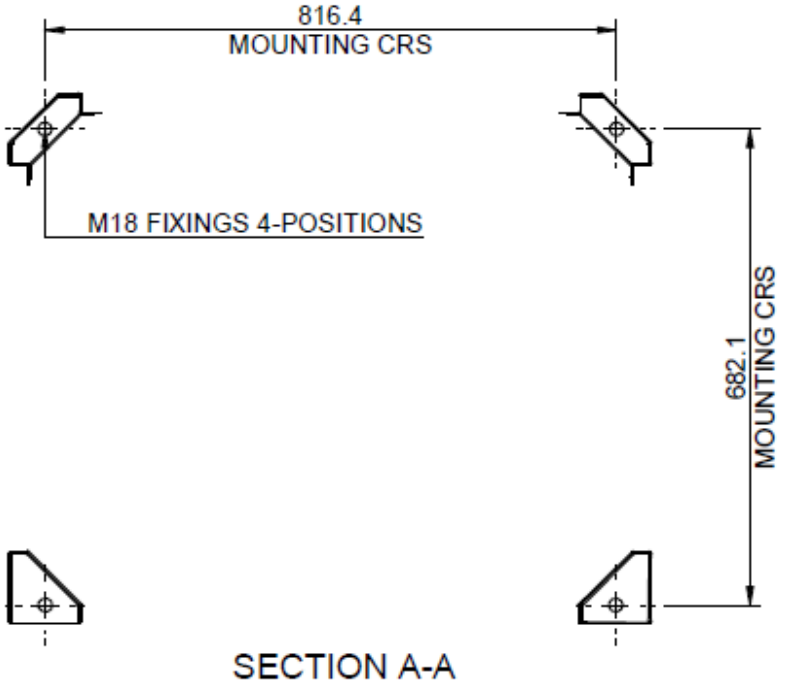


Dimensional Data
092 Models



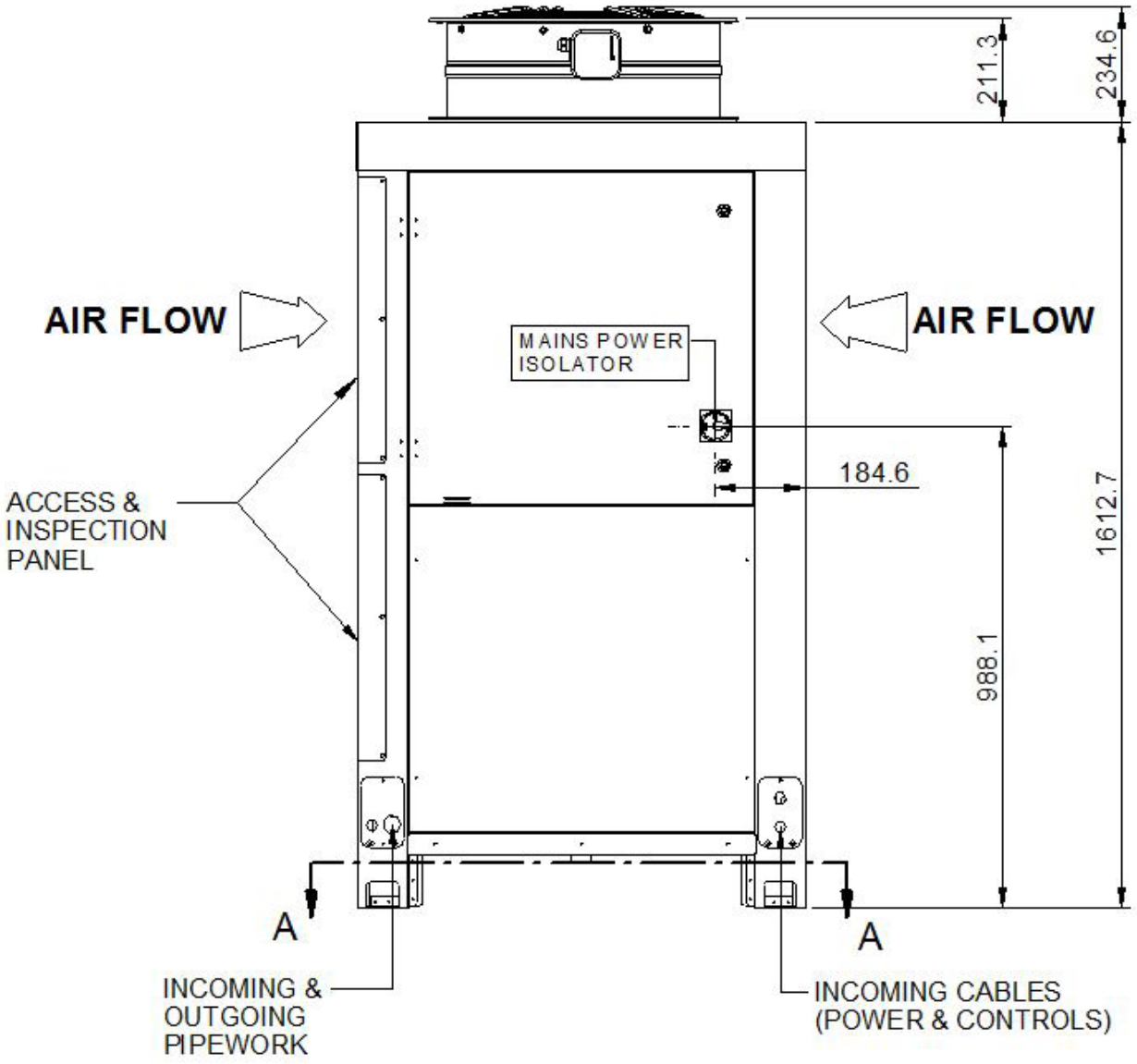
Dimensional Data
092 Models



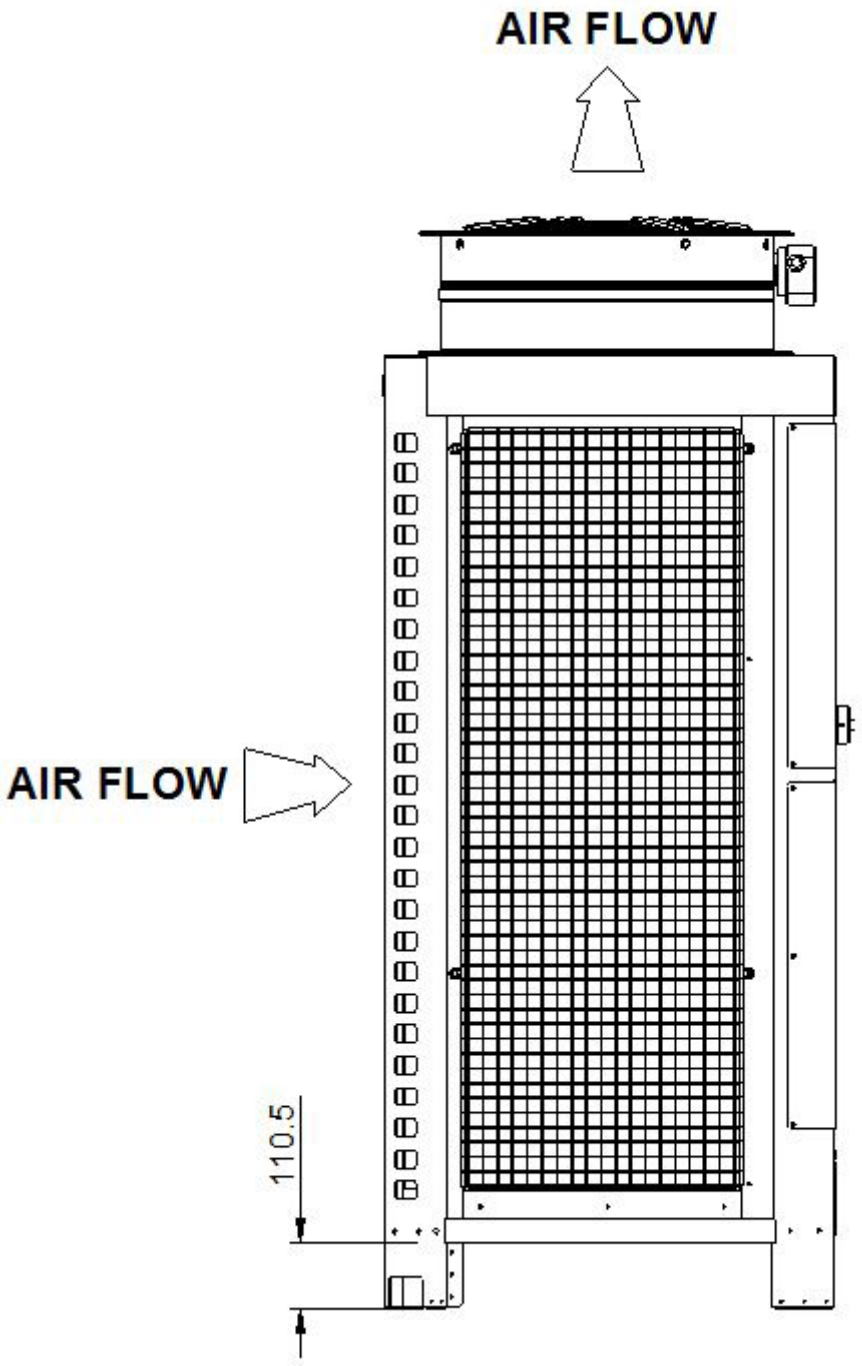


Dimensional Data

092 Short Case Axial Fan

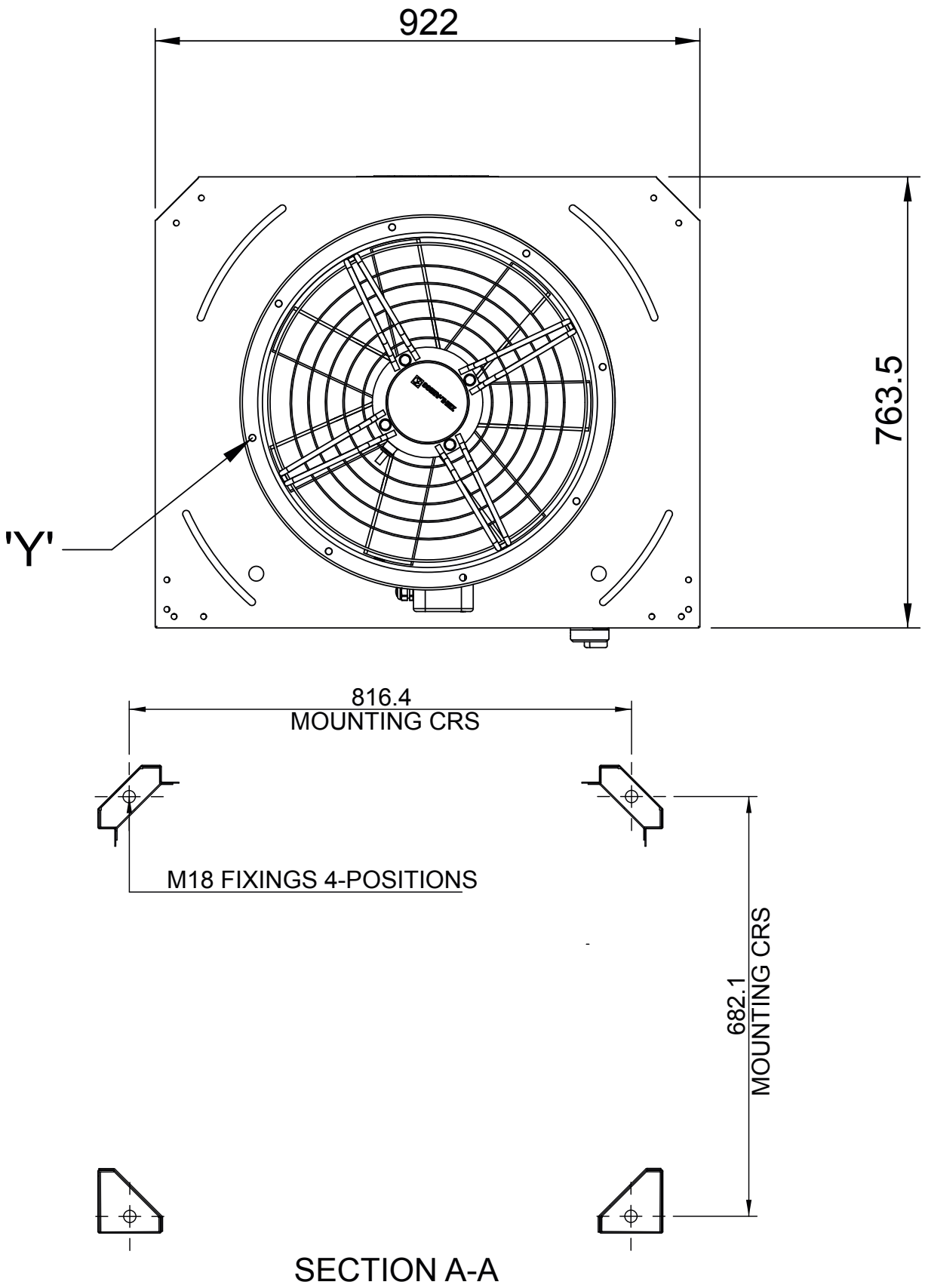


Dimensional Data
092 Short Case Axial Fan

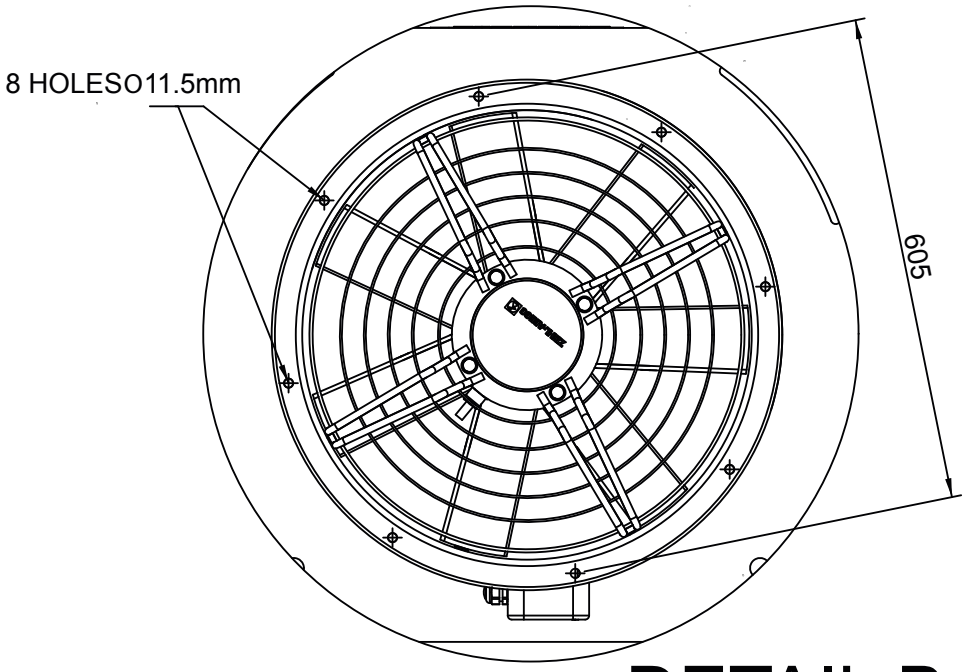


Dimensional Data

092 Short Case Axial Fan



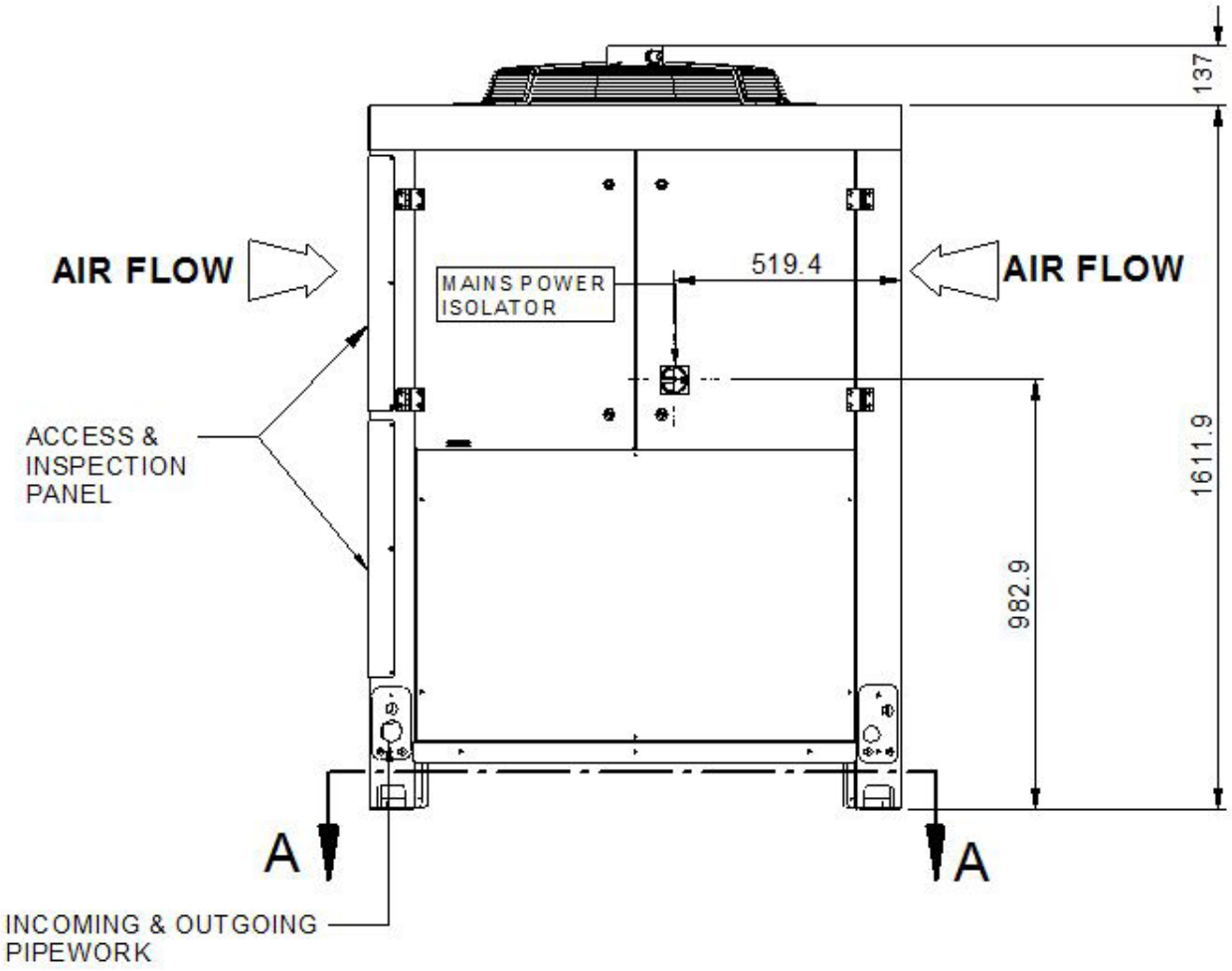
Dimensional Data
092 Short Case Axial Fan



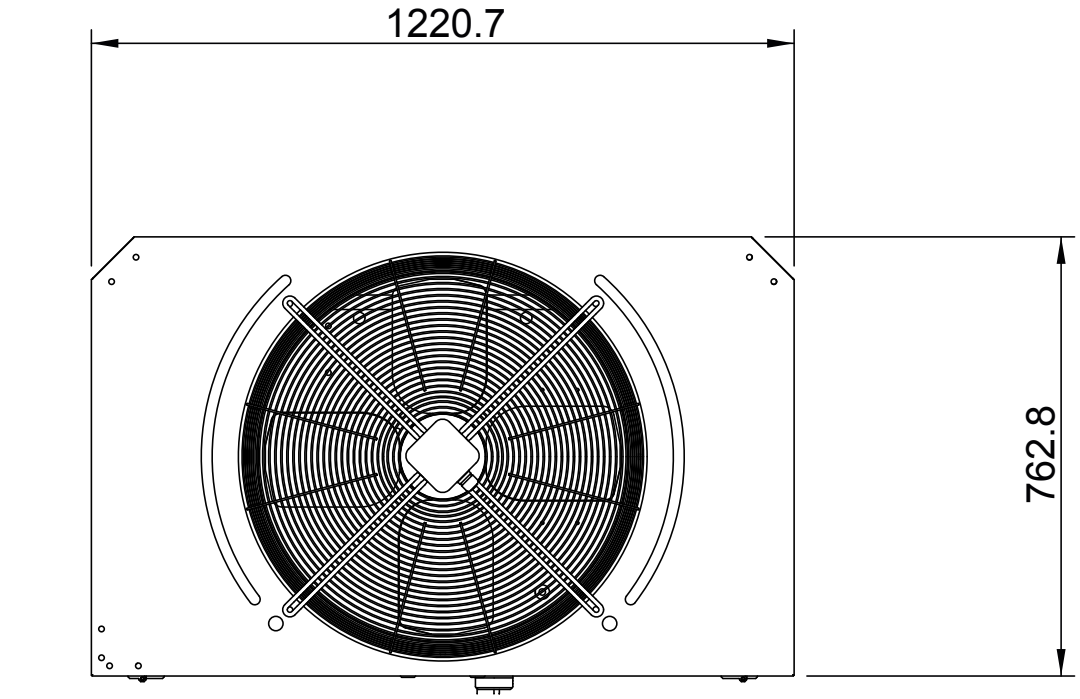
DETAIL B

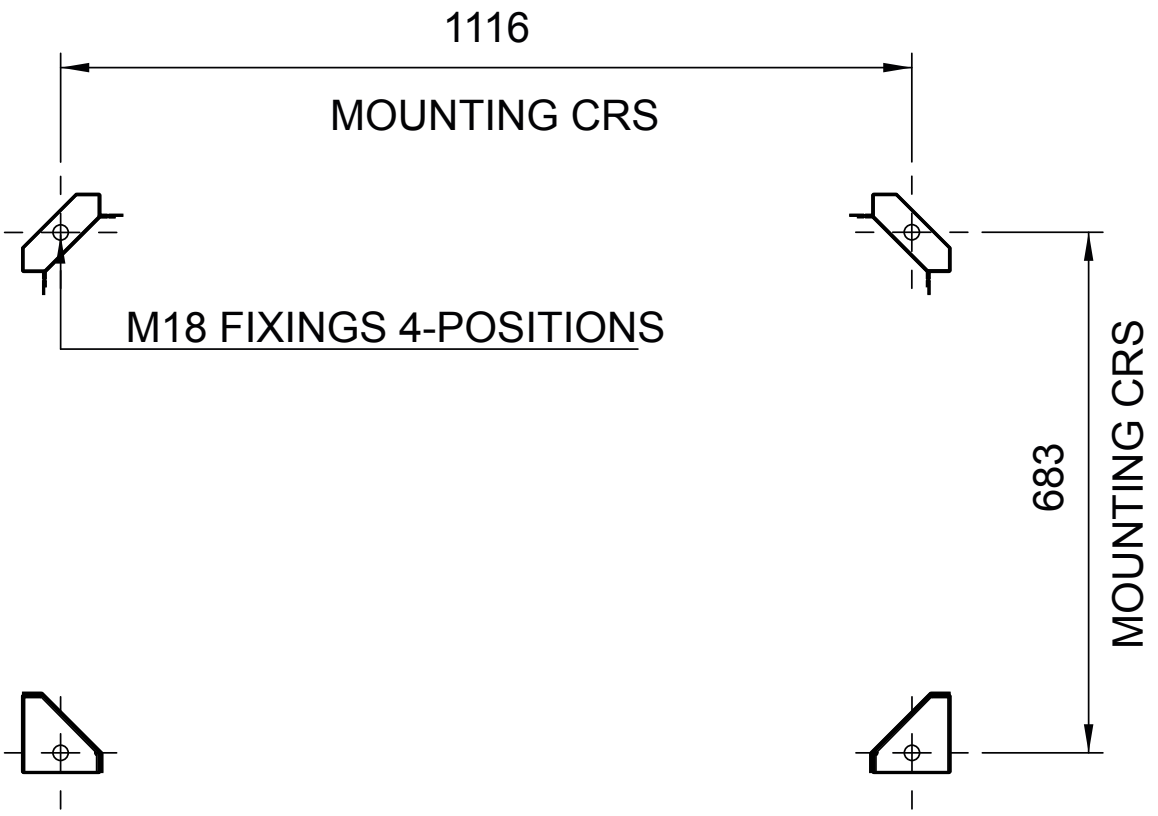
Dimensional Data

122 Models

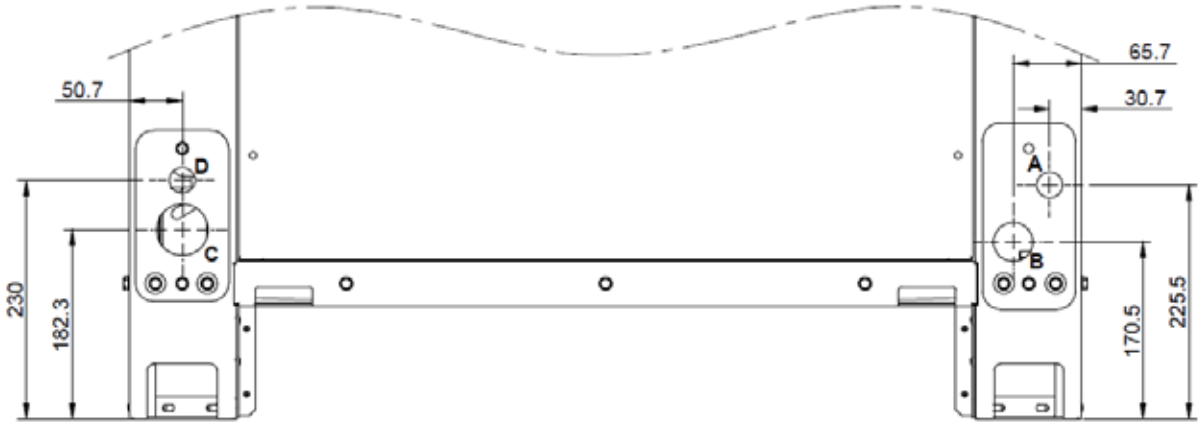


Dimensional Data
122 Models

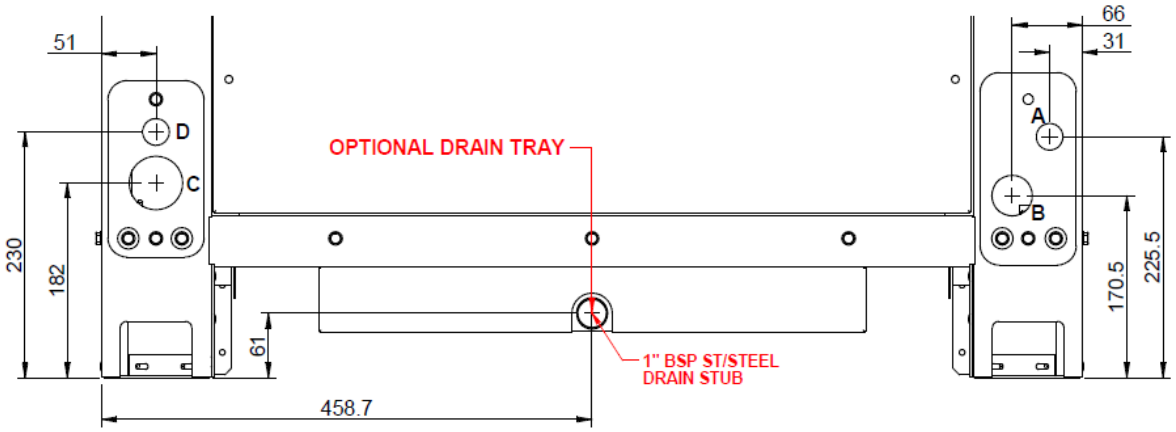




Incoming Services
Cooling only 092

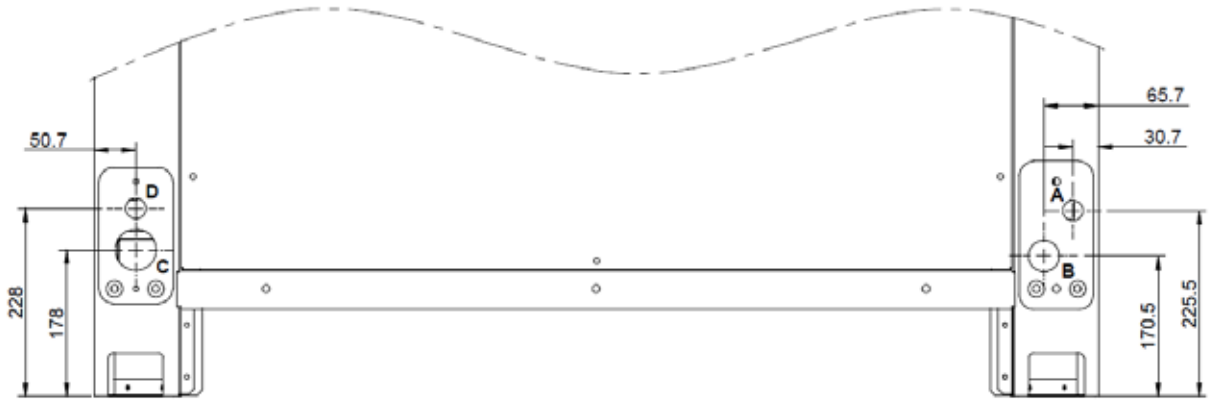


Heat Pump 092

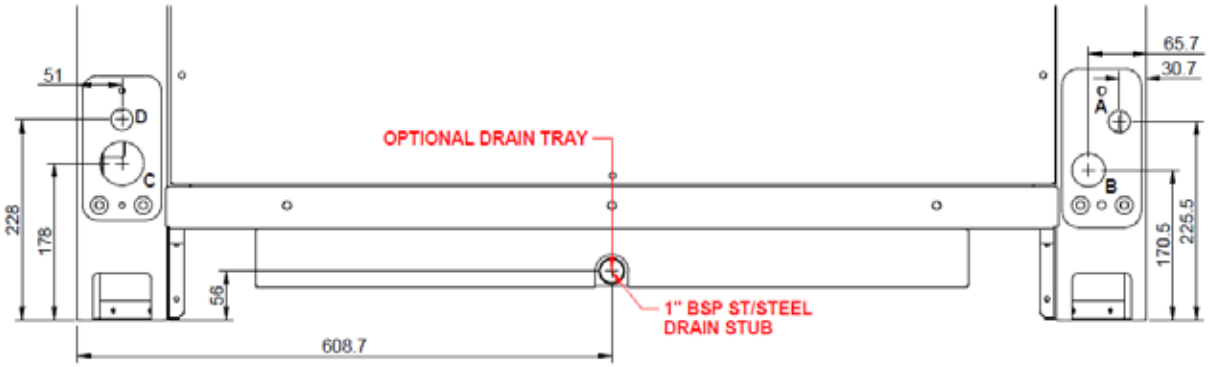


	Wiring Access Holes (mm)		Pipe Work Hole Sizes (mm)	
Cooling Only	A	B	C	D
CUR092V16	25	38	50	25
CUR092V20	25	38	50	25
CUR092V25	25	38	50	25
CUR092V29	25	38	50	25
Heat Pump				
CUR092V16	25	38	38	25
CUR092V20	25	38	38	25
CUR092V25	25	38	38	25
CUR092V29	25	38	38	25

Cooling Only 122
Heat Pump 122



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



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 solonoid 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

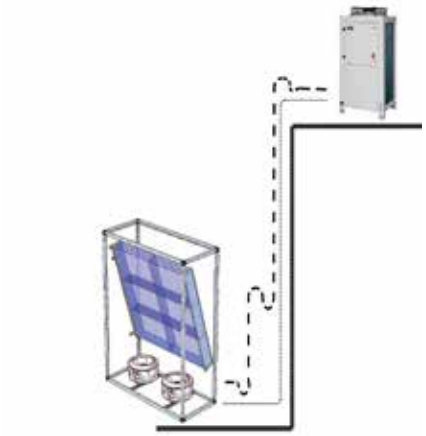
The following table identifies the maximum distance between pipe supports on vertical and horizontal pipe runs.

CAUTION ⚠	All pipework should be clamped prior to insulation being applied (Suction Line). Clamping over insulation is not acceptable.

Horizontal Sections

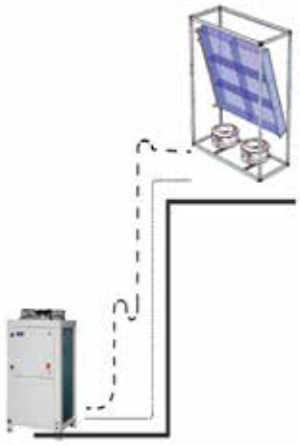
It is good practice to ensure a slight gradient toward the compressor in the direction of the refrigerant flow for suction lines running horizontal. This assists oil return to the compressor. A gradient of approximately 1:200 (0.5%) shall be used.

Condensing Unit Above Air Handling Unit



Traps are required every 4m of vertical rise.

Condensing Unit Below Air Handling Unit



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

Note the diagram above is for illustration only.

IMPORTANT ⚠	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. Split systems may require additional oil which should be added to the low pressure side of each compressor. Design should be in accordance with accepted refrigeration practice to ensure good oil return to the compressor(s) under all normal operating conditions. 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.

Installation Data

Oil Charging Guide

he 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																			
Outdoor Unit	Outdoor Unit		0-20m				20-40m				40-60m				60-80m					
	Connection Size		Liquid		Suction		Liquid		Suction		Liquid		Suction		Liquid		Suction			
	Liquid	Suction	Horizontal (1)	Vertical (2)	Horizontal (1)	Vertical (2)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)		
CUR092V16-1CO-0	3/8"	7/8"	1/2"	1/2"	1 1/8"	7/8"	1/2"		1 1/8"		1/2"		1 1/8"		5/8"		1 1/8"			
CUR092V20-1CO-0	1/2"	1 1/8"	1/2"	1/2"	1 3/8"	1 1/8"	5/8"		1 3/8"		5/8"		1 3/8"		5/8"		1 3/8"			
CUR092V25-1CO-0	1/2"	1 3/8"	1/2"	1/2"	1 3/8"	1 1/8"	5/8"		1 3/8"		5/8"		1 3/8"		3/4"		1 3/8"			
CUR092V29-1CO-0	1/2"	1 3/8"	5/8"	5/8"	1 5/8"	1 3/8"	5/8"		1 5/8"		5/8"		1 5/8"		3/4"		1 5/8"			
CUR122V35-1CO-0	5/8"	1 3/8"	5/8"	5/8"	1 5/8"	1 3/8"	3/4"		1 5/8"		3/4"		1 5/8"		3/4"		1 5/8"			
CUR122V40-1CO-0	5/8"	1 5/8"	5/8"	5/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		7/8"		1 5/8"			
CUR092V16-VCO-0	3/8"	7/8"	1/2"	1/2"	1 1/8"	7/8"	1/2"		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 3/8"	1 1/8"	5/8"		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"	1 1/8"	5/8"		1 3/8"		5/8"		1 3/8"		3/4"		1 3/8"			
CUR092V29-VCO-0	1/2"	1 3/8"	5/8"	5/8"	1 5/8"	1 3/8"	5/8"		1 5/8"		5/8"		1 5/8"		3/4"		1 5/8"			
CUR122V35-VCO-0	5/8"	1 3/8"	5/8"	5/8"	1 5/8"	1 3/8"	3/4"		1 5/8"		3/4"		1 5/8"		3/4"		1 5/8"			
CUR122V40-VCO-0	5/8"	1 5/8"	5/8"	5/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		7/8"		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

Below Air Handling Unit

			Equivalent Pipe Lengths with R410A															
Outdoor Unit	Outdoor Unit Connection Size		0-20m				20-40m				40-60m				60-80m			
			Liquid		Suction		Liquid		Suction		Liquid		Suction		Liquid		Suction	
	Liquid	Suction	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
			(1)	(2)	(1)	(2)	(1)	(4)	(1)	(4)	(1)	(4)	(1)	(4)	(1)	(4)	(1)	(4)
CUR092V16-1CO-0	3/8"	7/8"	1/2"	5/8"	1 1/8"	1 1/8"	1/2"		1 1/8"		1/2"		1 1/8"		5/8"		1 1/8"	
CUR092V20-1CO-0	1/2"	1 1/8"	1/2"	5/8"	1 3/8"	1 3/8"	5/8"		1 3/8"		5/8"		1 3/8"		5/8"		1 3/8"	
CUR092V25-1CO-0	1/2"	1 3/8"	1/2"	3/4"	1 3/8"	1 3/8"	5/8"		1 3/8"		5/8"		1 3/8"		3/4"		1 3/8"	
CUR092V29-1CO-0	1/2"	1 3/8"	5/8"	3/4"	1 5/8"	1 5/8"	5/8"		1 5/8"		5/8"		1 5/8"		3/4"		1 5/8"	
CUR122V35-1CO-0	5/8"	1 3/8"	5/8"	7/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		3/4"		1 5/8"	
CUR122V40-1CO-0	5/8"	1 5/8"	5/8"	7/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		7/8"		1 5/8"	
CUR092V16-VCO-0	3/8"	7/8"	1/2"	5/8"	1 1/8"	1 1/8"	1/2"		1 1/8"		1/2"		1 1/8"		5/8"		1 1/8"	
CUR092V20-VCO-0	1/2"	1 1/8"	1/2"	5/8"	1 3/8"	1 3/8"	5/8"		1 3/8"		5/8"		1 3/8"		5/8"		1 3/8"	
CUR092V25-VCO-0	1/2"	1 3/8"	1/2"	3/4"	1 3/8"	1 3/8"	5/8"		1 3/8"		5/8"		1 3/8"		3/4"		1 3/8"	
CUR092V29-VCO-0	1/2"	1 3/8"	5/8"	3/4"	1 5/8"	1 5/8"	5/8"		1 5/8"		5/8"		1 5/8"		3/4"		1 5/8"	
CUR122V35-VCO-0	5/8"	1 3/8"	5/8"	7/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		3/4"		1 5/8"	
CUR122V40-VCO-0	5/8"	1 5/8"	5/8"	7/8"	1 5/8"	1 5/8"	3/4"		1 5/8"		3/4"		1 5/8"		7/8"		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

Outdoor Unit	Outdoor Unit Connection Size		Equivalent Pipe Lengths with R410A															
			0-20m				20-40m				40-60m				60-80m			
			Liquid		Suction / Discharge		Liquid		Suction/Discharge		Liquid		Suction/Discharge		Liquid		Suction/Discharge	
	Liquid	Suction/ Discharge	Horizontal (1)	Vertical (2)	Horizontal (1)	Vertical (2)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)
CUR092V16-1HP-0	3/8"	1/2"	1/2"	5/8"	3/4"	7/8"	1/2"		3/4"		1/2"		3/4"		5/8"		3/4"	
CUR092V20-1HP-0	3/8"	5/8"	1/2"	5/8"	7/8"	1 1/8"	5/8"		7/8"		5/8"		7/8"		5/8"		7/8"	
CUR092V25-1HP-0	1/2"	7/8"	1/2"	3/4"	1 1/8"	1 1/8"	5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR092V29-1HP-0	1/2"	7/8"	5/8"	3/4"	1 1/8"	1 3/8"	5/8"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V35-1HP-0	1/2"	7/8"	3/4"	7/8"	1 1/8"	1 3/8"	3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V40-1HP-0	5/8"	1 1/8"	3/4"	7/8"	1 1/8"	1 3/8"	3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR092V16-VHP-0	3/8"	1/2"	1/2"	5/8"	3/4"	7/8"	1/2"		3/4"		1/2"		3/4"		1/2"		3/4"	
CUR092V20-VHP-0	3/8"	5/8"	1/2"	5/8"	7/8"	1 1/8"	1/2"		7/8"		5/8"		7/8"		5/8"		7/8"	
CUR092V25-VHP-0	1/2"	7/8"	1/2"	3/4"	1 1/8"	1 1/8"	5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR092V29-VHP-0	1/2"	7/8"	5/8"	3/4"	1 1/8"	1 3/8"	5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR122V35-VHP-0	1/2"	7/8"	3/4"	7/8"	1 1/8"	1 3/8"	3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V40-VHP-0	5/8"	1 1/8"	3/4"	7/8"	1 1/8"	1 3/8"	3/4"		1 1/8"		3/4"		1 1/8"		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

Below Air Handling Unit

			Equivalent Pipe Lengths with R410A															
Outdoor Unit	Outdoor Unit		0-20m				20-40m				40-60m				60-80m			
	Connection Size		Liquid		Suction / Discharge		Liquid		Suction/Discharge		Liquid		Suction/Discharge		Liquid		Suction/Discharge	
	Liquid	Suction / Discharge	Horizontal (1)	Vertical (2)	Horizontal (1)	Vertical (3)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)	Horizontal (1)	Vertical (4)
CUR092V16-1HP-0	3/8"	1/2"	1/2"	5/8"	3/4"		1/2"		3/4"		1/2"		3/4"		5/8"		3/4"	
CUR092V20-1HP-0	3/8"	5/8"	1/2"	5/8"	7/8"		5/8"		7/8"		5/8"		7/8"		5/8"		7/8"	
CUR092V25-1HP-0	1/2"	7/8"	1/2"	3/4"	1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR092V29-1HP-0	1/2"	7/8"	5/8"	3/4"	1 1/8"		5/8"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V35-1HP-0	1/2"	7/8"	3/4"	7/8"	1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V40-1HP-0	5/8"	1 1/8"	3/4"	7/8"	1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR092V16-VHP-0	3/8"	1/2"	1/2"	5/8"	3/4"		1/2"		3/4"		1/2"		3/4"		1/2"		3/4"	
CUR092V20-VHP-0	3/8"	5/8"	1/2"	5/8"	7/8"		1/2"		7/8"		5/8"		7/8"		5/8"		7/8"	
CUR092V25-VHP-0	1/2"	7/8"	1/2"	3/4"	1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR092V29-VHP-0	1/2"	7/8"	5/8"	3/4"	1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"		5/8"		1 1/8"	
CUR122V35-VHP-0	1/2"	7/8"	3/4"	7/8"	1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"	
CUR122V40-VHP-0	5/8"	1 1/8"	3/4"	7/8"	1 1/8"		3/4"		1 1/8"		3/4"		1 1/8"		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.
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Assumptions

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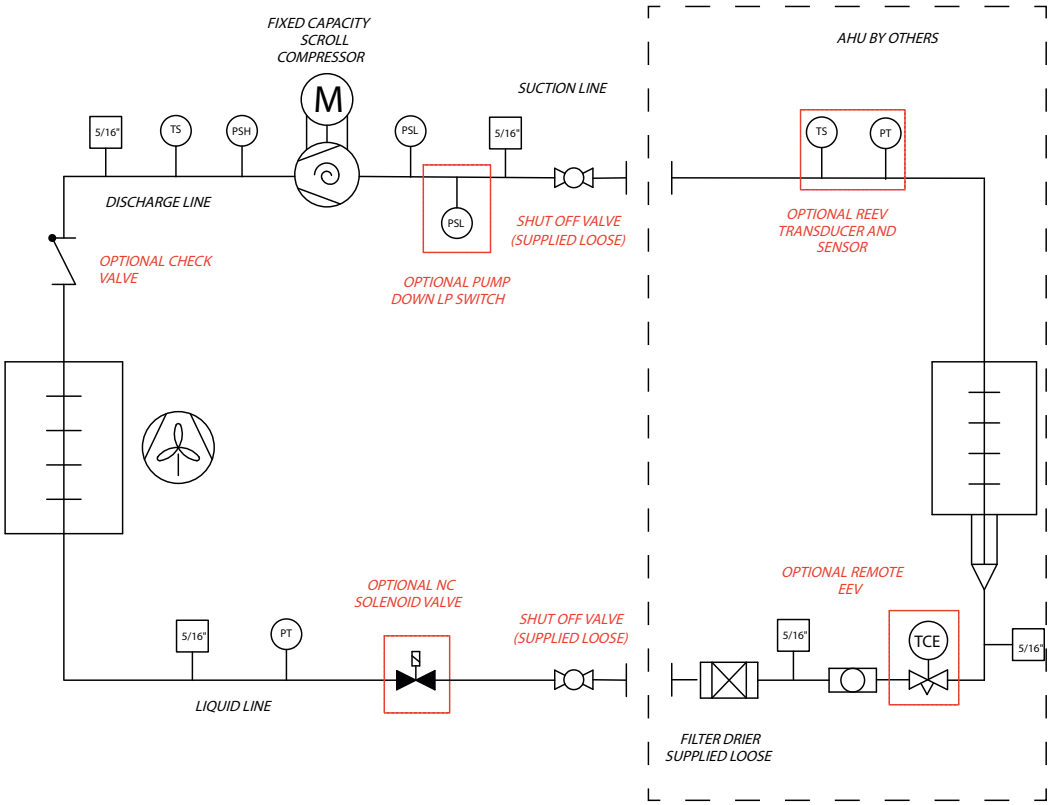
ii) In heating mode - evaporator temperature = -10°C and condensing temperature = 50°C

Pipework Schematics

Cooling Only – Fixed Capacity



KEY: ALL ITEMS

AXIAL FAN

SCROLL COMPRESSOR

ELECTRONIC EXPANSION VALVE

LOW PRESSURE SWITCH

HIGH PRESSURE SWITCH

SHUT OFF VALVE (SUPPLIED LOOSE)

OPTIONAL ITEMS

FILTER DRIER (SUPPLIED LOOSE)

PRESSURE TRANSDUCER

R410A 5/16" SCHRADER VALVE

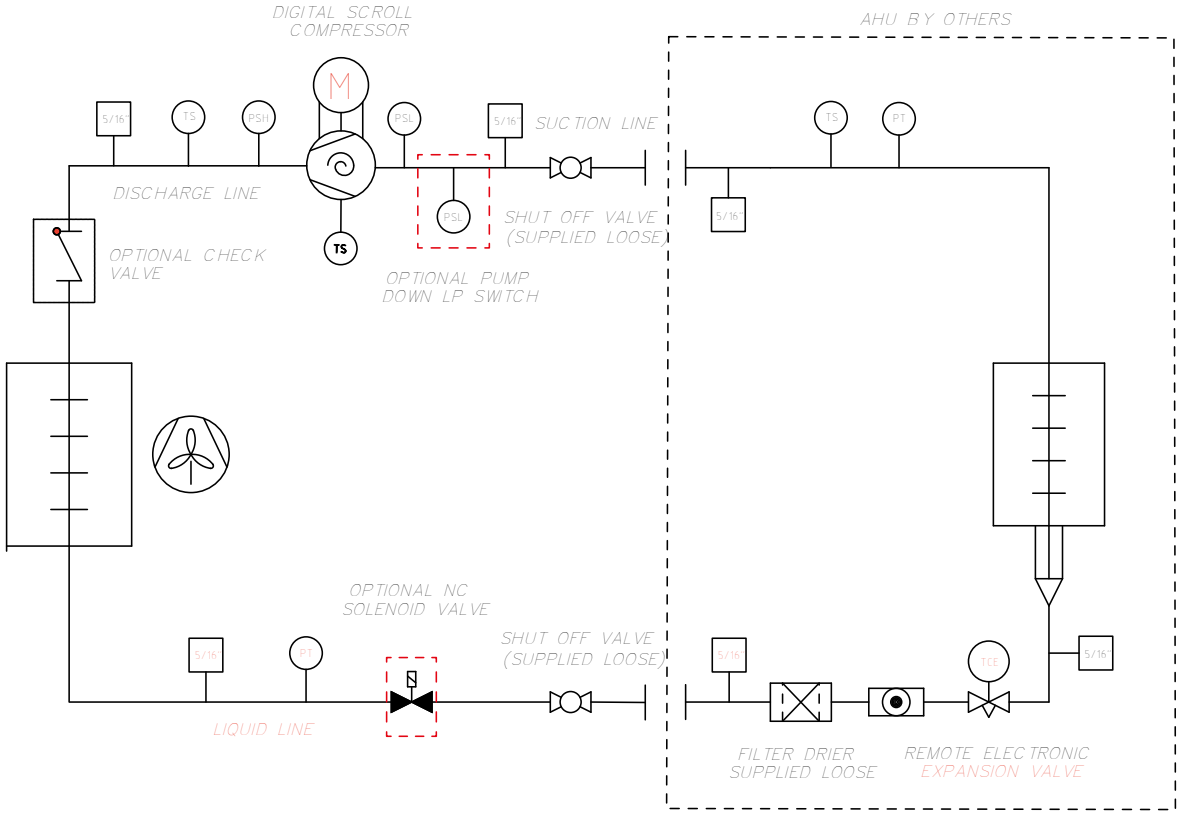
TEMPERATURE SENSOR

NORMALLY CLOSED SOLENOID VALVE

CHECK VALVE

Pipework Schematics

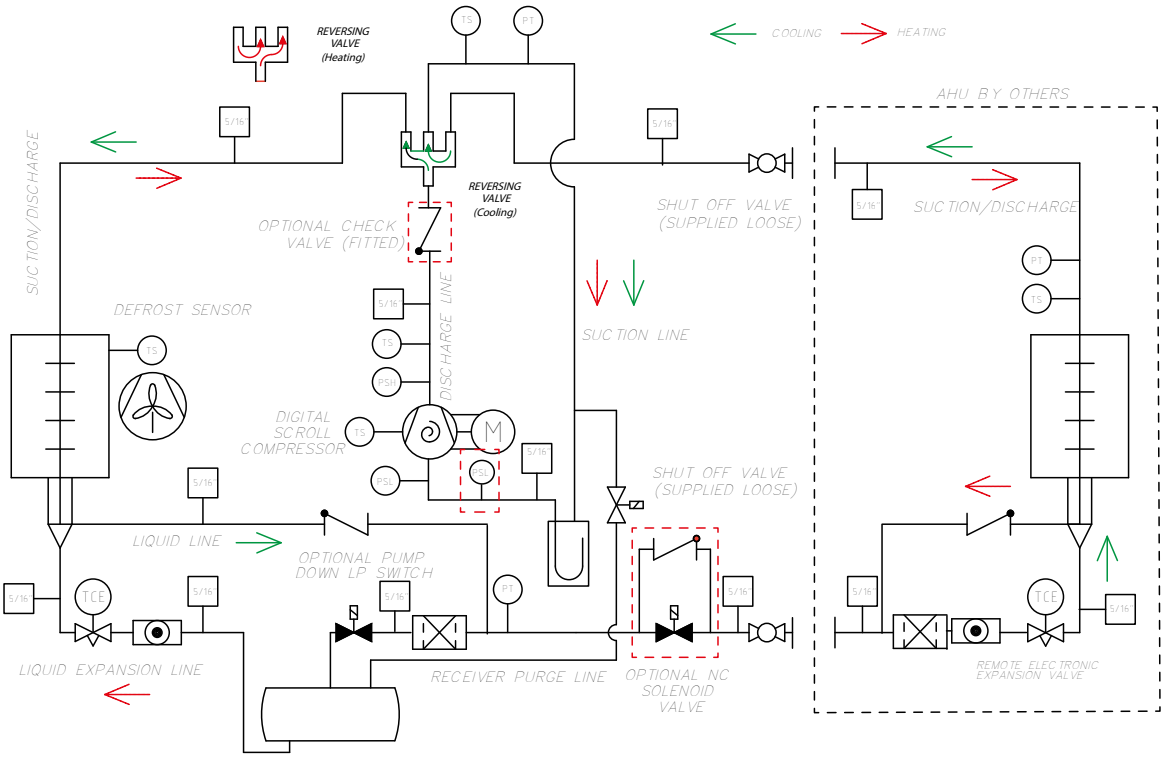
Cooling Only – Digital Scroll



KEY: ALL ITEMS

- AXIAL FAN
- SCROLL COMPRESSOR
- ELECTRONIC EXPANSION VALVE
- LOW PRESSURE SWITCH
- HIGH PRESSURE SWITCH
- SHUT OFF VALVE (SUPPLIED LOOSE)
- OPTIONAL ITEMS
- FILTER DRIER (SUPPLIED LOOSE)
- PRESSURE TRANSDUCER
- R410A 5/16" SCHRADER VALVE
- TEMPERATURE SENSOR
- NORMALLY CLOSED SOLENOID VALVE
- CHECK VALVE

Pipework Schematics - Modulated Capacity, EEV
Heat Pump- Digital Scroll



KEY: ALL ITEMS

AXIAL FAN

SCROLL COMPRESSOR

ELECTRONIC EXPANSION VALVE

LOW PRESSURE SWITCH

HIGH PRESSURE SWITCH

SHUT OFF VALVE (SUPPLIED LOOSE)

OPTIONAL ITEMS

FILTER DRIER (SUPPLIED LOOSE)

PRESSURE TRANSDUCER

R410A 5/16" SCHRADER VALVE

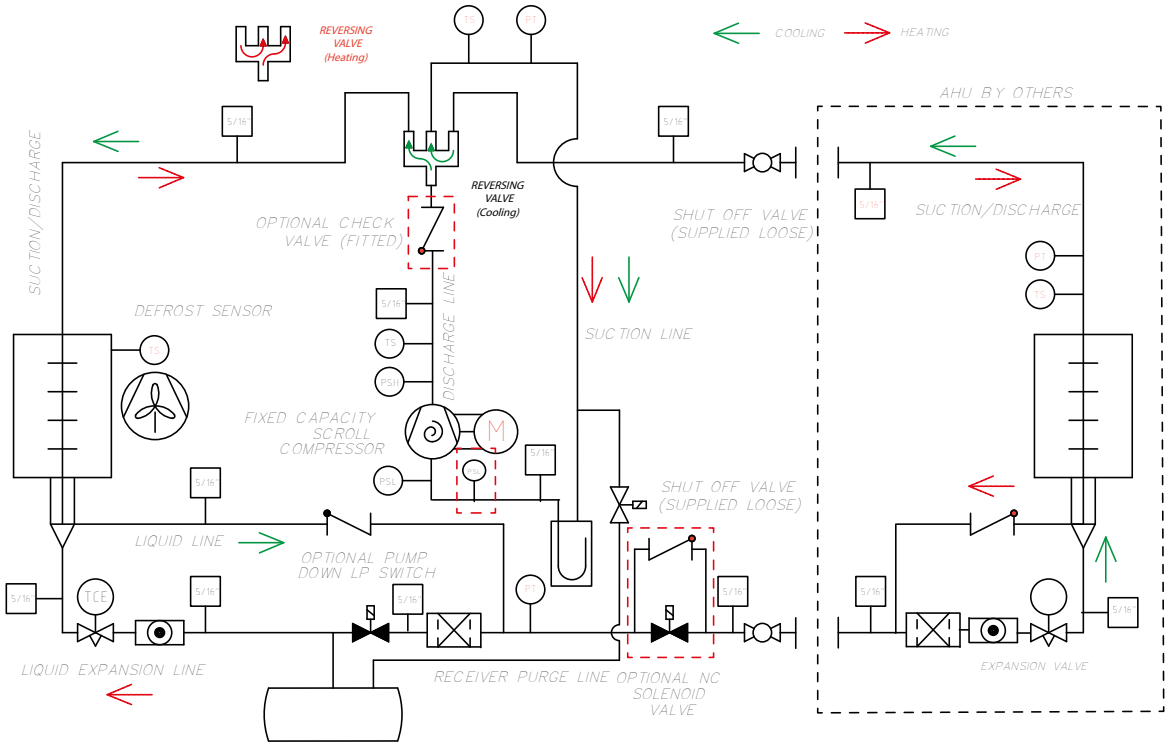
TEMPERATURE SENSOR

NORMALLY CLOSED SOLENOID VALVE

CHECK VALVE

Pipework Schematics

Heat Pump – Fixed Capacity – Electronic Expansion Valve



KEY: ALL ITEMS

AXIAL FAN

FILTER DRIER (SUPPLIED LOOSE)

SCROLL COMPRESSOR

PRESSURE TRANSDUCER

ELECTRONIC EXPANSION VALVE

R410A 5/16" SCHRADER VALVE

LOW PRESSURE SWITCH

TEMPERATURE SENSOR

HIGH PRESSURE SWITCH

NORMALLY CLOSED SOLENOID VALVE

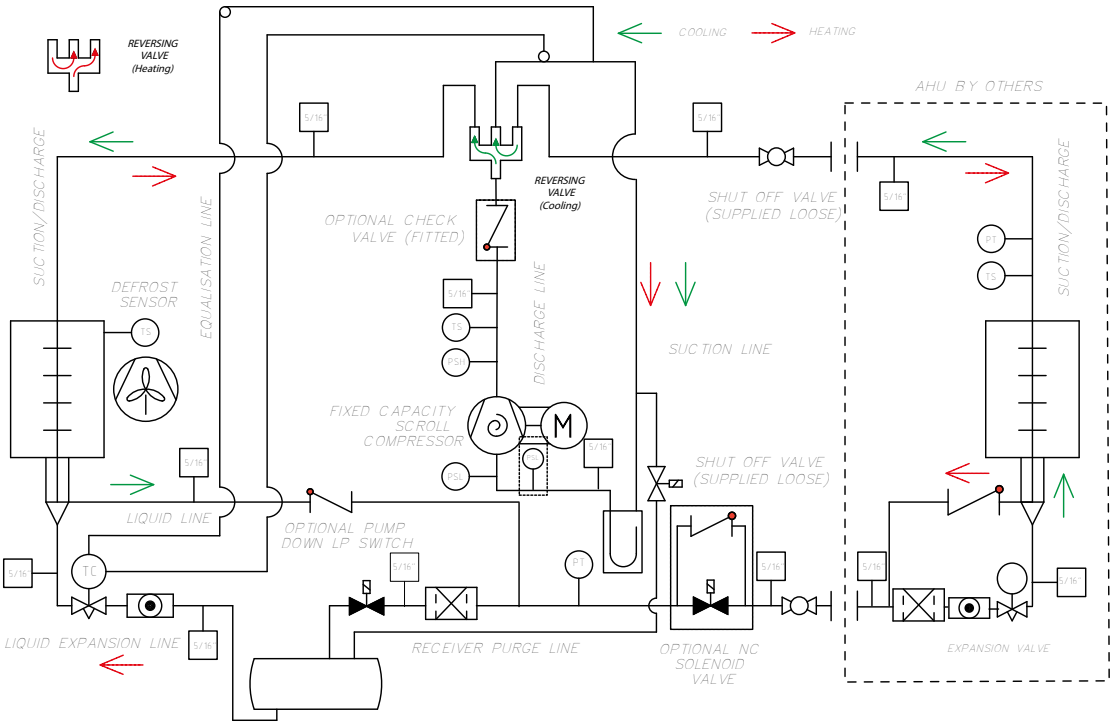
SHUT OFF VALVE (SUPPLIED LOOSE)

CHECK VALVE

OPTIONAL ITEMS

Pipework Schematics - Fixed Capacity, EEV

Heat Pump- Fixed Capacity- Thermostatic Expansion Valve



KEY: ALL ITEMS

AXIAL FAN

SCROLL COMPRESSOR

ELECTRONIC EXPANSION VALVE

LOW PRESSURE SWITCH

HIGH PRESSURE SWITCH

SHUT OFF VALVE (SUPPLIED LOOSE)

OPTIONAL ITEMS

FILTER DRIER (SUPPLIED LOOSE)

PRESSURE TRANSDUCER

R410A 5/16 " SCHRADER VALVE

TEMPERATURE SENSOR

NORMALLY CLOSED SOLENOID VALVE

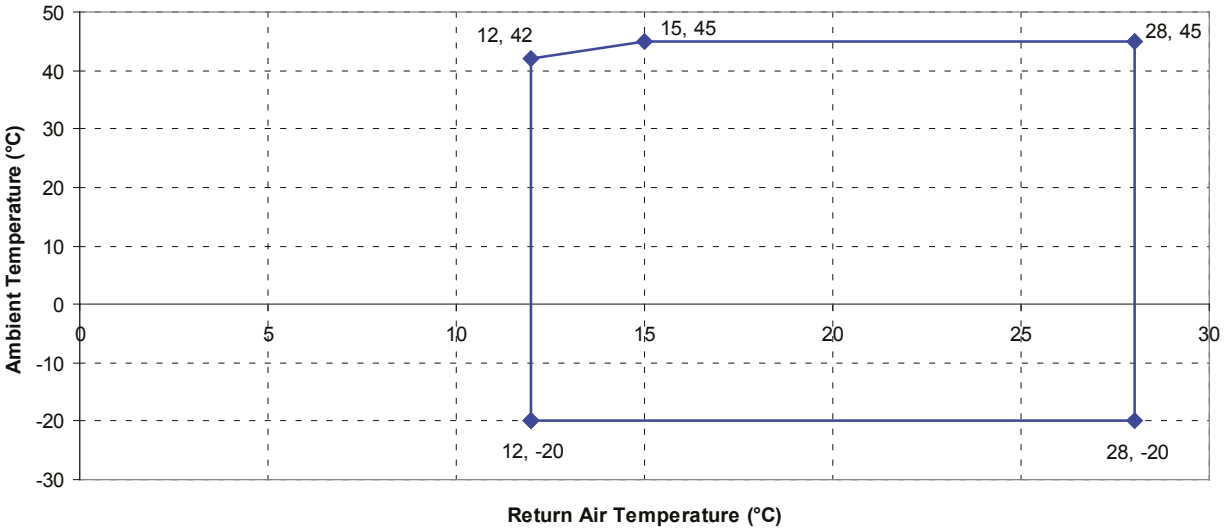
CHECK VALVE

Technical Data Cooling Only

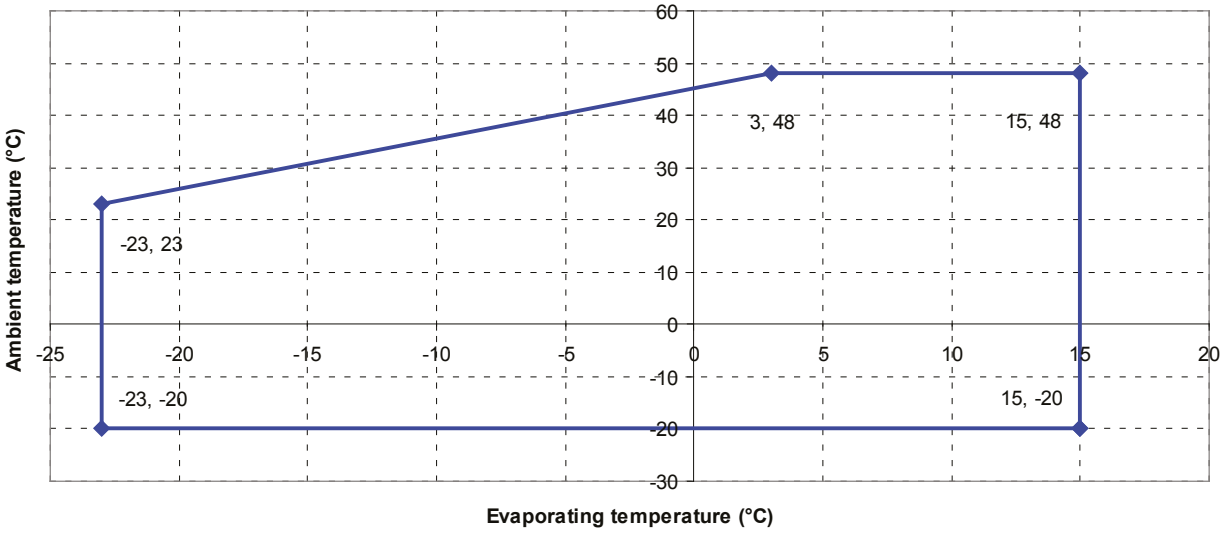
Operational Limits

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

		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 14511-1:2013

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 14511-1:2013

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				
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	18.59	18.59	18.59
Refrigerant Charge (4)	kg	8.5	8.6	8.6
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 14511-1:2013

(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	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~	1~	1~
Quantity x Motor Size	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	
OPTIONAL EXTRAS				
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 764 x 1736	1222 x 764 x 1736
Mass – Machine / Operating (3)	kg	241	292	296
Construction Material/Colour		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035)		
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				
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	18.59	19.96	19.96
Refrigerant Charge (4)	kg	8.6	10.1	10.1
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 764 x 1750	1222 x 764 x 1750
Mass – Machine / Operating (3)	kg	233	284	287
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 14511-1:2013
(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	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	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	11.9	11.9
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	
OPTIONAL EXTRAS				
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				
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	18.59	18.59	18.59
Refrigerant Charge (4)	kg	8.5	8.5	8.6
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 14511-1:2013
(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	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~	1~	1~
Quantity x Motor Size	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	
OPTIONAL EXTRAS				
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			
Maximum Start Amps	A		N/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 764 x 1736	1222 x 764 x 1736
Mass – Machine / Operating (3)	kg	243	293	295
Construction Material/Colour		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035)		
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				
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	18.59	19.96	19.96
Refrigerant Charge (4)	kg	8.6	10.1	10.1
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 764 x 1750	1222 x 764 x 1750
Mass – Machine / Operating (3)	kg	234	285	287
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 14511-1:2013
(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		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	11.9	11.9
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	
OPTIONAL EXTRAS					
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			
Maximum Start Amps		A		N/A	
Recommended Mains Fuse Size		A			
Compressor Nominal Run Amps		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	O	←		Mains incoming supply 400V/3PH +N/50Hz
L2	O	←		
L3	O	←		
N	O	←		
PE	O	←		

502	O	→		24 Volts AC
551	O	←		Cooling Signal

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

561	O	→	NO	Critical Alarm Normally Open
562	O	→	Common	GND
563	O	→	NC	Critical Alarm Normally Closed

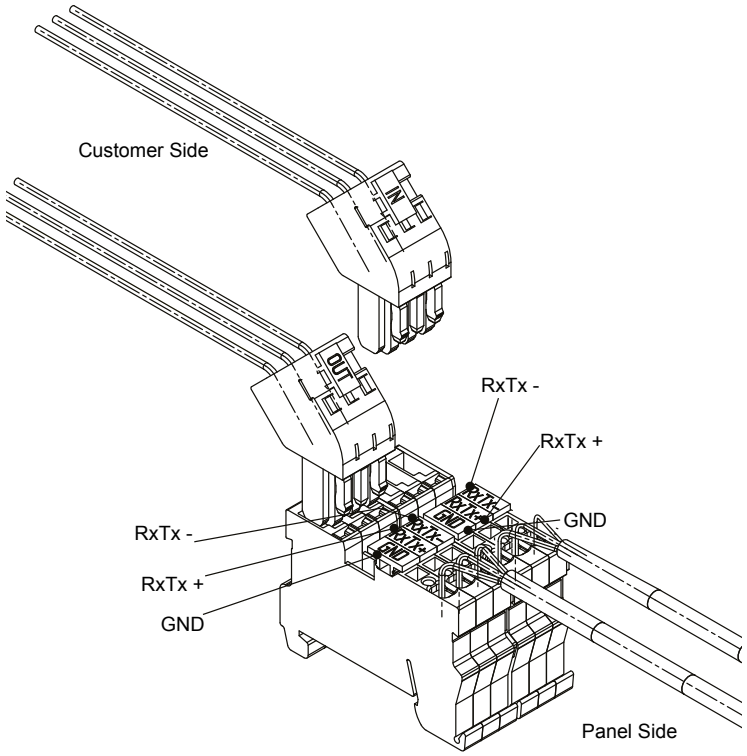
590	O	→		REEV Compressor Interlock
500	O	←		0 Volts

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

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

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
	Power	dB	86.4	81.2	84.9	79.5	84.6	83.9	73.6	63.4	57.1
CUR092V16-1CO-0	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
	Power	dB	86.6	81.5	84.9	79.5	84.6	84.1	74.2	64.4	57.9
CUR092V20-1CO-0	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
	Power	dB	86.6	81.0	85.0	79.5	84.6	84.1	73.9	64.4	58.3
CUR092V25-1CO-0	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
	Power	dB	86.6	81.5	84.9	79.5	84.6	84.1	74.2	64.4	57.9
CUR092V29-1CO-0	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
	Power	dB	86.9	96.5	95.4	87.2	85.0	80.5	75.2	68.3	68.2
CUR122V35-1CO-0	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
	Power	dB	87.3	96.5	95.4	87.3	85.0	81.4	76.3	69.5	68.5
CUR122V40-1CO-0	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
	Power	dB	86.7	80.9	84.9	79.6	84.8	84.2	73.4	64.4	60.8
CUR092V16-VCO-0	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
	Power	dB	86.7	80.9	84.9	79.6	84.9	84.2	73.7	66.1	59.8
CUR092V20-VCO-0	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
	Power	dB	87.0	80.9	84.9	79.8	85.4	84.1	74.9	67.1	60.2
CUR092V25-VCO-0	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
	Power	dB	87.0	80.9	84.9	79.7	85.5	84.3	74.6	66.4	59.9
CUR092V29-VCO-0	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
	Power	dB	87.5	96.4	95.4	87.3	85.8	81.2	76.5	70.5	68.8
CUR122V35-VCO-0	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
	Power	dB	87.6	96.4	95.4	87.3	85.7	81.4	77.2	70.9	69.0
CUR122V40-VCO-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 propogation

Notes:

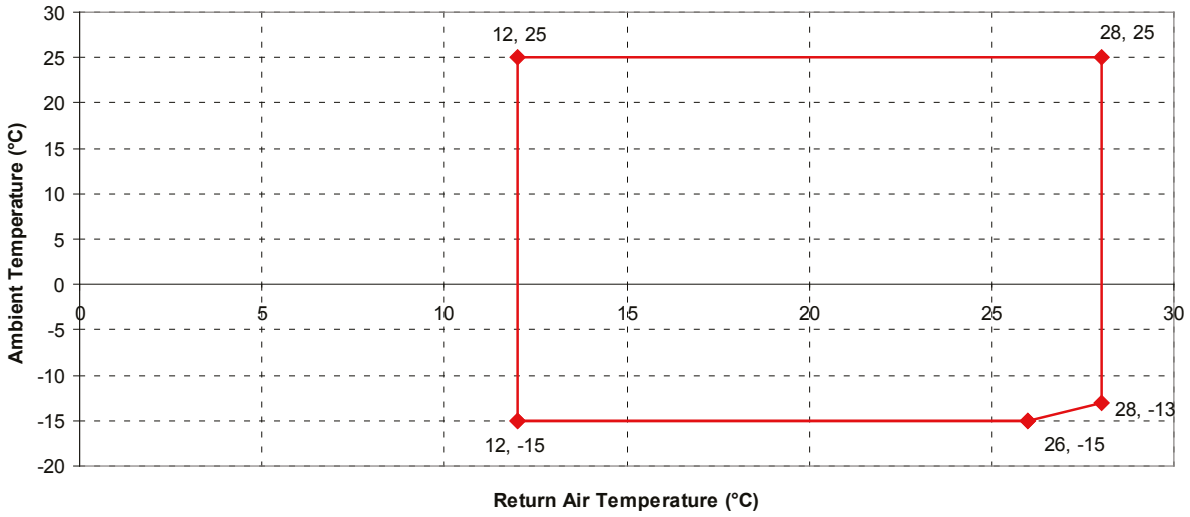
1 Sound Power Reference Power = 10^{-12} Watts.
2 Sound Pressure Reference Pressure = 2×10^{-5} N/m^2.
3 dBA is the overall noise level, measured on the A scale.
4 Sound Pressure data is only valid in free field conditions, where a reflective surface, such as a roof is found.

Intentionally Blank

Technical Data Heat Pump

Operational Limits

Typical Heating Application Envelope

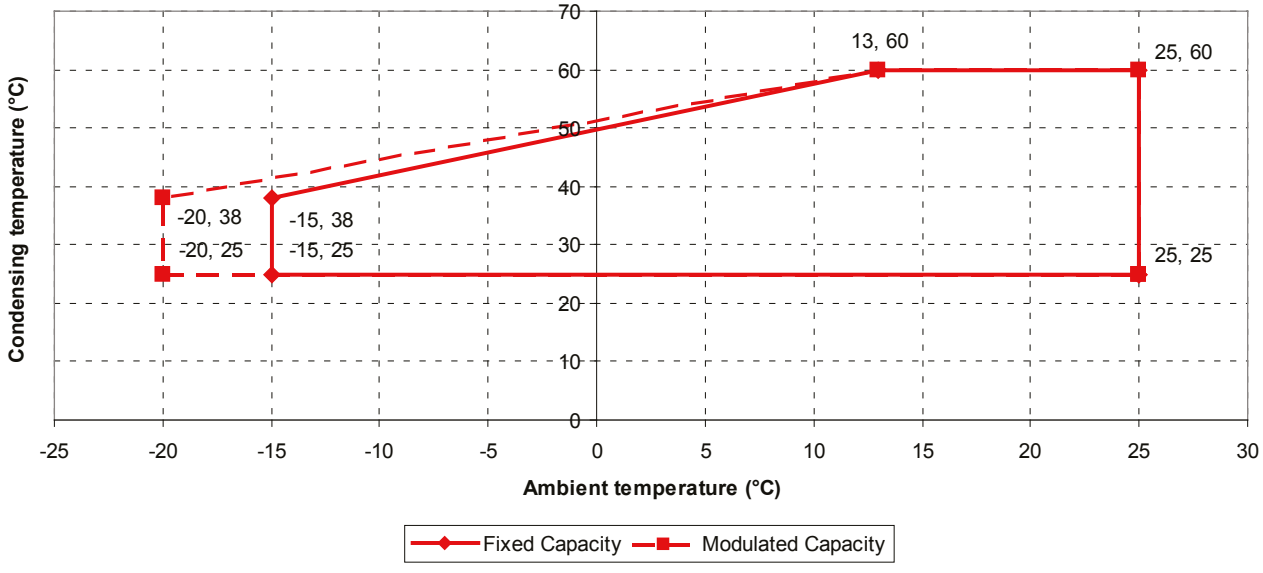


CAUTION

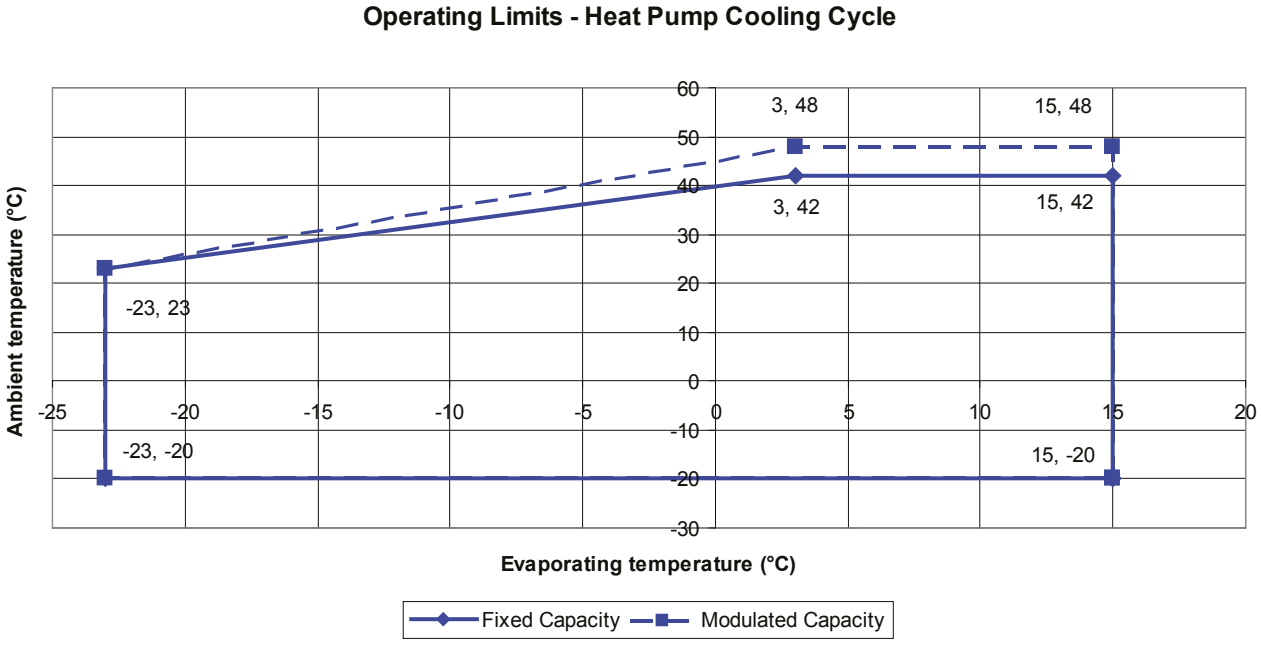
A minimum air on temperature limit of 12°C must be adhered to ensure correct unit operation.

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
Ambient temperature (°C)
Evaporating temperature (°C)
60
50
40
30
20
10
0
-10
-20
-30
-25
-20
-15
-10
-5
0
5
10
15
20
3, 48
15, 48
3, 42
15, 42
-23, 23
-23, -20
15, -20
Fixed Capacity
Modulated Capacity

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 14511-1:2013
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	28.4	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 14511-1:2013
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 14511-1:2013
2 Input kW refers to the compressor and fan input power only.

Heat Pump Heating Modulating Capacities

Heat Pump Modulated 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-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 14511-1:2013
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
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 14511-1:2013

(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 - CUR092V25-1HP-0**

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		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~	1~	1~
Quantity x Motor Size		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	
OPTIONAL EXTRAS					
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 764 x 1755	1222 x 764 x 1755
Mass – Machine / Operating (4)	kg	262	316	324
Construction Material/Colour		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL 7035)		
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
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 764 x 1750	1222 x 764 x 1750
Mass – Machine / Operating (3)	kg	254	308	316
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 14511-1:2013

(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		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	11.9	11.9
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	
OPTIONAL EXTRAS					
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		
Material/Colour		7035)		
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
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	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 14511-1:2013

(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	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~	1~	1~
Quantity x Motor Size	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	
OPTIONAL EXTRAS				
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			
Maximum Start Amps	A		N/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 764 x 1755	1222 x 764 x 1755
Mass – Machine / Operating (4)	kg	264	317	323
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Light Grey (RAL		
Material/Colour			7035)	
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
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 764 x 1750	1222 x 764 x 1750
Mass – Machine / Operating (3)	kg	256	309	315
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 14511-1:2013

(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	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	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	12	12
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	
OPTIONAL EXTRAS				
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			
Maximum Start Amps	A		N/A	
Recommended Mains Fuse Size	A			
Compressor Nominal Run Amps	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

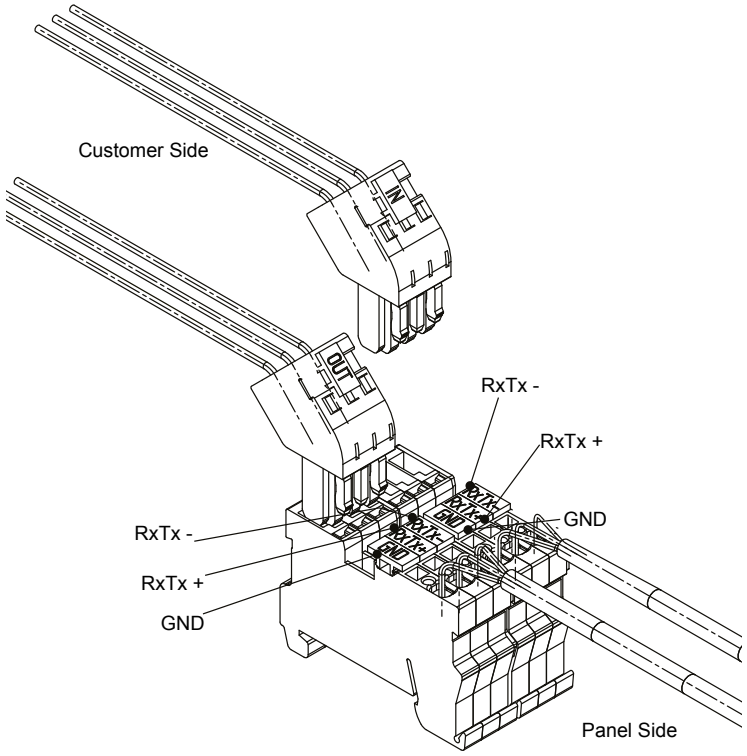
Rx-Tx-	○	←	Use Awg20/22 twisted pair (with overall shield) cable, Belden ref. 8762	Network Connections (Inward connection)
Rx+Tx+	○	←		
GND	○	←		

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.

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
	Power	dB	86.4	81.2	84.9	79.5	84.6	83.9	73.6	63.4	57.1
CUR092V16-1HP-0	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
	Power	dB	86.6	81.5	84.9	79.5	84.6	84.1	74.2	64.4	57.9
CUR092V20-1HP-0	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
	Power	dB	86.6	81	85	79.5	84.6	84.1	73.9	64.4	58.3
CUR092V25-1HP-0	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
	Power	dB	86.6	81.5	84.9	79.5	84.6	84.1	74.2	64.4	57.9
CUR092V29-1HP-0	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
	Power	dB	86.9	96.5	95.4	87.2	85	80.5	75.2	68.3	68.2
CUR0122V35-1HP-0	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
	Power	dB	87.3	96.5	95.4	87.3	85	81.4	76.3	69.5	68.5
CUR0122V40-1HP-0	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
	Power	dB	86.7	80.9	84.9	79.6	84.8	84.2	73.4	64.4	60.8
CUR092V16-VHP-0	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
	Power	dB	86.7	80.9	84.9	79.6	84.9	84.2	73.7	66.1	59.8
CUR092V20-VHP-0	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
	Power	dB	87	80.9	84.9	79.8	85.4	84.1	74.9	67.1	60.2
CUR092V25-VHP-0	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
	Power	dB	87	80.9	84.9	79.7	85.5	84.3	74.6	66.4	59.9
CUR092V29-VHP-0	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
	Power	dB	87.5	96.4	95.4	87.3	85.8	81.2	76.5	70.5	68.8
CUR0122V35-VHP-0	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
	Power	dB	87.6	96.4	95.4	87.3	85.7	81.4	77.2	70.9	69
CUR0122V40-VHP-0	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 = 2×10^{-5} N/m^2.
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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