

Outdoor Condenser



Technical

General Description

Nomenclature

|          |                                                      |    |    |   |
|----------|------------------------------------------------------|----|----|---|
|          |                                                      | CR | 12 | H |
| CR       | Condenser - R410A                                    |    |    |   |
| 12 – 105 | Model Size (Expressed as Total Heat Rejection in kW) |    |    |   |
| H        | Horizontal Air Discharge                             |    |    |   |
| V        | Vertical Air Discharge                               |    |    |   |

Introduction

This range of Air Cooled Condensers is available in 8 model sizes with total heat rejection 12 -105kW.

Custom designed for a small footprint, low sound level, slimline and aesthetically pleasing appearance.

Available in either horizontal or vertical air discharge orientation, please specify at order.

All units are despatched following extensive leak and pressure testing and carry a holding charge of inert gas.

The range has been designed and optimised for operation with ozone benign refrigerant R410A.

CE DIRECTIVE

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

|                                               |                                    |
|-----------------------------------------------|------------------------------------|
| Electromagnetic Compatibility Directive (EMC) | 89/336/EEC                         |
| Low Voltage Directive (LVD)                   | 73/23/EEC                          |
| Machinery Directive (MD)                      | 89/392/EEC in the version 98/37/EC |
| Pressure Equipment Directive (PED)            | 97/23/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.

Outdoor

## General Description

### Construction

Unit cabinets are manufactured from galvanised sheet steel coated with epoxy baked powder paint to provide a durable finish.

Standard unit colour is Light Grey (RAL 7035).

Dual position fixing legs are supplied attached to the unit via captive bolts and shake proof washers.

### Horizontal Air Discharge

As standard, unit legs are attached and delivered in the horizontal air discharge mode as are the isolator and fan speed controller.

The legs attached to the top of the unit are for lifting and stacking and may be removed and stored safely if not required.

### IMPORTANT

Only 2 units may be stacked together.

### Vertical Air Discharge

As standard, unit legs are attached and delivered in the horizontal air discharge mode and can be repositioned on site to offer vertical air discharge mode.

### IMPORTANT

To ensure the unit isolator and fan speed controller are in the correct orientation for vertical air discharge please specify at order.

### Condenser

Large surface area coil is ideally positioned to optimise airflow and heat transfer, manufactured from refrigeration quality copper tube with mechanically bonded aluminium fins.

The copper tube is internally rifled for improved heat transfer.

Factory pressure tested to 45Bar.

Sweat copper pipe for brazed connection as standard.

## General Description

### Fan & Motor Assembly

#### CR12 - CR16

Axial flow fan assembly with low noise sickle type blades.

#### CR22 – CR105

Axial flow fan assembly with low noise sickle type blades and bellmouth.

### All Models

The external rotor ac motor allows the use of a low power output, single phase and speed controllable motor to power the fan.

The motor has inbuilt thermal overload protection and the assembly is supplied complete with a finger guard for protection.

Available in either horizontal or vertical air discharge orientation, please specify at order.

### Refrigeration

Each unit features as standard:

- Filter drier (supplied loose)
- Holding charge of inert gas

### Electrical

All electrical components are rated for all year round outdoor use.

All wiring is colour coded and numbered for identification. All units are wired in accordance with current local and European standards.

### Head Pressure Control (Variable)

#### Matched with Airedale Indoor Unit:

Variable head pressure control is provided by the indoor unit when standard fans or optional EC fans are selected.

For optional short case axial fan selection, the head pressure control is provided by the outdoor unit,

#### Unmatched Units:

Head pressure control is maintained by a modulating fan speed controller fitted to the outdoor unit. The controller is rated to IP54 for outdoor use and will operate accurately in ambient temperatures down to a minimum of -20°C.

### Main Electric Isolator

A weatherproof mains isolator is fitted to ensure complete unit isolation of the electrical panel during adjustment and maintenance.

## General Description

### Electronically Commutated (EC) Fan Motor

Sickle bladed fan assemblies with integral long bellmouth and fingerproof grille. Incorporates external EC rotor motor technology to provide highly accurate discreet speed control. The fans offer maximum airflow performance while keeping sound levels to a minimum.

Each fan incorporates electronically commutated DC motor control using semi-conductor modules responding to a signal from the Airedale indoor unit.

EC motors are DC motors with integrated ac to DC conversion; this 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%, the modulating range of a standard ac fan is typically 40-100% of full fan speed.

### IMPORTANT

All fans are supplied pre-programmed to a head pressure setpoint of 26 barg and proportional band setpoint of 6 barg.

For alternative settings, please specify at order.

### Short Case Axial Fans

Short case axial fans can be supplied for indoor installations where discharge air requires to be ducted to an outdoor location. The fans will meet duty plus 75Pa of external static pressure.

Head pressure control is maintained by a modulating fan speed controller fitted to the outdoor unit. The controller is rated to IP54 for outdoor use and will operate accurately in ambient temperatures down to a minimum of -20°C.



### Corrosion Resistant Coated Coils

For aggressive atmospheres a corrosion resistant coating can be applied to the aluminium fins.

### Head Pressure Control

(On/Off) Head pressure control is maintained via a factory fitted on/off pressure switch rated to IP54 for outdoor use as standard. Good control with ambients down to 0°C, below this temperature variable speed controllers are recommended.

The head pressure is factory set to 26 barg (377 psig).

### Shut Off Valves

Where unit isolation for easier maintenance is required, shut off valves can be supplied loose for on site fitment.

### Coil Guards

Protective mesh guards can be fitted to each of the outer coils to protect against damage.

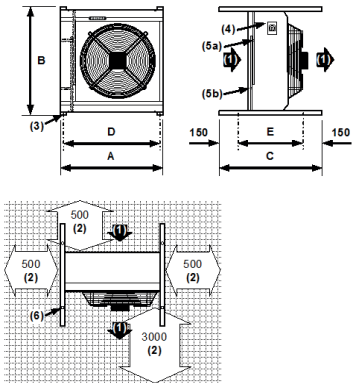
Installation Data

Dimensions / Weights / Positioning - Horizontal

IMPORTANT

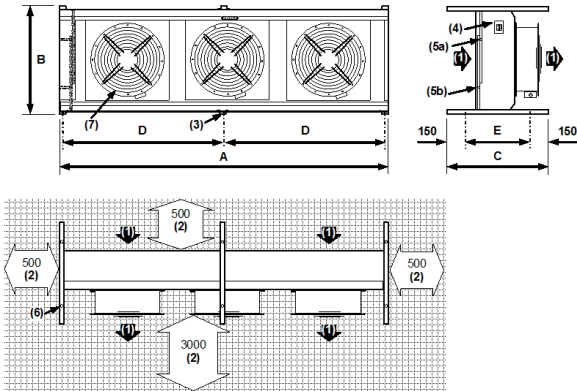
Unit diagrams can be supplied on request.  
The legs attached to the top of the unit are for lifting and stacking and may be removed and stored safely if not required.  
Only 2 units may be stacked together.

Standard Condenser Fan (CR12 - CR30 Shown)



- Diagram illustrated in mm
- (1) Airflow
  - (2) Minimum Clearances
  - (3) 12.7mm fixing hole
  - (4) Mains Electric Isolator
  - (5) Service connections to left hand side of the unit:  
a = Liquid Outlet (ALWAYS above (b))  
b = Discharge Gas Inlet
  - (6) Top brackets may be used to secure unit of similar size on top, using, 2 x 12.7mm fixing holes

Optional Short Case Axial Fan (SCAF) (CR80 - CR105 Shown)



- (1) Airflow
- (2) Minimum Clearances
- (3) 12.7mm fixing hole
- (4) Mains Electric Isolator
- (5) Service connections to left hand side of the unit:  
a = Liquid Outlet (ALWAYS above (b))  
b = Discharge Gas Inlet
- (6) Top brackets may be used to secure unit of similar size on top, using, 2 x 12.7mm fixing holes
- (7) Optional Short Case Axial Fan with integral duct fixing holes

|       | DIMENSIONS (mm) |      |      |      |     |             |     | WEIGHTS (kg)    |                 |               |
|-------|-----------------|------|------|------|-----|-------------|-----|-----------------|-----------------|---------------|
|       | Standard Fan    |      |      |      |     | Fan Options |     | Standard AC Fan | Optional EC Fan | Optional SCAF |
|       |                 |      |      |      |     | SCAF        | EC  |                 |                 |               |
|       | A               | B    | C    | D    | E   | B           | B   |                 |                 |               |
| CR12  | 907             | 972  | 1000 | 845  | 700 | 62          | 67  | 67              | 67              | 67            |
| CR16  | 907             | 972  | 1000 | 845  | 700 | 70          | 76  | 75              | 76              | 75            |
| CR22  | 1102            | 1167 | 1000 | 1040 | 700 | 77          | 83  | 88              | 83              | 88            |
| CR30  | 1102            | 1167 | 1000 | 1040 | 700 | 90          | 96  | 101             | 96              | 101           |
| CR50  | 2184            | 1167 | 1000 | 2121 | 700 | 132         | 145 | 154             | 145             | 154           |
| CR65  | 2184            | 1167 | 1000 | 2121 | 700 | 162         | 175 | 184             | 175             | 184           |
| CR80  | 3565            | 1167 | 1000 | 1752 | 700 | 208         | 228 | 242             | 228             | 242           |
| CR105 | 3565            | 1167 | 1000 | 1752 | 700 | 260         | 280 | 294             | 280             | 294           |

CAUTION

A vertical air discharge unit is recommended for installation in windy locations or wherever a horizontal airflow would be obstructed.

## Dimensional &amp; Installation Data

## Dimensions / Weights / Positioning - Vertical

## IMPORTANT

Unit diagrams can be supplied on request.

The following illustrations show the unit following fixing leg re-orientation, instructions are provided for this at delivery.

## Standard Condenser Fan (CR12 - CR30 Shown)

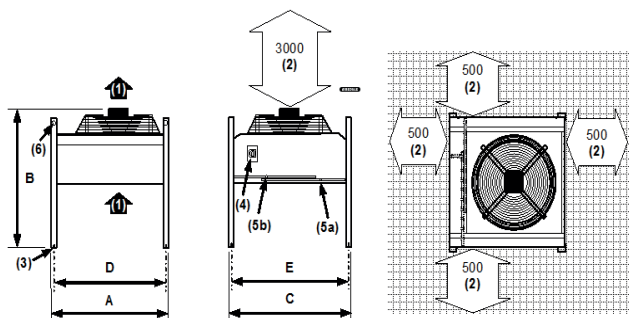


Diagram illustrated in mm

- (1) Airflow
- (2) Minimum Clearances
- (3) 12.7mm fixing hole
- (4) Mains Electric Isolator
- (5) Service connections to left hand side of the unit:  
a = Liquid Outlet  
b = Discharge Gas Inlet
- (6) 40mm Lifting Holes

Technical

## Optional Short Case Axial Fan (SCAF) (CR80 - CR105 Shown)

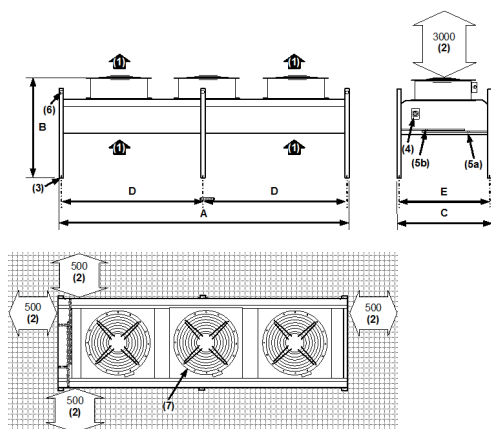


Diagram illustrated in mm

- (1) Airflow
- (2) Minimum Clearances
- (3) 12.7mm fixing hole
- (4) Mains Electric Isolator
- (5) Service connections to left hand side of the unit:  
a = Liquid Outlet  
b = Discharge Gas Inlet
- (6) 40mm Lifting Holes
- (7) Optional Short Case Axial Fan with integral duct fixing holes

Outdoor

|       | DIMENSIONS (mm) |      |      |      |      |             |      | WEIGHTS (kg)    |                 |               |
|-------|-----------------|------|------|------|------|-------------|------|-----------------|-----------------|---------------|
|       | Standard Fan    |      |      |      |      | Fan Options |      | Standard AC Fan | Optional EC Fan | Optional SCAF |
|       |                 |      |      |      |      | SCAF        | EC   |                 |                 |               |
|       | A               | B    | C    | D    | E    | B           | B    |                 |                 |               |
| CR12  | 907             | 1076 | 972  | 847  | 912  | 1080        | 1065 | 62              | 67              | 67            |
| CR16  | 907             | 1076 | 972  | 847  | 912  | 1080        | 1065 | 70              | 76              | 75            |
| CR22  | 1102            | 1090 | 1167 | 1042 | 1107 | 1130        | 1127 | 77              | 83              | 88            |
| CR30  | 1102            | 1090 | 1167 | 1042 | 1107 | 1130        | 1127 | 90              | 96              | 101           |
| CR50  | 2184            | 1090 | 1167 | 2124 | 1107 | 1130        | 1127 | 132             | 145             | 154           |
| CR65  | 2184            | 1090 | 1167 | 2124 | 1107 | 1130        | 1127 | 162             | 175             | 184           |
| CR80  | 3565            | 1090 | 1167 | 1753 | 1107 | 1130        | 1127 | 208             | 228             | 242           |
| CR105 | 3565            | 1090 | 1167 | 1753 | 1107 | 1130        | 1127 | 260             | 280             | 294           |

## Dimensional & Installation Data

### Unit Lifting - Condenser

#### General

- Employ lifting specialists
- Local codes and regulations relating to the lifting of this type of equipment should be observed
- Each chain/sling must be capable of lifting the whole unit
- Lift the unit slowly and evenly

#### IMPORTANT

Only use lifting points provided.

Do not use 1 chain between 2 lifting points to avoid load shift.

Ensure that chains/slugs DO NOT crush the casework, coil or fan assemblies.

If the unit is dropped it should immediately be checked for damage and reported to Airedale.

Airedale will accept no responsibility for mishandling during the positioning of the equipment.

#### CAUTION

Check the unit is as ordered, discrepancies or transit damage should be reported to Airedale immediately.

#### CAUTION

Care should be taken to ensure the unit does not sustain damage before it is lifted into final position.

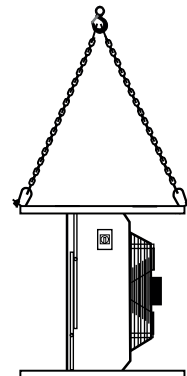
### Horizontal Air Discharge

The unit is delivered in horizontal air discharge configuration secured to a pallet.

Where possible the unit should be moved with the pallet in place.

Use 4 lifting eyes attached to 4 individual slings/chains (supplied by others) and attach 2 to each top leg using the holes provided as illustrated.

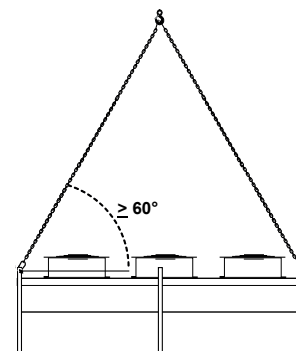
Before lifting into final position, the unit legs should be re-orientated, refer to instructions provided at delivery.



### Vertical Air Discharge

The unit is delivered in horizontal air discharge configuration (with the mains isolator and fan speed controller already configured for vertical air discharge) secured to a pallet.

Where possible the unit should be moved with the pallet in place.



Use 4 lifting eyes attached to 4 individual slings/chains (supplied by others) and attach 1 to the top of each of the 4 corner legs using the holes provided as illustrated.

## Technical Data

### Performance Data

| Mean Condensing |    | Ambient   |           |           |           |           |           |
|-----------------|----|-----------|-----------|-----------|-----------|-----------|-----------|
| Temperature °C  |    | 25°C      | 30°C      | 35°C      | 40°C      | 45°C      | 48°C      |
|                 |    | Output kW | Output kW | Output kW | Output kW | Output kW | Output kW |
| <b>CR12</b>     | 35 | 8.8       | 3.3       | -         | -         | -         | -         |
|                 | 40 | 13.8      | 8.8       | 3.4       | -         | -         | -         |
|                 | 45 | 19        | 14        | 8.9       | 3.6       | -         | -         |
|                 | 50 | 24.4      | 19.2      | 14.1      | 9.1       | 3.8       | -         |
|                 | 55 | 29.8      | 24.7      | 19.5      | 14.4      | 9.3       | 4.1       |
| <b>CR16</b>     | 35 | 11.9      | 5         | -         | -         | -         | -         |
|                 | 40 | 18.2      | 12        | 5.2       | -         | -         | -         |
|                 | 45 | 24.7      | 18.4      | 12.1      | 5.4       | -         | -         |
|                 | 50 | 31.3      | 25        | 18.6      | 12.3      | 5.6       | -         |
|                 | 55 | 38.2      | 31.8      | 25.4      | 19        | 12.6      | 6.5       |
| <b>CR22</b>     | 35 | 15.4      | 6.2       | -         | -         | -         | -         |
|                 | 40 | 24        | 15.5      | 6.4       | -         | -         | -         |
|                 | 45 | 32.8      | 24.2      | 15.7      | 6.7       | -         | -         |
|                 | 50 | 41.7      | 33.1      | 24.6      | 16        | 7         | -         |
|                 | 55 | 51        | 42.3      | 33.7      | 25.1      | 16.4      | 7.7       |
| <b>CR30</b>     | 35 | 19.8      | 8.1       | -         | -         | -         | -         |
|                 | 40 | 30.6      | 20        | 8.4       | -         | -         | -         |
|                 | 45 | 41.7      | 30.9      | 20.2      | 8.7       | -         | -         |
|                 | 50 | 53.1      | 42.1      | 31.3      | 20.5      | 9.2       | -         |
|                 | 55 | 64.8      | 53.8      | 42.8      | 31.9      | 21        | 9.8       |

(1) Output kW refers to the condenser heat rejection.

### Operating Limit

|                                               |       |
|-----------------------------------------------|-------|
| Standard Variable Speed Head Pressure Control |       |
| Minimum Ambient Air DB °C                     | -20°C |
| Maximum Ambient Air DB °C                     | +48   |

|                                       |      |
|---------------------------------------|------|
| Optional On/Off Head Pressure Control |      |
| Minimum Ambient Air DB °C             | -0°C |
| Maximum Ambient Air DB °C             | +48  |

(1) For conditions outside those quoted, please contact Airedale.

(2) Low ambient kits are available for applications with temperatures below those quoted, please contact Airedale.

## Technical Data

## Performance Data

Technical

| Mean Condensing |    | Ambient   |           |           |           |           |           |
|-----------------|----|-----------|-----------|-----------|-----------|-----------|-----------|
| Temperature °C  |    | 25°C      | 30°C      | 35°C      | 40°C      | 45°C      | 48°C      |
|                 |    | Output kW | Output kW | Output kW | Output kW | Output kW | Output kW |
| <b>CR50</b>     | 35 | 33.7      | 13.7      | -         | -         | -         | -         |
|                 | 40 | 52.6      | 34        | 14.2      | -         | -         | -         |
|                 | 45 | 71.7      | 53.1      | 34.4      | 14.8      | -         | -         |
|                 | 50 | 91.3      | 72.5      | 53.8      | 35.1      | 15.5      | -         |
|                 | 55 | 111.5     | 92.6      | 73.7      | 54.8      | 35.9      | 16.9      |
| <b>CR65</b>     | 35 | 44.9      | 18.6      | -         | -         | -         | -         |
|                 | 40 | 69.1      | 45.2      | 19.3      | -         | -         | -         |
|                 | 45 | 93.8      | 69.7      | 45.6      | 20        | -         | -         |
|                 | 50 | 119.2     | 94.8      | 70.6      | 46.4      | 21        | -         |
|                 | 55 | 145.5     | 120.9     | 96.4      | 72        | 47.5      | 22.6      |
| <b>CR80</b>     | 35 | 55.3      | 23        | -         | -         | -         | -         |
|                 | 40 | 85.8      | 55.8      | 23.8      | -         | -         | -         |
|                 | 45 | 116.7     | 86.6      | 56.5      | 24.7      | -         | -         |
|                 | 50 | 148.4     | 118.1     | 87.8      | 57.5      | 25.8      | -         |
|                 | 55 | 180.9     | 150.4     | 120       | 89.5      | 58.9      | 28.3      |
| <b>CR105</b>    | 35 | 72.1      | 30        | -         | -         | -         | -         |
|                 | 40 | 110.8     | 72.6      | 31        | -         | -         | -         |
|                 | 45 | 150.4     | 111.7     | 73.3      | 32.2      | -         | -         |
|                 | 50 | 191.1     | 152.1     | 113.2     | 74.5      | 33.8      | -         |
|                 | 55 | 233.3     | 193.8     | 154.6     | 115.5     | 76.3      | 36.4      |

Outdoor

(1) Output kW refers to the condenser heat rejection.

## Operating Limit

|                                               |       |
|-----------------------------------------------|-------|
| Standard Variable Speed Head Pressure Control |       |
| Minimum Ambient Air DB °C                     | -20°C |
| Maximum Ambient Air DB °C                     | +48   |

|                                       |      |
|---------------------------------------|------|
| Optional On/Off Head Pressure Control |      |
| Minimum Ambient Air DB °C             | -0°C |
| Maximum Ambient Air DB °C             | +48  |

(1) For conditions outside those quoted, please contact Airedale.

(2) Low ambient kits are available for applications with temperatures below those quoted, please contact Airedale.

## Technical Data

## Mechanical Data

|                         |     |      | CR12                                                                     | CR16             | CR22               | CR30               |
|-------------------------|-----|------|--------------------------------------------------------------------------|------------------|--------------------|--------------------|
| Total Heat of Rejection | (1) | kW   | 14.1                                                                     | 18.6             | 24.6               | 31.3               |
| Dimensions - Horizontal | (2) |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 972 x 1000 x 907                                                         | 972 x 1000 x 907 | 1167 x 1000 x 1102 | 1167 x 1000 x 1102 |
| Dimensions - Vertical   | (2) |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 1076 x 972 x 907                                                         | 1076 x 972 x 907 | 1090 x 1167 x 1102 | 1090 x 1167 x 1102 |
| Weight                  |     |      |                                                                          |                  |                    |                    |
| Machine                 |     | kg   | 62                                                                       | 70               | 77                 | 90                 |
| Construction            |     |      | Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035) |                  |                    |                    |
| Material/Colour         |     |      |                                                                          |                  |                    |                    |
| Condenser               |     |      | Air Cooled - Rifled Copper Tube/Turbulated Aluminium Fins                |                  |                    |                    |
| Total Face Area         |     | m²   | 0.58                                                                     | 0.58             | 0.91               | 0.91               |
| Nominal Airflow         |     | m³/s | 1.3                                                                      | 1.1              | 2.3                | 1.9                |
| Discharge               |     |      | -H Horizontal or -V Vertical (Please Specify at Order)                   |                  |                    |                    |
| Fan & Motor             |     |      | Axial                                                                    |                  |                    |                    |
| Quantity                |     |      | 1                                                                        | 1                | 1                  | 1                  |
| Diameter                |     | mm   | 500                                                                      | 500              | 630                | 630                |
| Maximum Speed           |     | rpm  | 910                                                                      | 910              | 870                | 870                |
| Refrigeration           |     |      | Single Circuit                                                           |                  |                    |                    |
| Refrigerant Type        |     |      | R410A                                                                    |                  |                    |                    |
| Holding Charge          |     |      | Inert Gas                                                                |                  |                    |                    |
| Coil Volume             |     | l    | 3                                                                        | 6                | 4.7                | 9.3                |
| Refrigerant Charge      | (3) | kg   | 1.4                                                                      | 2.7              | 2.2                | 4.3                |
| Connections             |     |      |                                                                          |                  |                    |                    |
| Liquid Line - Sweat     |     | in   | 5/8"                                                                     | 5/8"             | 5/8"               | 3/4"               |
| Discharge Line - Sweat  |     | in   | 5/8"                                                                     | 5/8"             | 5/8"               | 3/4"               |
| Short Case Axial Fan    |     |      | Designed to 75 Pa ESP                                                    |                  |                    |                    |
| Dimensions - Horizontal |     |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 972 x 1000 x 907                                                         | 972 x 1000 x 907 | 1167 x 1000 x 1102 | 1167 x 1000 x 1102 |
| Dimensions - Vertical   |     |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 1080 x 972 x 907                                                         | 1080 x 972 x 907 | 1130 x 1167 x 1102 | 1130 x 1167 x 1102 |
| Weight                  |     |      |                                                                          |                  |                    |                    |
| Machine                 |     | kg   | 67                                                                       | 75               | 88                 | 101                |
| EC Fan                  |     |      |                                                                          |                  |                    |                    |
| Dimensions - Horizontal |     |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 972 x 1000 x 907                                                         | 972 x 1000 x 907 | 1167 x 1000 x 1102 | 1167 x 1000 x 1102 |
| Dimensions - Vertical   |     |      |                                                                          |                  |                    |                    |
| H x W x L               |     | mm   | 1065 x 972 x 907                                                         | 1065 x 972 x 907 | 1127 x 1167 x 1102 | 1127 x 1167 x 1102 |
| Weight                  |     |      |                                                                          |                  |                    |                    |
| Machine                 |     | kg   | 67                                                                       | 76               | 83                 | 96                 |

- (1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.  
 (2) Overall dimensions for clearance; refer to Dimensional & Installation Data, on page 10 for detail.  
 (3) For guidance only.

Technical

Outdoor

## Technical Data

## Mechanical Data

Technical

Outdoor

|                         |     |      | CR50                                                                     | CR65               | CR80               | CR105              |
|-------------------------|-----|------|--------------------------------------------------------------------------|--------------------|--------------------|--------------------|
| Total Heat of Rejection | (1) | kW   | 53.8                                                                     | 70.6               | 87.8               | 113.2              |
| Dimensions - Horizontal | (2) |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1167 x 1000 x 2184                                                       | 1167 x 1000 x 2184 | 1167 x 1000 x 3565 | 1167 x 1000 x 3565 |
| Dimensions - Vertical   | (2) |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1090 x 1167 x 2184                                                       | 1090 x 1167 x 2184 | 1090 x 1167 x 3565 | 1090 x 1167 x 3565 |
| Weight                  |     |      |                                                                          |                    |                    |                    |
| Machine                 |     | kg   | 132                                                                      | 162                | 208                | 260                |
| Construction            |     |      | Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035) |                    |                    |                    |
| Material/Colour         |     |      |                                                                          |                    |                    |                    |
| Condenser               |     |      | Air Cooled - Rifled Copper Tube/Turbulated Aluminium Fins                |                    |                    |                    |
| Total Face Area         |     | m²   | 2.11                                                                     | 2.11               | 3.63               | 3.63               |
| Nominal Airflow         |     | m³/s | 4.8                                                                      | 4.2                | 7.5                | 6.6                |
| Discharge               |     |      | -H Horizontal or -V Vertical (Please Specify at Order)                   |                    |                    |                    |
| Fan & Motor             |     |      |                                                                          |                    |                    |                    |
| Quantity                |     |      | 2                                                                        | 2                  | 3                  | 3                  |
| Diameter                |     | mm   | 630                                                                      | 630                | 630                | 630                |
| Maximum Speed           |     | rpm  | 870                                                                      | 870                | 870                | 870                |
| Refrigeration           |     |      | Single Circuit                                                           |                    |                    |                    |
| Refrigerant Type        |     |      | R410A                                                                    |                    |                    |                    |
| Holding Charge          |     |      | Inert Gas                                                                |                    |                    |                    |
| Coil Volume             |     | l    | 10.7                                                                     | 21.4               | 18.3               | 36.6               |
| Refrigerant Charge      | (3) | kg   | 4.9                                                                      | 9.8                | 8.4                | 16.7               |
| Connections             |     |      |                                                                          |                    |                    |                    |
| Liquid Line - Sweat     |     | in   | 3/4"                                                                     | 3/4"               | 7/8"               | 7/8"               |
| Discharge Line - Sweat  |     | in   | 1 1/8"                                                                   | 1 1/8"             | 1 3/8"             | 1 3/8"             |
| Short Case Axial Fan    |     |      | Designed to 75 Pa ESP                                                    |                    |                    |                    |
| Dimensions - Horizontal |     |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1167 x 1000 x 2184                                                       | 1167 x 1000 x 2184 | 1167 x 1000 x 3565 | 1167 x 1000 x 3565 |
| Dimensions - Vertical   |     |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1130 x 1167 x 2184                                                       | 1130 x 1167 x 2184 | 1130 x 1167 x 3565 | 1130 x 1167 x 3565 |
| Weight                  |     |      |                                                                          |                    |                    |                    |
| Machine                 |     | kg   | 154                                                                      | 184                | 242                | 294                |
| EC Fan                  |     |      | Designed to 75 Pa ESP                                                    |                    |                    |                    |
| Dimensions - Horizontal |     |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1167 x 1000 x 2184                                                       | 1167 x 1000 x 2184 | 1167 x 1000 x 3565 | 1167 x 1000 x 3565 |
| Dimensions - Vertical   |     |      |                                                                          |                    |                    |                    |
| H x W x L               |     | mm   | 1127 x 1167 x 2184                                                       | 1127 x 1167 x 2184 | 1127 x 1167 x 3565 | 1127 x 1167 x 3565 |
| Weight                  |     |      |                                                                          |                    |                    |                    |
| Machine                 |     | kg   | 145                                                                      | 175                | 228                | 280                |

- (1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.  
 (2) Overall dimensions for clearance; refer to Dimensional & Installation Data, on page 10 for detail.  
 (3) For guidance only.

## Technical Data

## Electrical Data -1

|                                |                 | CR12                  | CR16 | CR22 | CR30 |
|--------------------------------|-----------------|-----------------------|------|------|------|
| Unit Data (1)                  |                 |                       |      |      |      |
| Nominal Run Amps               | A               | 1.1                   | 1.1  | 2.9  | 2.9  |
| Maximum Start Amps             | A               | 2.8                   | 2.8  | 5.6  | 5.6  |
| Recommended Mains Fuse         | A               | 6                     | 6    | 6    | 6    |
| Max Mains Cable Incoming       | mm <sup>2</sup> | 6                     | 6    | 6    | 6    |
| Mains Supply                   |                 | 230V / 1Ph + N / 60Hz |      |      |      |
| Fan - Per Fan                  |                 |                       |      |      |      |
| Quantity                       |                 | 1                     | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.24                  | 0.24 | 0.63 | 0.63 |
| Full Load Amps                 | A               | 1.1                   | 1.1  | 2.9  | 2.9  |
| Locked Rotor Amps              | A               | 2.8                   | 2.8  | 5.6  | 5.6  |
| Short Case Axial Fan - Per Fan |                 |                       |      |      |      |
| Quantity                       |                 | 1                     | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.61                  | 0.61 | 1.4  | 1.4  |
| Full Load Amps                 | A               | 2.8                   | 2.8  | 6    | 6    |
| Locked Rotor Amps              | A               | 7                     | 7    | 18   | 18   |
| EC Condenser Fan - Per Fan     |                 |                       |      |      |      |
| Quantity                       |                 | 1                     | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.7                   | 0.7  | 0.77 | 0.77 |
| Full Load Amps                 | A               | 3.1                   | 3.1  | 3.3  | 3.3  |

Technical

Outdoor

(1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.

## Technical Data

## Electrical Data -1

|                                |                 | CR50                  | CR65 | CR80 | CR105 |
|--------------------------------|-----------------|-----------------------|------|------|-------|
| Unit Data (1)                  |                 |                       |      |      |       |
| Nominal Run Amps               | A               | 5.8                   | 5.8  | 8.7  | 8.7   |
| Maximum Start Amps             | A               | 11.2                  | 11.2 | 16.8 | 16.8  |
| Recommended Mains Fuse         | A               | 10                    | 10   | 16   | 16    |
| Max Mains Cable Incoming       | mm <sup>2</sup> | 6                     | 6    | 6    | 6     |
| Mains Supply                   |                 | 230V / 1Ph + N / 60Hz |      |      |       |
| Fan - Per Fan                  |                 |                       |      |      |       |
| Quantity                       |                 | 2                     | 2    | 3    | 3     |
| Motor Size                     | kW              | 0.63                  | 0.63 | 0.63 | 0.63  |
| Full Load Amps                 | A               | 2.9                   | 2.9  | 2.9  | 2.9   |
| Locked Rotor Amps              | A               | 5.6                   | 5.6  | 5.6  | 5.6   |
| Short Case Axial Fan - Per Fan |                 |                       |      |      |       |
| Quantity                       |                 | 2                     | 2    | 3    | 3     |
| Motor Size                     | kW              | 1.4                   | 1.4  | 1.4  | 1.4   |
| Full Load Amps                 | A               | 6                     | 6    | 6    | 6     |
| Locked Rotor Amps              | A               | 18                    | 18   | 18   | 18    |
| EC Condenser Fan - Per Fan     |                 |                       |      |      |       |
| Quantity                       |                 | 2                     | 2    | 3    | 3     |
| Motor Size                     | kW              | 0.77                  | 0.77 | 0.77 | 0.77  |
| Full Load Amps                 | A               | 3.3                   | 3.3  | 3.3  | 3.3   |

(1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.

## Technical Data

## Electrical Data -2

|                                |                 | CR12              | CR16 | CR22 | CR30 |
|--------------------------------|-----------------|-------------------|------|------|------|
| Unit Data                      | (1)             |                   |      |      |      |
| Nominal Run Amps               | A               | 1.72              | 1.72 | 3.02 | 3.02 |
| Maximum Start Amps             | A               | 6.02              | 6.02 | 7.7  | 7.7  |
| Recommended Mains Fuse         | A               | 6                 | 6    | 6    | 6    |
| Max Mains Cable Incoming       | mm <sup>2</sup> | 6                 | 6    | 6    | 6    |
| Mains Supply                   |                 | 220V / 2Ph / 60Hz |      |      |      |
| Fan - Per Fan                  |                 |                   |      |      |      |
| Quantity                       |                 | 1                 | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.39              | 0.39 | 0.64 | 0.64 |
| Full Load Amps                 | A               | 1.72              | 1.72 | 3.02 | 3.02 |
| Locked Rotor Amps              | A               | 6.02              | 6.02 | 7.7  | 7.7  |
| Short Case Axial Fan - Per Fan |                 |                   |      |      |      |
| Quantity                       |                 | 1                 | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.82              | 0.82 | 1.75 | 1.75 |
| Full Load Amps                 | A               | 3.5               | 3.5  | 7.8  | 7.8  |
| Locked Rotor Amps              | A               | 8.75              | 8.75 | 19.5 | 19.5 |
| EC Condenser Fan - Per Fan     |                 |                   |      |      |      |
| Quantity                       |                 | 1                 | 1    | 1    | 1    |
| Motor Size                     | kW              | 0.75              | 0.75 | 0.73 | 0.73 |
| Full Load Amps                 | A               | 3.4               | 3.4  | 3.3  | 3.3  |

(1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.

## Technical Data

## Electrical Data -2

|                                |                 | CR50              | CR65 | CR80 | CR105 |
|--------------------------------|-----------------|-------------------|------|------|-------|
| Unit Data (1)                  |                 |                   |      |      |       |
| Nominal Run Amps               | A               | 6.04              | 6.04 | 9.06 | 9.06  |
| Maximum Start Amps             | A               | 15.4              | 15.4 | 23.1 | 23.1  |
| Recommended Mains Fuse         | A               | 10                | 10   | 16   | 16    |
| Max Mains Cable Incoming       | mm <sup>2</sup> | 6                 | 6    | 6    | 6     |
| Mains Supply                   |                 | 220V / 2Ph / 60Hz |      |      |       |
| Fan - Per Fan                  |                 |                   |      |      |       |
| Quantity                       |                 | 2                 | 2    | 3    | 3     |
| Motor Size                     | kW              | 0.64              | 0.64 | 0.64 | 0.64  |
| Full Load Amps                 | A               | 3.02              | 3.02 | 3.02 | 3.02  |
| Locked Rotor Amps              | A               | 7.7               | 7.7  | 7.7  | 7.7   |
| Short Case Axial Fan - Per Fan |                 |                   |      |      |       |
| Quantity                       |                 | 2                 | 2    | 3    | 3     |
| Motor Size                     | kW              | 1.75              | 1.75 | 1.75 | 1.75  |
| Full Load Amps                 | A               | 7.8               | 7.8  | 7.8  | 7.8   |
| Locked Rotor Amps              | A               | 19.5              | 19.5 | 19.5 | 19.5  |
| EC Condenser Fan - Per Fan     |                 |                   |      |      |       |
| Quantity                       |                 | 2                 | 2    | 3    | 3     |
| Motor Size                     | kW              | 0.73              | 0.73 | 0.73 | 0.73  |
| Full Load Amps                 | A               | 3.3               | 3.3  | 3.3  | 3.3   |

(1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.

## SOUND DATA

### IMPORTANT

The sound data quoted is based on the unit having the STANDARD FAN running at FULL SPEED under normal operating conditions.

For sound data of optional fan selections, please contact Airedale.

### Noise Data - Horizontal

| Sound Measurement |                | Overall dB(A) | Frequency (Hz) dB |     |     |     |      |      |      |      |
|-------------------|----------------|---------------|-------------------|-----|-----|-----|------|------|------|------|
|                   |                |               | 63                | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| CR12              | Power          | 74            | 72                | 83  | 77  | 68  | 68   | 65   | 60   | 51   |
|                   | Pressure @ 10m | 43            | 41                | 51  | 45  | 37  | 37   | 34   | 29   | 19   |
| CR16              | Power          | 74            | 72                | 83  | 77  | 68  | 68   | 65   | 60   | 51   |
|                   | Pressure @ 10m | 43            | 41                | 51  | 45  | 37  | 37   | 34   | 29   | 19   |
| CR22              | Power          | 79            | 85                | 88  | 76  | 73  | 74   | 71   | 65   | 61   |
|                   | Pressure @ 10m | 48            | 54                | 57  | 45  | 42  | 43   | 40   | 34   | 30   |
| CR30              | Power          | 79            | 85                | 88  | 76  | 73  | 74   | 71   | 65   | 61   |
|                   | Pressure @ 10m | 48            | 54                | 57  | 45  | 42  | 43   | 40   | 34   | 30   |
| CR50              | Power          | 82            | 88                | 91  | 79  | 76  | 77   | 74   | 68   | 64   |
|                   | Pressure @ 10m | 50            | 56                | 59  | 47  | 44  | 45   | 40   | 36   | 32   |
| CR65              | Power          | 82            | 88                | 91  | 79  | 76  | 77   | 74   | 68   | 64   |
|                   | Pressure @ 10m | 50            | 56                | 59  | 47  | 44  | 45   | 40   | 36   | 32   |
| CR80              | Power          | 84            | 90                | 93  | 81  | 78  | 79   | 76   | 70   | 66   |
|                   | Pressure @ 10m | 52            | 58                | 61  | 49  | 46  | 47   | 44   | 38   | 34   |
| CR105             | Power          | 84            | 90                | 93  | 81  | 78  | 79   | 76   | 70   | 66   |
|                   | Pressure @ 10m | 52            | 58                | 61  | 49  | 46  | 47   | 44   | 38   | 34   |

Technical

Outdoor

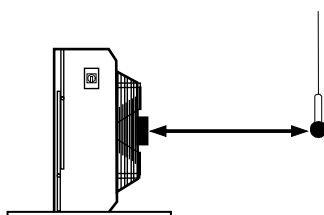
### Measurement of Sound Data

All sound data quoted has been measured in the third-octave band limited values, using a Real Time Analyser calibrated sound intensity meter in accordance with BS EN ISO9614 Part 1 : 1995.

All Sound Power Levels quoted are calculated from measured sound intensity according BS EN ISO9614 Part 1 : 1995.

### Semi Hemispherical

Sound Pressure Levels are calculated from sound power using the semi-hemispherical method where the noise source is in junction with 2 boundaries i.e. the floor and 1 wall.



## SOUND DATA

### IMPORTANT

The sound data quoted is based on the unit having the STANDARD FAN running at FULL SPEED under normal operating conditions.

For sound data of optional fan selections, please contact Airedale.

### Noise Data - Vertical

| Sound Measurement |                | Overall dB(A) | Frequency (Hz) dB |     |     |     |      |      |      |      |
|-------------------|----------------|---------------|-------------------|-----|-----|-----|------|------|------|------|
|                   |                |               | 63                | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| CR12              | Power          | 75            | 69                | 87  | 76  | 68  | 69   | 66   | 61   | 51   |
|                   | Pressure @ 10m | 44            | 37                | 56  | 45  | 37  | 38   | 34   | 30   | 20   |
| CR16              | Power          | 75            | 69                | 87  | 76  | 68  | 69   | 66   | 61   | 51   |
|                   | Pressure @ 10m | 44            | 37                | 56  | 45  | 37  | 38   | 34   | 30   | 20   |
| CR22              | Power          | 80            | 82                | 92  | 76  | 73  | 74   | 71   | 66   | 62   |
|                   | Pressure @ 10m | 49            | 50                | 61  | 44  | 42  | 43   | 40   | 35   | 30   |
| CR30              | Power          | 80            | 82                | 92  | 76  | 73  | 74   | 71   | 66   | 62   |
|                   | Pressure @ 10m | 49            | 50                | 61  | 44  | 42  | 43   | 40   | 35   | 30   |
| CR50              | Power          | 83            | 85                | 95  | 79  | 76  | 77   | 74   | 69   | 65   |
|                   | Pressure @ 10m | 52            | 53                | 64  | 47  | 45  | 46   | 43   | 38   | 33   |
| CR65              | Power          | 83            | 85                | 95  | 79  | 76  | 77   | 74   | 69   | 65   |
|                   | Pressure @ 10m | 52            | 53                | 64  | 47  | 45  | 46   | 43   | 38   | 33   |
| CR80              | Power          | 85            | 87                | 97  | 81  | 78  | 79   | 76   | 71   | 67   |
|                   | Pressure @ 10m | 54            | 55                | 65  | 49  | 47  | 48   | 44   | 40   | 35   |
| CR105             | Power          | 85            | 87                | 97  | 81  | 78  | 79   | 76   | 71   | 67   |
|                   | Pressure @ 10m | 54            | 55                | 65  | 49  | 47  | 48   | 44   | 40   | 35   |

Technical

Outdoor

### Measurement of Sound Data

All sound data quoted has been measured in the third-octave band limited values, using a Real Time Analyser calibrated sound intensity meter in accordance with BS EN ISO9614 Part 1 : 1995.

All Sound Power Levels quoted are calculated from measured sound intensity according BS EN ISO9614 Part 1 : 1995.

### Semi Hemispherical

Sound Pressure Levels are calculated from sound power using the semi-hemispherical method where the noise source is in junction with 2 boundaries i.e. the floor and 1 wall.

