



air conditioning for every environment

# Condensers

**CR12 - CR105**  
**12 kW - 105 kW**

**R410A**



CR50H (shown with top legs removed)

# TECHNICAL MANUAL



ISO 14001  
EMS52086



ISO 9001  
FM00542

## About Airedale Products & Customer Services

### WARRANTY, COMMISSIONING & MAINTENANCE

As standard, Airedale guarantees all non consumable **parts only** for a period of **24 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, we have introduced Airedale Service, who 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 Service 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.

Where applicable, effective removal of condensate is achieved by gradient drainage to outlets and where used, humidification systems produce sterile, non-toxic steam during normal operation.

For effective prevention of such risk it is necessary that the equipment is maintained in accordance with Airedale recommendations.

### CAUTION

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### CUSTOMER SERVICES

For further assistance, please e-mail: [enquiries@airedale.com](mailto:enquiries@airedale.com) or telephone:

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## General Description

### UNIT IDENTIFICATION

		<b>CR</b>	<b>12</b>	<b>H</b>
<b>CR</b>	Condenser - R410A			
<b>12 – 105</b>	Model Size (Expressed as Total Heat Rejection in kW)			
<b>H</b>	Horizontal Air Discharge			
<b>V</b>	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)	<b>89/336/EEC</b>
Low Voltage Directive (LVD)	<b>73/23/EEC</b>
Machinery Directive (MD)	<b>89/392/EEC in the version 98/37/EC</b>
Pressure Equipment Directive (PED)	<b>97/23/EC</b>

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

## General Description

### STANDARD FEATURES

#### 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, refer to ***Dimensional & Installation Data***, on page 10 for details.

**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.

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## General Description

### STANDARD FEATURES

#### 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.***
- Refer to ***Optional Extras***, on page 8 for fan options.

#### 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, refer to ***Optional Extras***, on page 8.

***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

### OPTIONAL EXTRAS - ENERGY SAVING



#### **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 semiconductor 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.

## General Description

### OPTIONAL EXTRAS

#### Short Case Axial Fans

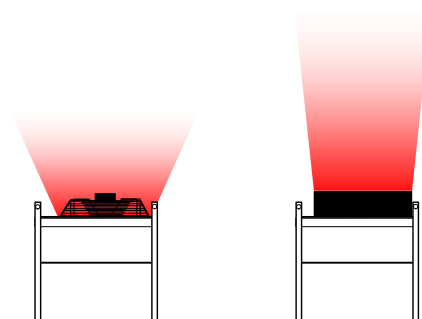
Short case axial fans can be supplied for indoor installations where discharge air requires to be ducted to an outdoor location. The fans will meet duty plus 75Pa of external static pressure.

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.

#### Fan Guide Vanes (ac Fans only)

For applications where air re-circulation is anticipated, guide vanes are available for the standard ac fans to improve air throw and therefore reduce the possibility of air recirculation. The guide vane is designed to simply clip to the basket guard of the fan.

The guide vane disperses the discharge air in a more linear fashion.



## General Description

### OPTIONAL EXTRAS

**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.

## Dimensional & 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)

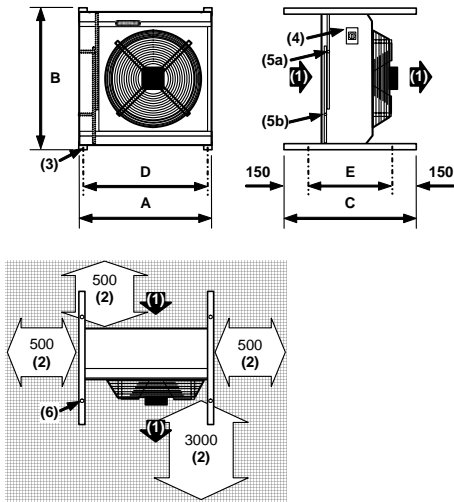


Diagram illustrated in mm

- (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)

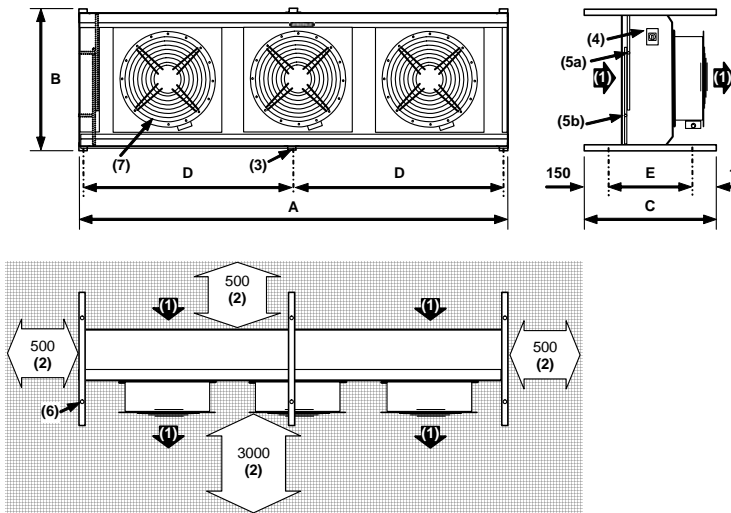


Diagram illustrated in mm

- (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
- (7) Optional Short Case Axial Fan with integral duct fixing holes

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

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

## Dimensional & 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)

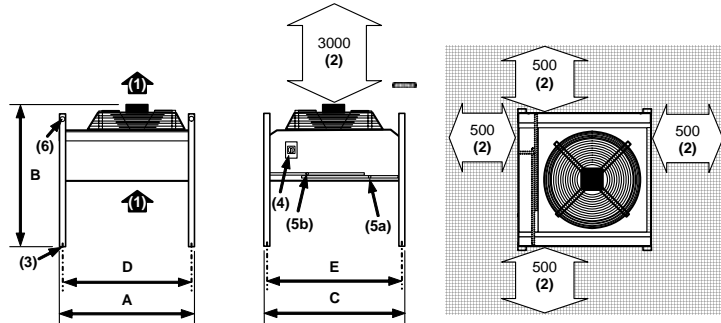


Diagram illustrated in mm

- (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

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

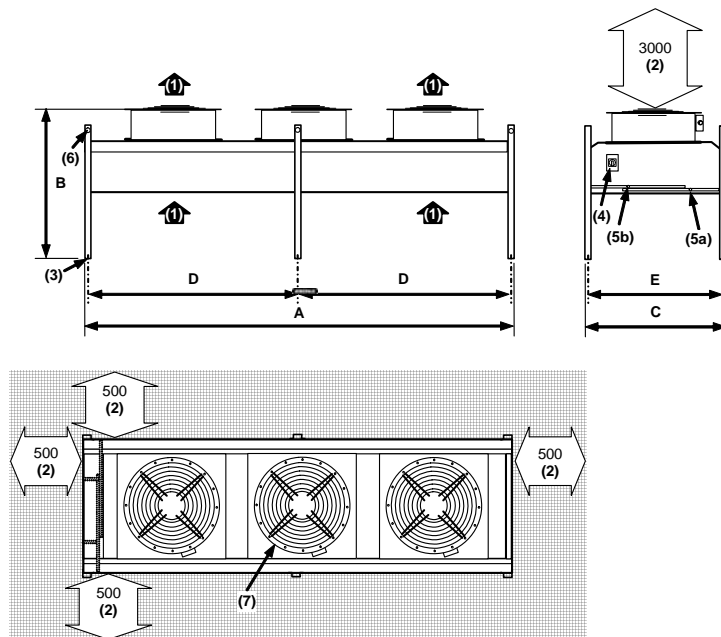


Diagram illustrated in mm

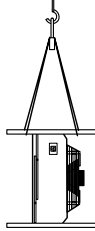
- (1) Airflow
- (2) Minimum Clearances
- (3) 12.7mm fixing hole
- (4) Mains Electric Isolator
- (5) Service connections to left hand side of the unit:  
a = Liquid Outlet  
b = Discharge Gas Inlet
- (6) 40mm Lifting Holes
- (7) Optional Short Case Axial Fan with integral duct fixing holes

	DIMENSIONS (mm)					WEIGHTS (kg)				
	Standard Fan					Fan Options		Standard ac Fan	Optional EC Fan	Optional SCAF
	A	B	C	D	E	SCAF B	EC 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

## Installation Data

### UNIT LIFTING


**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.

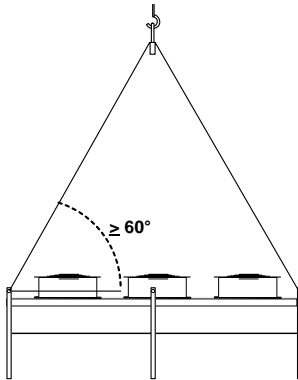


Lift via 4 slings placed over the top corner legs as indicated

**Vertical 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.

Before lifting into final position, the unit legs should be re-orientated, instructions for this are provided at delivery


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




Lift via 4 slings (provided by others) attached to the lifting holes provided to the 4 corner legs as indicated

### General

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

**CAUTION**  Only use lifting points provided.  
If any other type of slinging is used, due care should be taken to ensure that the slings do not crush the casework or coil.

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

### SITING RECOMMENDATIONS

- Horizontal Air Discharge**
- Avoid where possible siting the unit where wind and air re-circulation may interfere with the fan operation
  - A vertical air discharge unit is recommended for installation in windy locations or wherever a horizontal airflow would be obstructed

## Performance Data

### CAPACITY DATA

#### Standard Condenser Fan

Mean Condensing Temperature °C	Ambient						
	25°C	30°C	35°C	40°C	45°C	48°C	
	Output kW	Output kW	Output kW	Output kW	Output kW	Output kW	
CR12	35	8.8	3.3	-	-	-	-
	40	13.8	8.8	3.4	-	-	-
	45	19.0	14.0	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
CR16	35	11.9	5.0	-	-	-	-
	40	18.2	12.0	5.2	-	-	-
	45	24.7	18.4	12.1	5.4	-	-
	50	31.3	25.0	18.6	12.3	5.6	-
	55	38.2	31.8	25.4	19.0	12.6	6.5
CR22	35	15.4	6.2	-	-	-	-
	40	24.0	15.5	6.4	-	-	-
	45	32.8	24.2	15.7	6.7	-	-
	50	41.7	33.1	24.6	16.0	7.0	-
	55	51.0	42.3	33.7	25.1	16.4	7.7
CR30	35	19.8	8.1	-	-	-	-
	40	30.6	20.0	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	21.0	9.8
CR50	35	33.7	13.7	-	-	-	-
	40	52.6	34.0	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
CR65	35	44.9	18.6	-	-	-	-
	40	69.1	45.2	19.3	-	-	-
	45	93.8	69.7	45.6	20.0	-	-
	50	119.2	94.8	70.6	46.4	21.0	-
	55	145.5	120.9	96.4	72.0	47.5	22.6
CR80	35	55.3	23.0	-	-	-	-
	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	120.0	89.5	58.9	28.3
CR105	35	72.1	30.0	-	-	-	-
	40	110.8	72.6	31.0	-	-	-
	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

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

### OPERATING LIMITS

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.

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## Sound Data

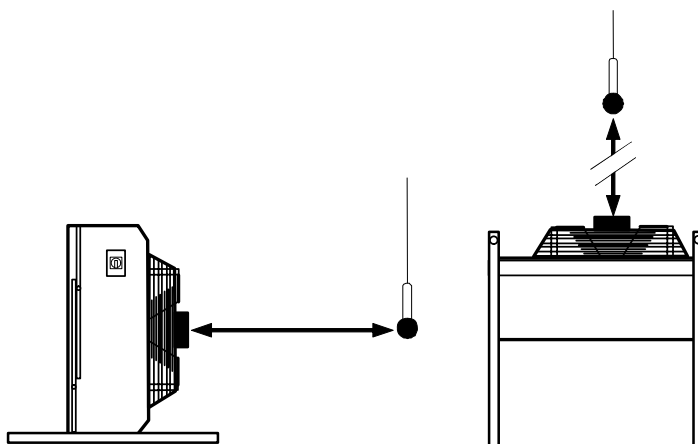
### METHOD OF SOUND MEASUREMENT

**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

### SOUND DATA - STANDARD FAN

**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.

#### 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

#### 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

## General Specification

### MECHANICAL DATA

		CR12	CR16	CR22	CR30
<b>Total Heat of Rejection</b>	(1) kW	14.1	18.6	24.6	31.3
<b>Dimensions - Horizontal</b>	(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
<b>Dimensions - Vertical</b>	(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
<b>Weight</b>					
Machine	kg	62	70	77	90
<b>Construction</b>					
Material/Colour		Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)			
<b>Condenser</b>					
Total Face Area	m <sup>2</sup>	Air Cooled - Rifled Copper Tube/Turbulated Aluminium Fins			
Nominal Airflow	m <sup>3</sup> /s	0.58	0.58	0.91	0.91
Discharge		<b>-H Horizontal or -V Vertical (Please Specify at Order)</b>			
<b>Fan &amp; Motor</b>					
Quantity		Axial			
Diameter	mm	1	1	1	1
Maximum Speed	rpm	500	500	630	630
		910	910	870	870
<b>Refrigeration</b>					
Refrigerant Type		Single Circuit			
Holding Charge		R410A			
Coil Volume	l	Inert Gas			
Refrigerant Charge	(3) kg	3.0	6.0	4.7	9.3
		1.4	2.7	2.2	4.3
<b>Connections</b>					
Liquid Line - Sweat	in	5/8	5/8	5/8	3/4
Discharge Line - Sweat	in	5/8	5/8	5/8	3/4
<b>OPTIONAL EXTRAS</b>					
<b>Short Case Axial Fan</b>		Designed to 75 Pa ESP			
<b>Dimensions - Horizontal</b>					
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
<b>Dimensions - Vertical</b>					
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
<b>Weight</b>					
Machine	kg	67	75	88	101
<b>EC Fan</b>					
<b>Dimensions - Horizontal</b>					
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
<b>Dimensions - Vertical</b>					
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
<b>Weight</b>					
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.

## General Specification

### MECHANICAL DATA

		CR50	CR65	CR80	CR105
<b>Total Heat of Rejection</b>	(1) kW	53.8	70.6	87.8	113.2
<b>Dimensions - Horizontal</b>	(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
<b>Dimensions - Vertical</b>	(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
<b>Weight</b>					
Machine	kg	132	162	208	260
<b>Construction</b>					
Material/Colour		Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)			
<b>Condenser</b>		Air Cooled - Rifled Copper Tube/Turbulated Aluminium Fins			
Total Face Area	m <sup>2</sup>	2.11	2.11	3.63	3.63
Nominal Airflow	m <sup>3</sup> /s	4.80	4.20	7.50	6.60
Discharge		<b>-H Horizontal or -V Vertical (Please Specify at Order)</b>			
<b>Fan &amp; Motor</b>		Axial			
Quantity		2	2	3	3
Diameter	mm	630	630	630	630
Maximum Speed	rpm	870	870	870	870
<b>Refrigeration</b>		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
<b>Connections</b>					
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
<b>OPTIONAL EXTRAS</b>					
<b>Short Case Axial Fan</b>		Designed to 75 Pa ESP			
<b>Dimensions - Horizontal</b>					
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
<b>Dimensions - Vertical</b>					
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
<b>Weight</b>					
Machine	kg	154	184	242	294
<b>EC Fan</b>		Designed to 75 Pa ESP			
<b>Dimensions - Horizontal</b>					
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
<b>Dimensions - Vertical</b>					
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
<b>Weight</b>					
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.

## General Specification

### ELECTRICAL DATA

		CR12	CR16	CR22	CR30
<b>Unit Data</b> (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 / 50Hz			
<b>Fan - Per Fan</b>					
Quantity		1	1	1	1
Motor Size	kW	0.24	0.24	0.63	0.63
Full Load Amps	A	1.10	1.10	2.90	2.90
Locked Rotor Amps	A	2.80	2.80	5.60	5.60
<b>OPTIONAL EXTRAS</b>					
<b>Short Case Axial Fan - Per Fan</b>					
Quantity		1	1	1	1
Motor Size	kW	0.61	0.61	1.4	1.4
Full Load Amps	A	2.80	2.80	6.0	6.0
Locked Rotor Amps	A	7.00	7.00	18.0	18.0
<b>EC Condenser Fan - Per Fan</b>					
Quantity		1	1	1	1
Motor Size	kW	0.7	0.7	0.77	0.77
Full Load Amps	A	3.1	3.1	3.30	3.30

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

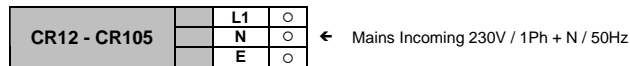
## General Specification

### ELECTRICAL DATA

		CR50	CR65	CR80	CR105
<b>Unit Data</b> (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 / 50Hz			
<b>Fan - Per Fan</b>					
Quantity		2	2	3	3
Motor Size	kW	0.63	0.63	0.63	0.63
Full Load Amps	A	2.90	2.90	2.90	2.90
Locked Rotor Amps	A	5.60	5.60	5.60	5.60
<b>OPTIONAL EXTRAS</b>					
<b>Short Case Axial Fan - Per Fan</b>					
Quantity		2	2	3	3
Motor Size	kW	1.4	1.4	1.4	1.4
Full Load Amps	A	6.0	6.0	6.0	6.0
Locked Rotor Amps	A	18.0	18.0	18.0	18.0
<b>EC Condenser Fan - Per Fan</b>					
Quantity		2	2	3	3
Motor Size	kW	0.77	0.77	0.77	0.77
Full Load Amps	A	3.30	3.30	3.30	3.30

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

### INTERCONNECTING WIRING





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