Airedale
APPLIED THERMAL INNOVATION

Dry coolers

DR10-DR95

TECHNICAL MANUAL

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:

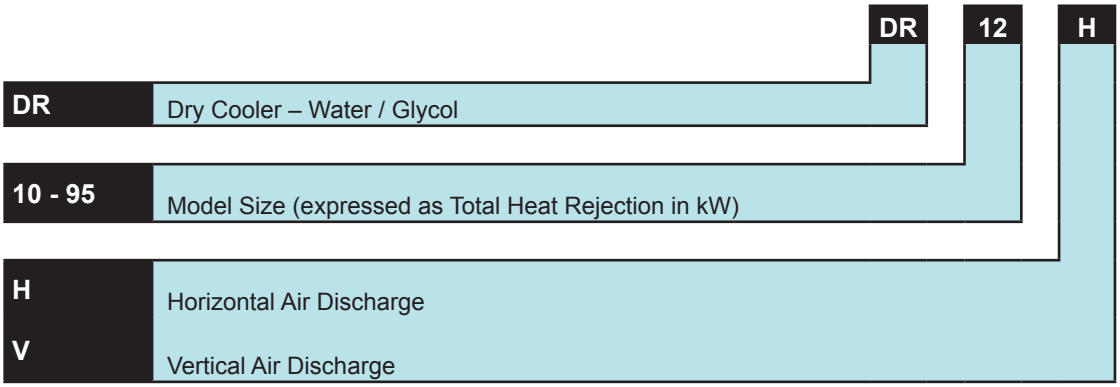
UK Sales Enquiries	+ 44 (0) 113 239 1000	enquiries@airedale.com
International Enquiries	+ 44 (0) 113 239 1000	enquiries@airedale.com
Spares Hot Line	+ 44 (0) 113 238 7878	spares@airedale.com
Airedale Service	+ 44 (0) 113 239 1000	service@airedale.com
Technical Support	+ 44 (0) 113 239 1000	tech.support@airedale.com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

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

Contents

General Specification

Unit Identification



Introduction

This range comprises of 14 air cooled dry cooler models with total heat rejection 10 – 95 kW

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 dispatched following extensive leak and pressure testing and carry a holding charge of inert gas.

CE Directive

CE 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 in version 2006/42/EC
Pressure Equipment Directive (PED)	2014/68/EU

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

Pressure Equipment Directive

Maximum and Minimum Operation Temperature (TS) and Pressure (PS)
Waterside
Allowable Temperature Range (TS), = Min -20°C* to Max 55°C**
Maximum Allowable Pressure (PS), = High Side 10 Barg
*Based on the waterside temperature in the unit off state in the lowest permitted ambient temperature.
**Based on the waterside temperature in the unit off state in the highest permitted ambient temperature.

Standard Features

Construction

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

Standard unit colour shall be Light Grey (RAL 7035).

Dual position fixing legs shall be 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 shall be removed and stored safely if not required.

IMPORTANT ⚠	Only 2 units may be stacked together.

Vertical Air Discharge

As standard, unit legs shall be attached and delivered in the horizontal air discharge mode and shall be repositioned on site to offer vertical air discharge mode, refer to ***Dimensions / Weights / Positioning***, 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.

Fan & Motor Assembly

All Models

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

The motor shall have inbuilt thermal overload protection and the assembly shall be supplied complete with a finger guard for protection.

Shall be available in either horizontal or vertical air discharge orientation, ***please specify at order***.

Electrical

All electrical components shall be rated for all year round outdoor use.

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

Main Electric Isolator

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

Optional Extras - Energy Saving

Electronically Commutated (EC) Fan Motor	Shall incorporate external EC rotor motor technology to provide highly accurate discreet speed control. The fans offer maximum air flow performance while keeping sound levels to a minimum. Each fan shall incorporate 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 shall offer significant power reduction in comparison with equivalent AC fan at both full and modulated fan speeds. The inbuilt EC fan control module shall allow for fan speed modulation from 0-100%, the modulating range of a standard AC fan is typically 40-100% of full fan speed.

Optional Extras – General

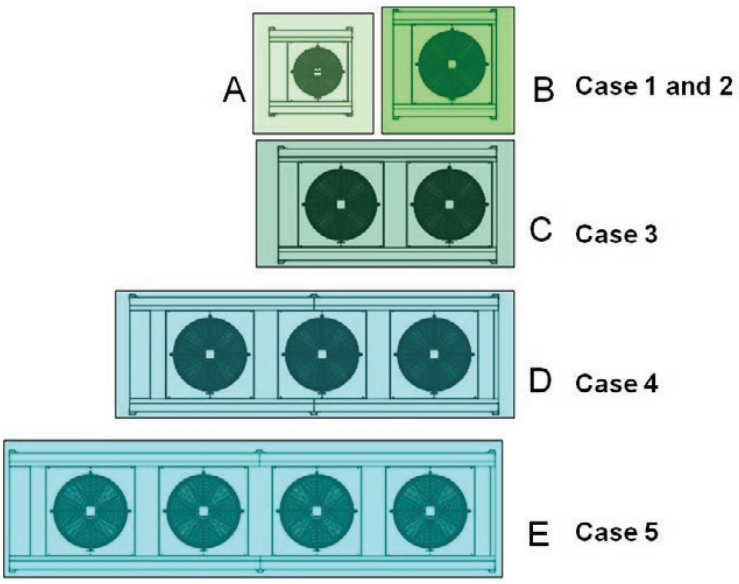
Corrosion Resistant Coated Coils	For aggressive atmospheres a corrosion resistant coating shall be applied to the aluminium fins.
Shut Off Valves	Where unit isolation for easier maintenance is required, shut off valves shall be supplied loose for on site fitment.
Coil Guards	Protective mesh guards can be fitted to each of the outer coils to protect against damage.

Installation data

Case Sizes

The range of condensers and dry coolers are grouped together for easier identification.
Case sizes 1-5 (16 Condensers, 14 Dry coolers)

Outdoor Unit			
CR12H-0	A	DR10H-0	
CR16H-0		DR12H-0	B
CR22H-0		DR15H-0	
CR26H-0	B	DR20H-0	
CR30H-0		DR25H-0	
CR35H-0		DR30H-0	C
CR50H-0		DR35H-0	
CR60H-0	C	DR45H-0	
CR65H-0		DR40H-0	
CR75H-0		DR50H-0	D
CR80H-0		DR55H-0	
CR95H-0	D	DR75H-0	
CR105H-0		DR70H-0	E
CR130H-0		DR95H-0	
CR140H-0	E	-	
CR165H-0		-	



Ambient Temperature Sensor Location

Horizontal Airflow

In the case of a unit with a horizontal airflow specified, the location shown in figure 1 will be the final position of the ambient temperature sensor, fitted in house before shipment.

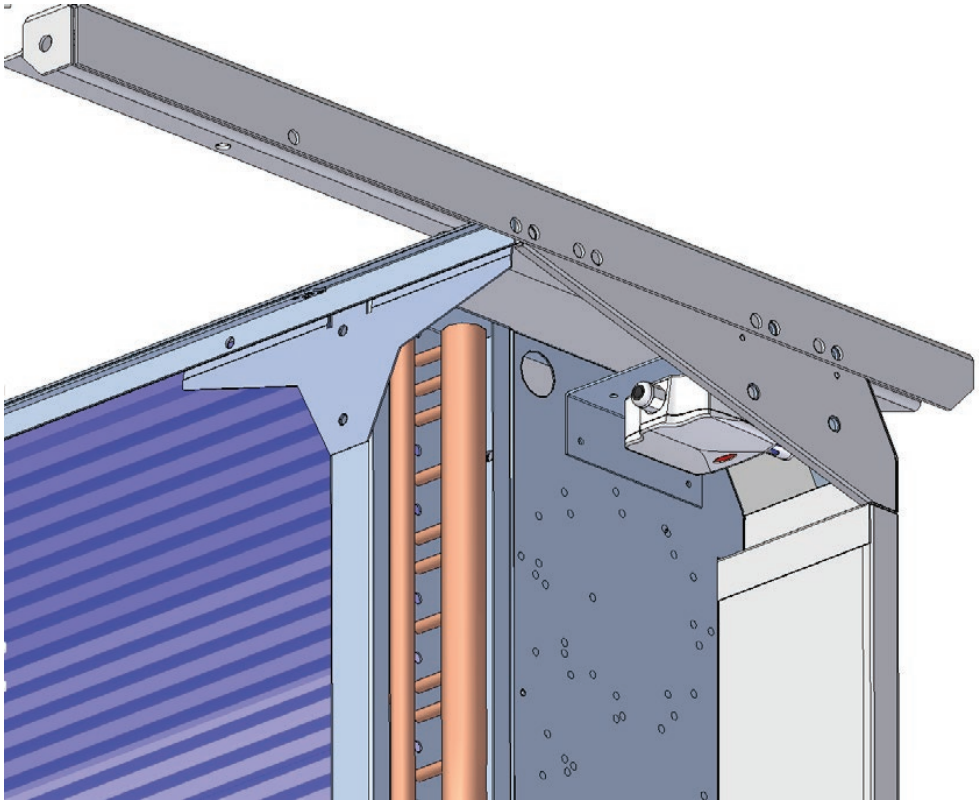


Figure 1: Ambient Sensor Location

Vertical Airflow

For units selected with a vertical airflow, the ambient temperature sensor should be mounted where shown in figure 1. This will be for transport purposes only. Once the unit has been installed the bracket is to be removed from this location and fastened to the bracket attached to the coil, shown in figures 3-5.

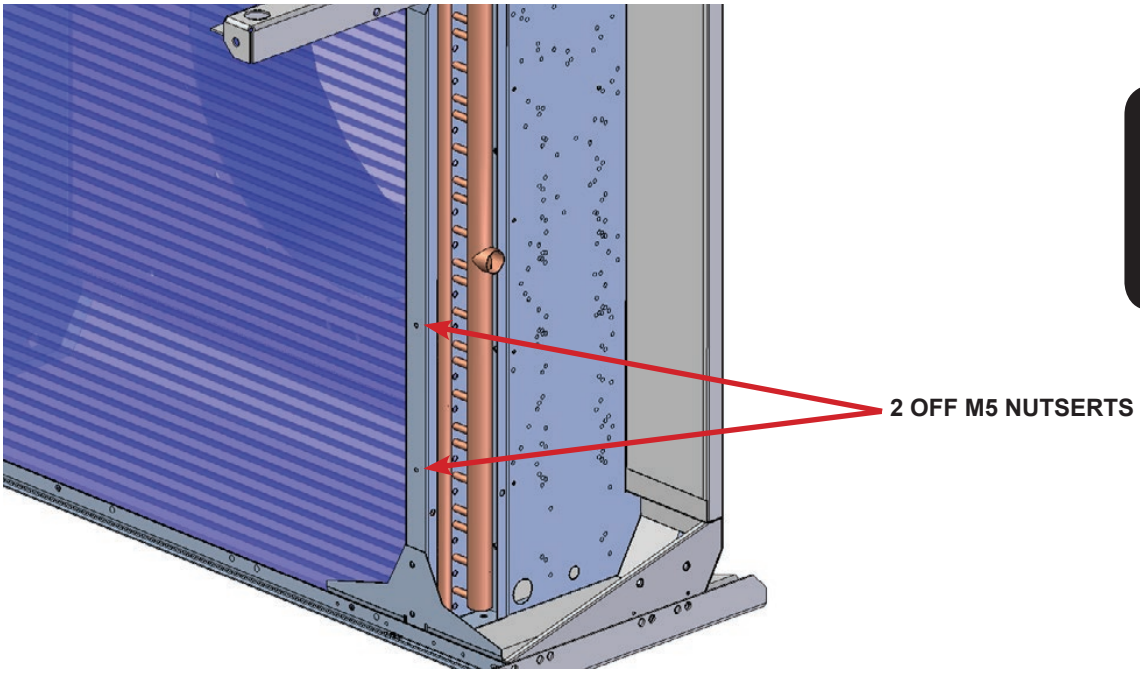


Figure 2: Sensor Mounting Location

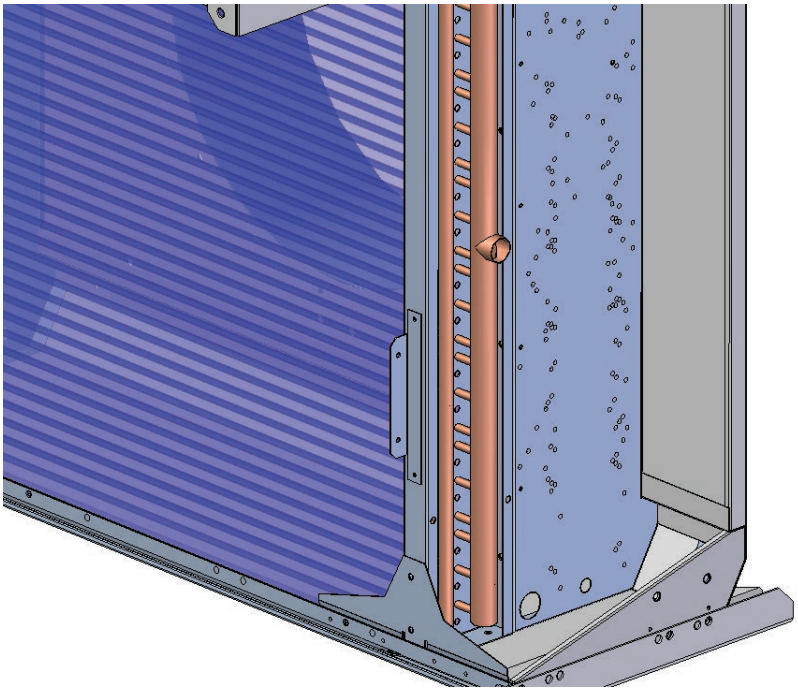


Figure 3: New Sensor Bracket

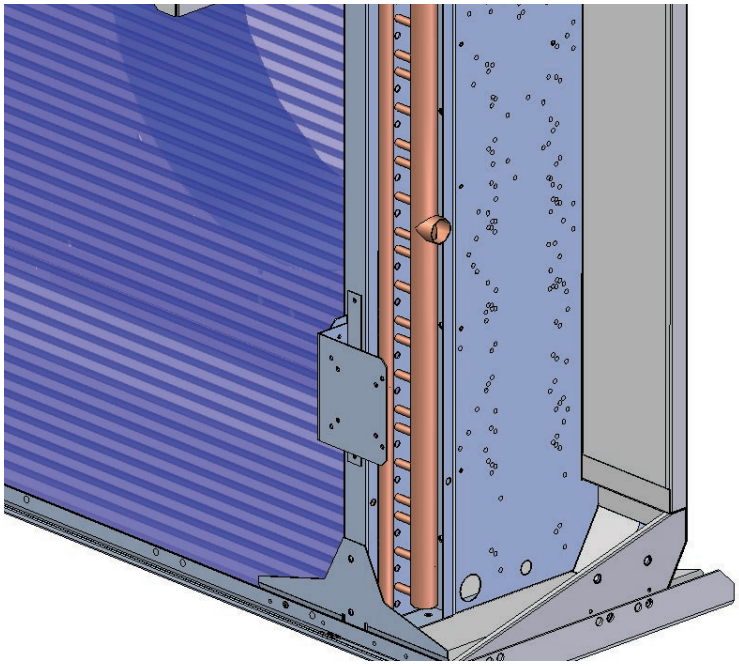


Figure 4: Existing Bracket Mounting Position

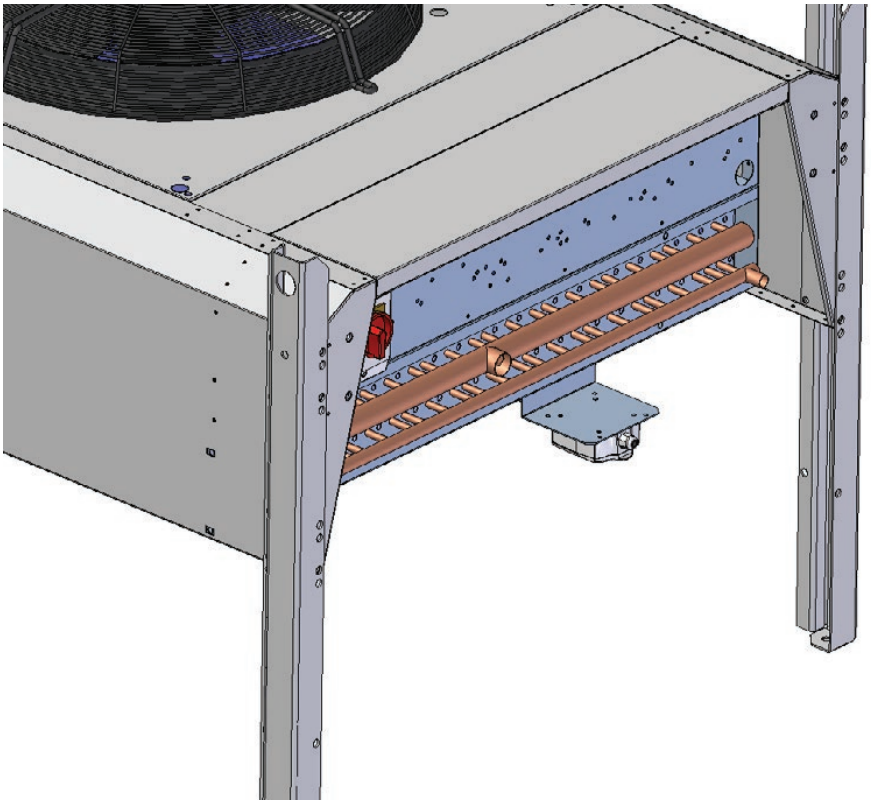


Figure 5: Sensor Location Overview

Dimensions/Weights/Positioning

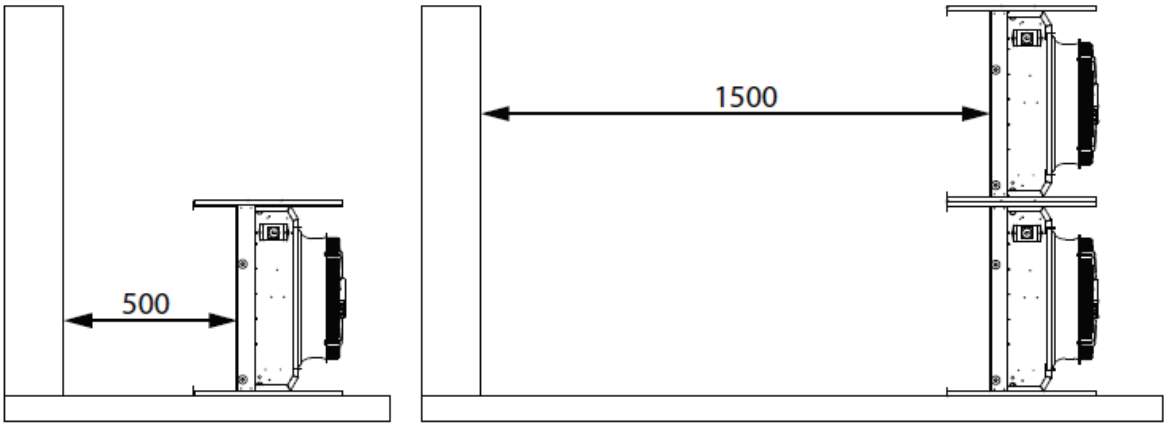
IMPORTANT ⚠	Unit diagrams can be supplied on request. The following illustrations show the unit following fixing leg re-orientation, instructions are provided for this at delivery.

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

Stacking Units

Positioning condensers stacked on top of each other can cause the bottom unit to be starved of air. It is therefore required that additional clearance is allowed.

Single unit clearance is 500mm, stacked units clearance is 1500mm.



Positioning and Clearance

- Unit must be positioned on an even base to ensure correct operation.
- Observe airflow and maintenance clearances.
- 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.
- When mounting the units adjacent to a wall or other vertical surface, the condenser should be positioned with the coil side facing the wall.
- Check all the services are present and accessible.

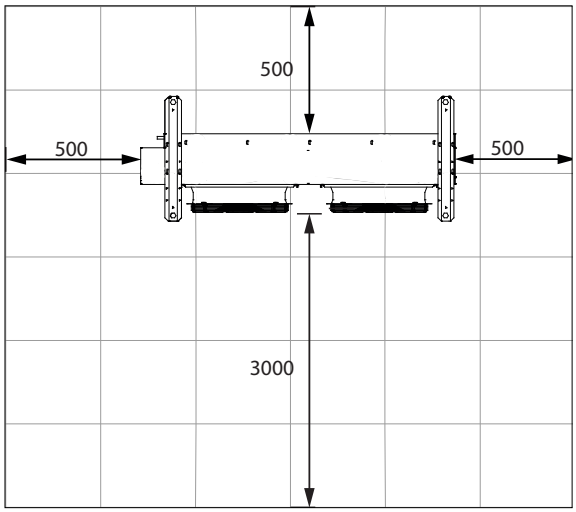
Mounting

Fix the condenser down using the appropriate bolt holes in the unit fixing legs .

Horizontal Airflow Configuration

Clearance is required as below. Considerations must be taken into account ensuring air is not recirculated. Recirculated air could cause the unit to malfunction.

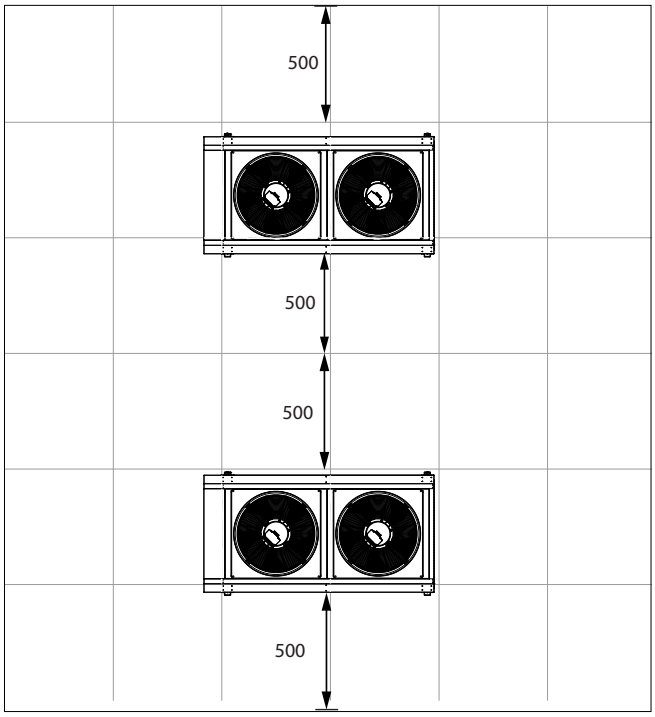
- Avoid where possible siting the unit where wind and air recirculation may interfere with the fan operation.



Dimensions in mm

Vertical Airflow Configuration

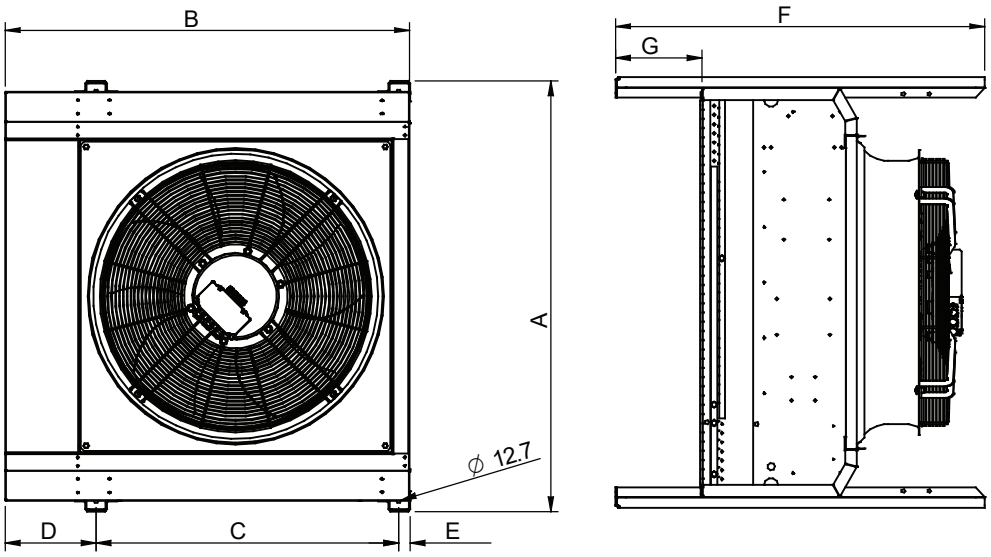
Clearance is required as below. Consideration must be given to ensure air is not recirculated by overhead obstructions such as pipework or ducting. Recirculating air could cause the unit to malfunction.



Dimensions in mm

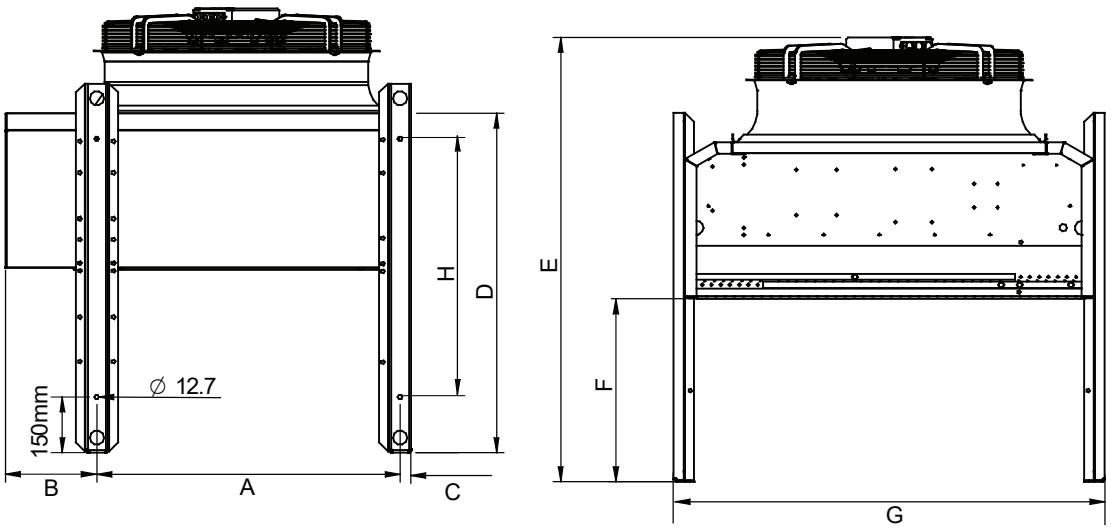
IMPORTANT ⚠	If the unit is installed in particularly windy locations, the provision of wind breaks may be required. For such applications a vertical discharge unit is recommended or where horizontal airflow could be obstructed.

Horizontal case size 1 and 2 (1 fan)



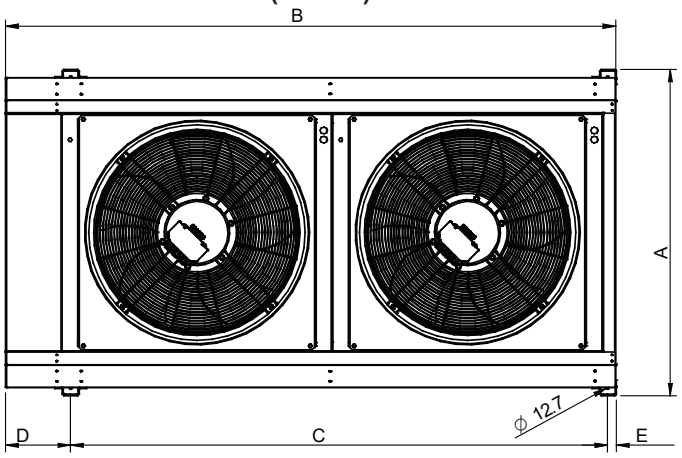
	DIMENSIONS (mm)						
	Standard Fan						
	A	B	C	D	E	F	G
DR10	1167	1095	820	246	32	1000	234
DR12	1167	1095	820	246	32	1000	234
DR15	1167	1095	820	246	32	1000	234
DR20	1167	1095	820	246	32	1000	234

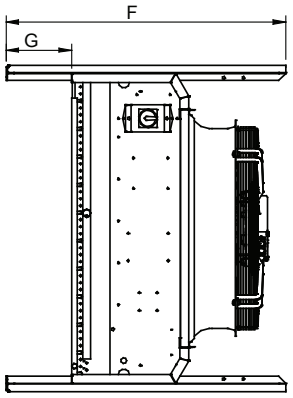
Vertical case size 1 and 2 (1 fan)



	DIMENSIONS (mm)							
	Standard Fan							
	A	B	C	D	E	F	G	H
DR10	822	246	32	920	1126	500	1167	700
DR12	822	246	32	920	1205	500	1167	700
DR15	822	246	32	920	1126	500	1167	700
DR20	822	246	32	920	1205	500	1167	700

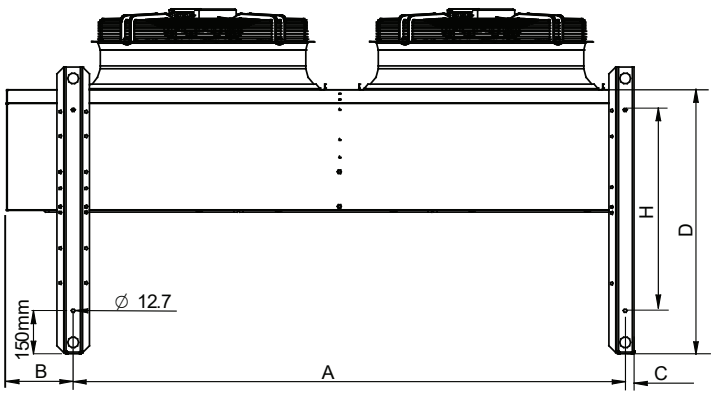
Horizontal case size 3 (2 Fans)

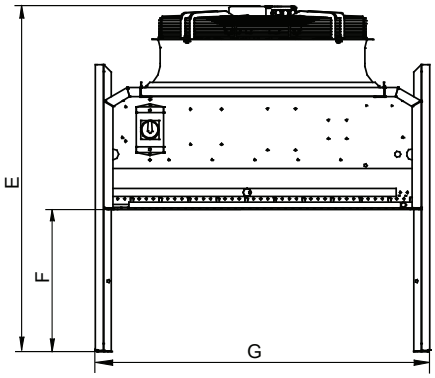




	DIMENSIONS (mm)						
	Standard Fan						
	A	B	C	D	E	F	G
DR25	1167	2177	1917	232	32	1000	234
DR30	1167	2177	1917	232	32	1000	234
DR35	1167	2177	1917	232	32	1000	234
DR45	1167	2177	1917	232	32	1000	234

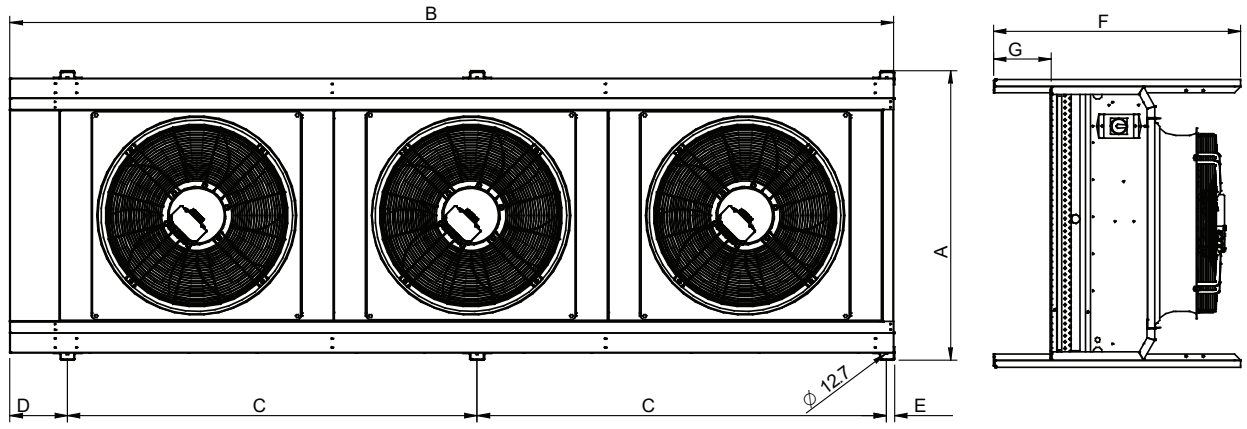
Vertical case size 3 (2 Fans)





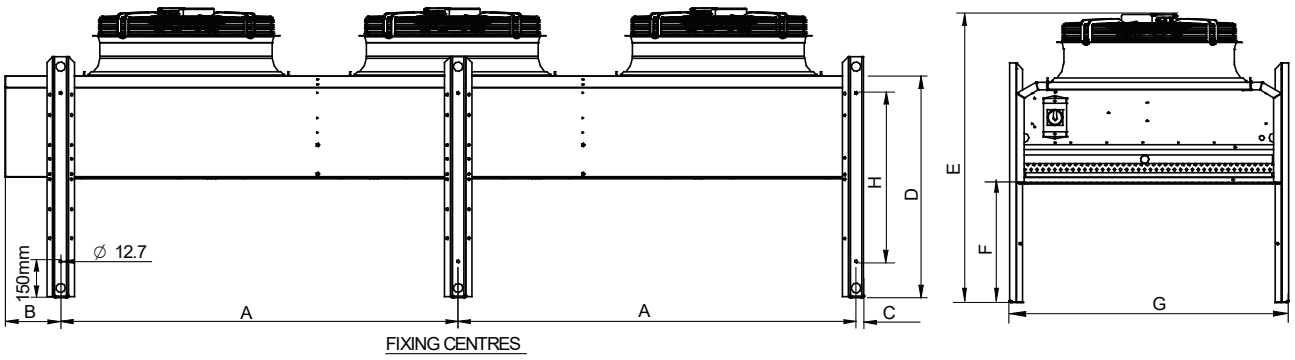
	DIMENSIONS (mm)							
	Standard Fan							
	A	B	C	D	E	F	G	H
DR25	1918	232	32	920	1126	500	1167	700
DR30	1918	232	32	920	1205	500	1167	700
DR35	1918	232	32	920	1126	500	1167	700
DR45	1918	232	32	920	1205	500	1167	700

Horizontal case size 4 (3 Fans)



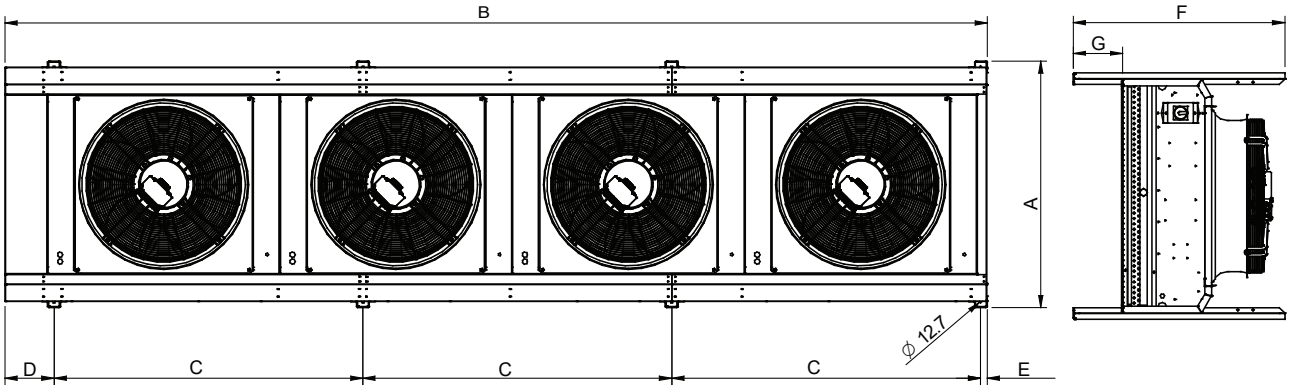
	DIMENSIONS (mm)						
	Standard Fan						
	A	B	C	D	E	F	G
DR40	1167	3560	1650	232	32	1000	234
DR50	1167	3560	1650	232	32	1000	234
DR55	1167	3560	1650	232	32	1000	234
DR75	1167	3560	1650	232	32	1000	234

Vertical case size 4 (3 fans)



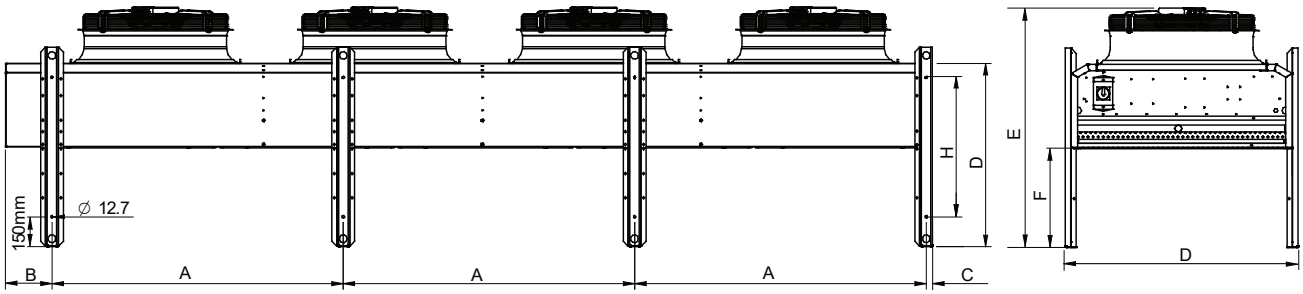
	DIMENSIONS (mm)							
	Standard Fan							
	A	B	C	D	E	F	G	H
DR40	1650	232	32	920	1126	500	1167	700
DR50	1650	232	32	920	1205	500	1167	700
DR60	1650	232	32	920	1126	500	1167	700
DR75	1650	232	32	920	1205	500	1167	700

Horizontal case size 5 (4 fans)



	DIMENSIONS (mm)						
	Standard Fan						
	A	B	C	D	E	F	G
DR70	1167	4644	1460	232	32	1000	234
DR95	1167	4644	1460	232	32	1000	234

Vertical case size 5 (4 fans)



	DIMENSIONS (mm)							
	Standard Fan							
	A	B	C	D	E	F	G	H
DR70	1460	232	32	920	1126	500	1167	700
DR95	1460	232	32	920	1205	500	1167	700

Unit Lifting

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

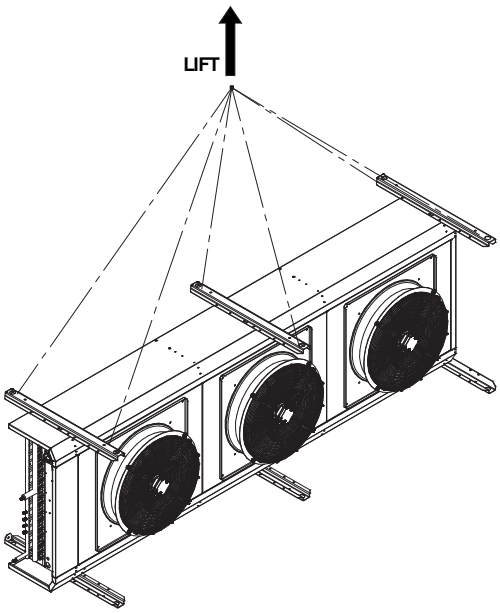
Only use lifting points provided. Do not lift from the pipework connections as this may damage the unit.

- Do not use 1 chain between 2 lifting points to avoid load shift.
- Ensure that chains/slings 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. Care should be taken to ensure the unit does not sustain damage before it is lifted into final position.

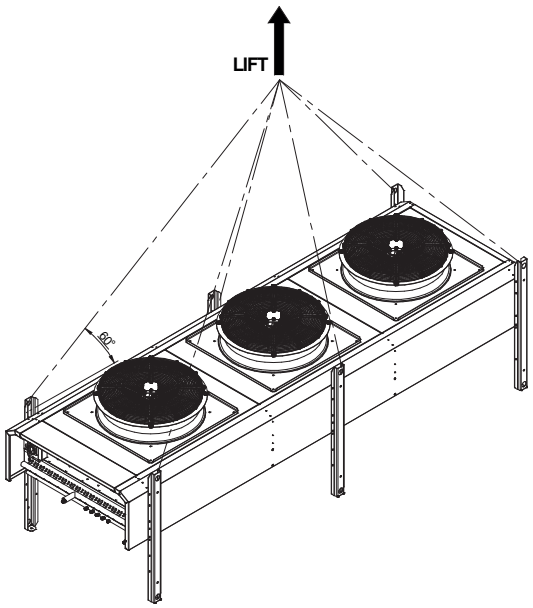
Horizontal Air Discharge

Use lifting eyes attached to individual slings/chains (supplied by others) and attach 2 to every top leg using the holes provided as illustrated. Maximum of 6 slings/chains.



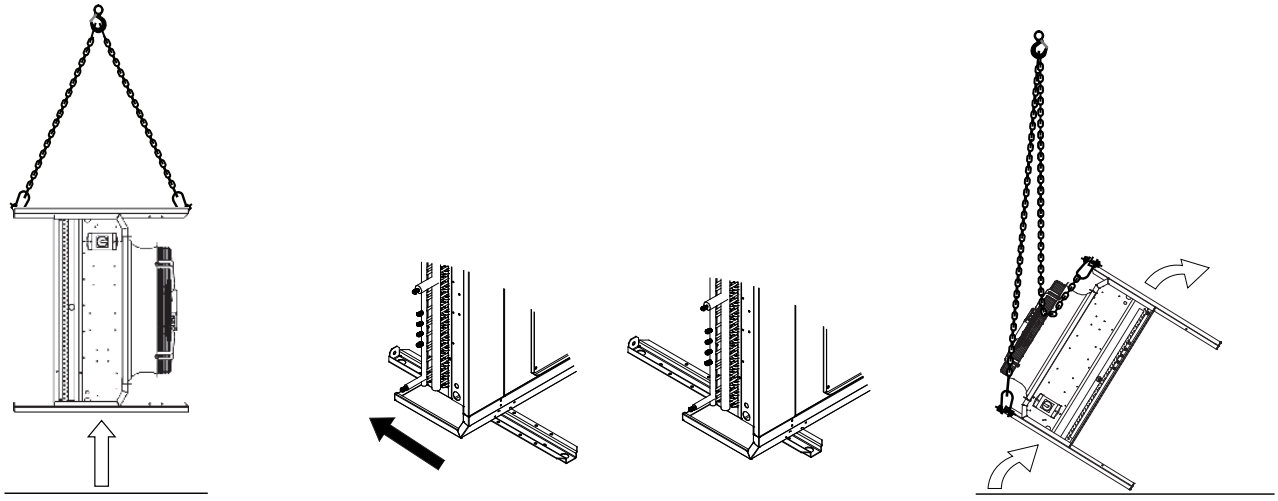
Vertical Air Discharge

Use lifting eyes attached to individual slings/chains (supplied by others) and attach 1 to the top of every leg using the holes provided as illustrated. Maximum of 6 slings/chains.



Re-Orientation To Vertical Discharge - CS Units Only

1. Remove the fixings securing the unit to the pallet.
2. In line with horizontal discharge lifting instructions, lift the unit sufficiently to gain access to the lower leg fixings.
3. Reposition and secure the lower 2 legs to the corner of the unit using the fixings and hole positions provided to both faces. Note, model sizes CR80 & CR105 have an additional mid support leg, this should also be adjusted and secured.
4. Lower and rest the unit down to floor and reposition and secure the upper legs as described in Step 3.
5. In line with vertical discharge lifting instructions lift the unit slowly into vertical orientation.



CAUTION ⚠	It is strictly prohibited to use the connections, which are delicate parts of the Coil, as anchoring points when lifting or handling the unit. This would cause serious damage to the Coil and serious risks for the safety of persons and goods.

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.

Performance Data – Dry Coolers

Standard Dry Cooler Fan

Water Entering / Leaving		Ambient				
Temperature °C		25°C	30°C	35°C	40°C	45°C
		Output (kW)	Output (kW)	Output (kW)	Output (kW)	Output (kW)
DR10	35°C/30°C	11	-	-	-	-
	40°C/35°C	19.6	11	-	-	-
	45°C/40°C	28.1	19.6	11.1	-	-
	50°C/45°C	36.6	28	19.6	11.1	-
	55°C/50°C	45	36.4	27.9	19.5	11.1
DR12	35°C/30°C	13.6	-	-	-	-
	40°C/35°C	24.5	13.7	-	-	-
	45°C/40°C	35.2	24.5	13.7	-	-
	50°C/45°C	45.9	35.1	24.5	13.8	-
	55°C/50°C	56.6	45.7	35.05	4.4	13.8
DR15	35°C/30°C	15..4	-	-	-	-
	40°C/35°C	25.6	15.3	-	-	-
	45°C/40°C	35.6	25.4	15.3	-	-
	50°C/45°C	45.4	35.2	25.2	15.2	-
	55°C/50°C	55.2	44.9	34.9	25	15.1
DR20	35°C/30°C	18.3	-	-	-	-
	40°C/35°C	31.9	18.3	-	-	-
	45°C/40°C	45.1	31.7	18.3	-	-
	50°C/45°C	58.1	44.8	31.6	18.3	-
	55°C/50°C	71.5	57.7	44.4	31.4	18.3
DR25	35°C/30°C	24.4	-	-	-	-
	40°C/35°C	43.1	24.5	-	-	-
	45°C/40°C	61.5	43	24.5	-	-
	50°C/45°C	79.7	61.2	42.9	24.5	-
	55°C/50°C	98	79.3	60.9	42.8	24.6
DR30	35°C/30°C	30.6	-	-	-	-
	40°C/35°C	54.5	30.7	-	-	-
	45°C/40°C	78	54.5	30.8	-	-
	50°C/45°C	101.4	77.8	54.4	30.9	-
	55°C/50°C	124.9	101	77.5	54.3	30.9
DR35	35°C/30°C	34.8	-	-	-	-
	40°C/35°C	57.4	34.6	-	-	-
	45°C/40°C	79.5	56.9	34.3	-	-
	50°C/45°C	101.4	78.7	56.4	34.1	-
	55°C/50°C	123.3	100.4	77.9	55.9	33.9

Water Entering / Leaving		Ambient				
Temperature °C		25°C	30°C	35°C	40°C	45°C
		Output (kW)	Output (kW)	Output (kW)	Output (kW)	Output (kW)
DR40	35°C/30°C	42	-	-	-	-
	40°C/35°C	72	41.9	-	-	-
	45°C/40°C	101.5	71.7	41.8	-	-
	50°C/45°C	130.8	101	71.4	41.8	-
	55°C/50°C	160.2	130	100.3	71	41.6
DR45	35°C/30°C	44.6	-	-	-	-
	40°C/35°C	74.4	44.4	-	-	-
	45°C/40°C	103.4	73.8	44.2	-	-
	50°C/45°C	132.3	102.5	73.2	43.9	-
	55°C/50°C	161.2	131.1	101.6	72.6	43.6
DR50	35°C/30°C	53.1	-	-	-	-
	40°C/35°C	91.7	53.1	-	-	-
	45°C/40°C	129.7	91.4	53	-	-
	50°C/45°C	167.6	129.2	91.1	53	-
	55°C/50°C	205.5	166.8	128.6	90.8	52.9

(1) Output kW refers to the dry cooler heat rejection

Water Entering / Leaving		Ambient				
Temperature °C		25°C	30°C	35°C	40°C	45°C
		Output (kW)	Output (kW)	Output (kW)	Output (kW)	Output (kW)
DR55	35°C/30°C	55	-	-	-	-
	40°C/35°C	91.2	54.8	-	-	-
	45°C/40°C	126.3	90.4	54.4	-	-
	50°C/45°C	161.2	125.1	89.6	54	-
	55°C/50°C	196	159.5	123.8	88.7	53.7
DR70	35°C/30°C	74.7	-	-	-	-
	40°C/35°C	122.6	74.2	-	-	-
	45°C/40°C	169.4	121.5	73.7	-	-
	50°C/45°C	215.8	167.6	120.3	73.1	-
	55°C/50°C	262.1	213.4	165.8	119.2	72.6
DR75	35°C/30°C	72.6	-	-	-	-
	40°C/35°C	121.5	72.3	-	-	-
	45°C/40°C	169.2	120.6	72	-	-
	50°C/45°C	216.6	167.7	119.6	71.6	-
	55°C/50°C	263.8	214.5	166.2	118.7	71.2
DR95	35°C/30°C	98.5	-	-	-	-
	40°C/35°C	163.3	97.9	-	-	-
	45°C/40°C	226.7	162	97.4	-	-
	50°C/45°C	289.7	224.6	160.6	96.7	-
	55°C/50°C	352.6	286.9	222.5	159.3	96.1

(1) Output kW refers to the dry cooler heat rejection

Sound Data

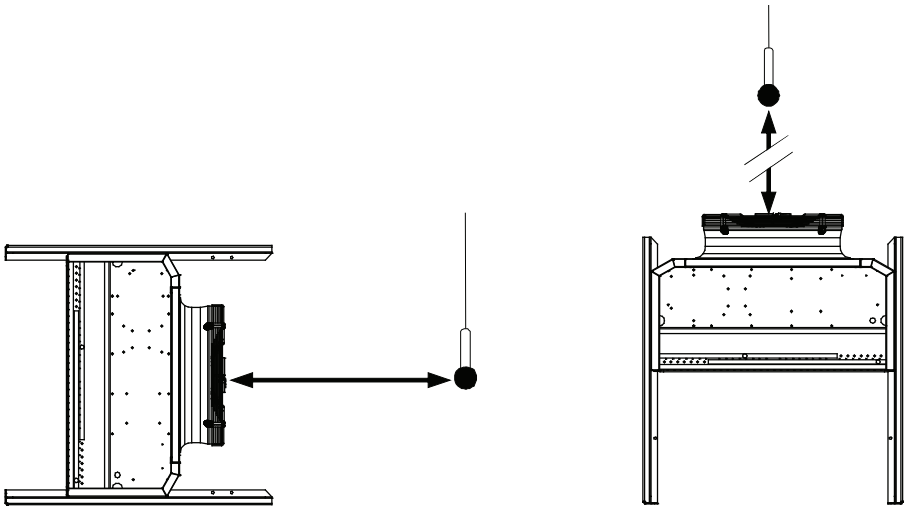
Measurement of Sound Data

All sound data quoted has been measured in the third-octave band limited values, using a Real Time Analyser calibrated sound intensity meter in accordance with BS EN ISO9614 Part 1: 2009.

All Sound Power Levels quoted are calculated from measured sound intensity according BS EN ISO9614 Part 1: 2009.

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.



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		Overall	Frequency (Hz) dB							
	Measurement		dB(A)	63	125	250	500	1000	2000	4000	8000
DR10	Power		74	72	83	76	68	68	65	60	50
	Pressure	@10m	46	44	55	48	40	40	37	32	22
DR12	Power		74	72	83	76	68	68	65	60	50
	Pressure	@10m	46	44	55	48	40	40	37	32	22
DR15	Power		78	82	87	74	74	73	70	63	62
	Pressure	@10m	50	54	59	46	46	45	42	35	34
DR20	Power		82	83	80	82	79	78	74	67	59
	Pressure	@10m	54	55	52	54	51	50	46	39	31
DR25	Power		78	82	87	74	74	73	70	63	62
	Pressure	@10m	50	54	59	46	46	45	42	35	34
DR30	Power		82	83	80	82	79	78	74	67	59
	Pressure	@10m	54	55	52	54	51	50	46	39	31
DR35	Power		81	85	90	77	77	76	73	66	65
	Pressure	@10m	53	57	62	49	49	48	45	38	37
DR45	Power		85	86	83	85	82	81	77	70	62
	Pressure	@10m	57	58	55	57	54	53	49	42	34
DR40	Power		81	85	90	77	77	76	73	66	65
	Pressure	@10m	53	57	62	49	49	48	45	38	37
DR50	Power		85	86	83	85	82	81	77	70	62
	Pressure	@10m	57	58	55	57	54	53	49	42	34
DR55	Power		83	80	90	80	77	79	75	68	67
	Pressure	@10m	55	52	62	52	49	51	47	40	39
DR70	Power		87	88	85	87	84	83	79	72	64
	Pressure	@10m	59	60	57	59	56	55	51	44	36
DR75	Power		82	80	90	80	77	79	75	68	67
	Pressure	@10m	55	52	62	52	49	51	47	40	39
DR95	Power		87	88	85	87	84	83	79	72	64
	Pressure	@10m	59	60	57	59	56	55	51	44	36

Vertical

	Sound		Overall	Frequency (Hz) dB							
	Measurement		dB(A)	63	125	250	500	1000	2000	4000	8000
DR10	Power		75	69	86	75	68	69	65	61	51
	Pressure	@ 10m	47	41	58	47	40	41	37	33	23
DR12	Power		75	69	86	75	68	69	65	61	51
	Pressure	@ 10m	47	41	58	47	40	41	37	33	23
DR15	Power		79	80	90	73	74	74	70	64	63
	Pressure	@ 10m	51	52	62	45	46	46	42	36	35
DR20	Power		83	80	83	82	79	79	73	68	60
	Pressure	@ 10m	55	52	55	54	51	51	45	40	32
DR25	Power		79	80	90	73	74	74	70	64	63
	Pressure	@ 10m	51	52	62	45	46	46	42	36	35
DR30	Power		83	80	83	82	79	79	73	68	60
	Pressure	@ 10m	55	52	55	54	51	51	45	40	32
DR35	Power		82	83	93	76	77	77	73	67	66
	Pressure	@ 10m	54	55	65	48	49	49	45	39	38
DR45	Power		86	83	86	85	82	82	76	71	63
	Pressure	@ 10m	58	55	58	57	54	54	48	43	35
DR40	Power		82	83	93	76	77	77	73	67	66
	Pressure	@ 10m	54	55	65	48	49	49	45	39	38
DR50	Power		86	83	86	85	82	82	76	71	63
	Pressure	@ 10m	58	55	58	57	54	54	48	43	35
DR55	Power		84	78	93	79	78	80	75	69	68
	Pressure	@ 10m	56	50	65	51	50	52	47	41	40
DR70	Power		88	85	88	87	84	84	78	73	65
	Pressure	@ 10m	60	57	60	59	56	56	50	45	37
DR75	Power		84	78	93	79	78	80	75	69	68
	Pressure	@ 10m	56	50	65	51	50	52	47	41	40
DR95	Power		88	85	88	87	84	84	78	73	65
	Pressure	@ 10m	60	57	60	59	56	56	50	45	37

Mechanical Data

			DR10	DR12	DR15
Total Heat of Rejection DR	(1)	kW	11.1	13.7	15.3
Dimensions - Horizontal	(2)				
H x W x L		mm	1167 x 1000 x 1095	1167 x 1000 x 1095	1167 x 1000 x 1095
Dimensions – Vertical	(2)				
H x W x L		mm	1126 x 1167 x 1100	1205 x 1167 x 1100	1126 x 1167 x 1100
Weight					
Machine		kg	96	106	110
Construction					
Material/Colour			Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)		
Dry Cooler			Air Cooled - Copper Tube/Turbulated Aluminium Fins		
Total Face Area		m^2	0.91	0.91	0.91
Nominal Airflow		m^3/s	2.3	3.3	1.9
Discharge			H Horizontal or -V Vertical (Please Specify at Order)		
Std Fan & Motor			AC	EC	AC
Quantity			1	1	1
Diameter		mm	630	710	630
Maximum Speed		rpm	895	930	895
Dry Cooler					
Internal Water Volume		L	6.6	6.6	11.9
Nominal Flowrate		l/s	0.53	0.65	0.7
Pressure Drop		kPa	11.9	17.8	20.7
OPTIONAL EXTRAS					
EC Fan					
Dimensions - Horizontal					
H x W x L		mm	1167 x 1000 x 1095	-	1167 x 1000 x 1095
Dimensions - Vertical					
H x W x L		mm	1205 x 1167 x 1100	-	1205 x 1167 x 1100
Weight					
Machine		kg	88	-	101

(1)Nominal data based on 35°C ambient and 45/40°C Water entering / leaving. All performance data is supplied in accordance with BS EN 14511-1:2013
(2) Overall dimensions for clearance

Mechanical Data

			DR20	DR25	DR30	DR35	DR45
Total Heat of Rejection DR	(1)	kW	18.34	24.5	30.8	34.3	44.2
Dimensions - Horizontal	(2)						
H x W x L		mm	1167 x 1000 x 1095	1167 x 1000 x 2177	1167 x 1000 x 2177	1167 x 1000 x 2177	1167 x 1000 x 2177
Dimensions - Vertical	(2)						
H x W x L		mm	1205 x 1167 x 1100	1126 x 1167 x 2177	1205 x 1167 x 2177	1126 x 1167 x 2177	1205 x 1167 x 2177
Weight							
Machine		kg	119	167	187	198	217
Construction							
Material/Colour			Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)				
Dry Cooler			Air Cooled - Copper Tube/Turbulated Aluminium Fins				
Total Face Area		m^2	0.91	2.11	2.11	2.11	2.11
Nominal Airflow		m^3/s	2.6	4.8	7	4.2	5.7
Discharge			H Horizontal or -V Vertical (Please Specify at Order)				
Std Fan & Motor			EC	AC	EC	AC	EC
Quantity			1	2	2	2	2
Diameter		mm	710	630	710	630	710
Maximum Speed		rpm	930	895	930	895	930
Dry Cooler							
Internal Water Volume		L	11.9	14.8	14.8	26.7	26.7
Nominal Flowrate		l/s	0.9	1.2	1.47	1.64	2.1
Pressure Drop		kPa	46.4	15.3	20.5	38.5	60.4
OPTIONAL EXTRAS							
EC Fan							
Dimensions – Horizontal							
H x W x L		mm	-	1167 x 1000 x 2177	-	1167 x 1000 x 2177	-
Dimensions – Vertical							
H x W x L		mm	-	1205 x 1167 x 2177	-	1205 x 1167 x 2177	-
Weight							
Machine		kg	-	150	-	180	-

(1) Nominal data based on 35°C ambient and a 45/40°C Water entering / leaving. All performance data is supplied in accordance with BS EN 14511-1:2013
(2) Overall dimensions for clearance.

Mechanical Data

			DR40	DR50	DR55
Total Heat of Rejection DR	(1)	kW	41.8	53	54.4
Dimensions - Horizontal	(2)				
H x W x L		mm	1167 x 1000 x 3560	1167 x 1000 x 3560	1167 x 1000 x 3560
Dimensions - Vertical	(2)				
H x W x L		mm	1126 x 1167 x 3560	1205 x 1167 x 3560	1126 x 1167 x 3560
Weight					
Machine		kg	257	286	309
Construction					
Material/Colour			Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)		
Dry Cooler			Air Cooled - Copper Tube/Turbulated Aluminium Fins		
Total Face Area		m^2	3.63	3.63	3.63
Nominal Airflow		m^3/s	7.5	10.8	6.6
Discharge			H Horizontal or -V Vertical (Please Specify at Order)		
Std Fan & Motor			AC	EC	AC
Quantity			3	3	3
Diameter		mm	630	710	630
Maximum Speed		rpm	895	930	895
Dry Cooler					
Internal Water Volume		L	23.1	23.1	43.2
Water flowrate		l/s	2	2.5	2.6
Pressure Drop		kPa	48.5	70	32
OPTIONAL EXTRAS					
EC Fan					
Dimensions - Horizontal					
H x W x L		mm	1167 x 1000 x 3560	-	1167 x 1000 x 3560
Dimensions - Vertical					
H x W x L		mm	1205 x 1167 x 3560	-	1205 x 1167 x 3560
Weight					
Machine		kg	231	-	283

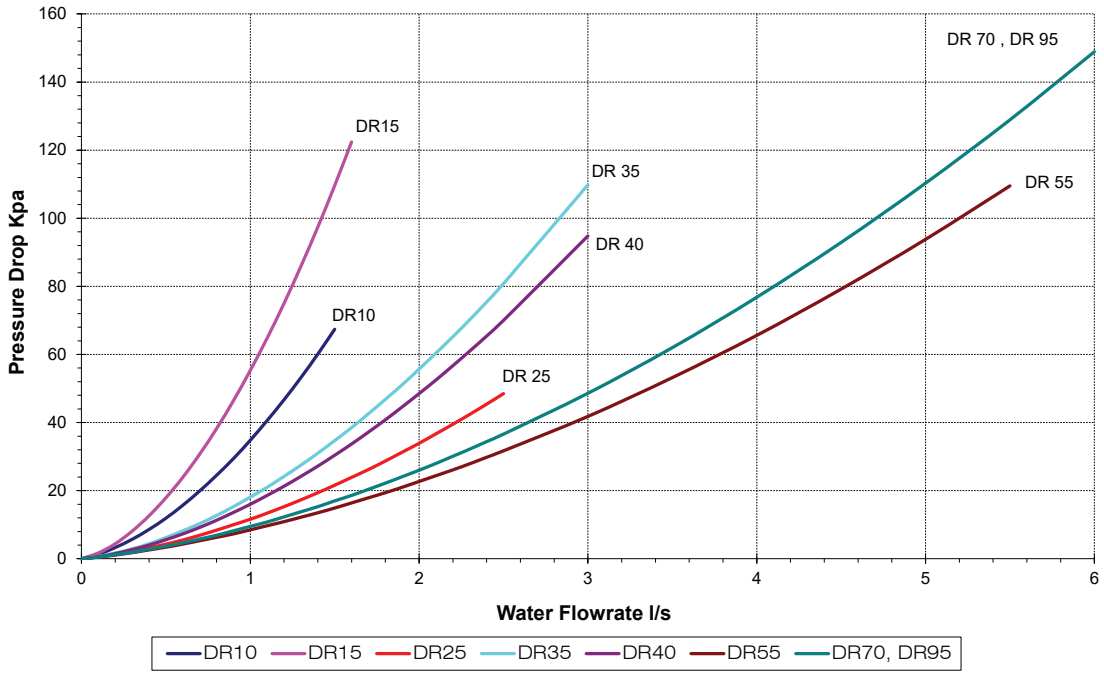
(1) Nominal data based on 35°C ambient and a 45/40°C Water entering / leaving. All performance data is supplied in accordance with BS EN 14511-1:2013
(2) Overall dimensions for clearance; refer to ***Dimensional & Installation Data***, for detail.

Mechanical Data

			DR75	DR70	DR95
Total Heat of Rejection DR	(1)	kW	72	73.7	97.4
Dimensions - Horizontal	(2)				
H x W x L		mm	1167 x 1000 x 3560	1167 x 1000 x 4644	1167 x 1000 x 4644
Dimensions - Vertical	(2)				
H x W x L		mm	1205 x 1167 x 3560	1126 x 1167 x 4644	1205 x 1167 x 4644
Weight					
Machine		kg	338	408	447
Construction					
Material/Colour			Galvanised Sheet Steel, Epoxy Baked Powder Paint - Light Grey (RAL 7035)		
Dry Cooler			Air Cooled - Copper Tube/Turbulated Aluminium Fins		
Total Face Area		m²	3.63	4.8	4.8
Nominal Airflow		m³/s	9.3	8.7	12.4
Discharge			H Horizontal or -V Vertical (Please Specify at Order)		
Std Fan & Motor			EC	AC	EC
Quantity			3	4	4
Diameter		mm	710	630	710
Maximum Speed		rpm	930	895	930
Dry Cooler					
Internal Water Volume		L	43.2	55.9	55.9
Water flowrate		l/s	3.4	3.5	4.6
Pressure Drop		kPa	53	62	94
OPTIONAL EXTRAS					
EC Fan					
Dimensions – Horizontal					
H x W x L		mm	-	1167 x 1000 x 4644	-
Dimensions – Vertical					
H x W x L		mm	-	1205 x 1167 x 4644	-
Weight					
Machine		kg	-	373	-

(1) Nominal data based on 35°C ambient and a 45/40°C Water entering/leaving. All performance data is supplied in accordance with BS EN 14511-1:2013
(2) Overall dimensions for clearance; refer to ***Dimensional & Installation Data***, for detail.

Waterside Pressure Drop



Electrical Data

Dry Cooler		DR10	DR12	DR15	DR20	DR25	DR30	DR35
Unit Data (1)								
Nominal Run Amps	A	2.6	1.7	2.6	1.7	5.2	3.3	5.2
Maximum Start Amps	A	9.2	6.1	9.2	6.1	18.3	12.2	18.3
Recommended Mains Fuse	A	6	6	6	6	10	6	10
Max Mains Cable Incoming	mm²	6	6	6	6	6	6	6
Mains Supply 50Hz		230V/1Ph	400V/3Ph	230V/1Ph	400V/3Ph	230V/1Ph	400V/3Ph	230V/1Ph
Fan - Per Fan								
Quantity		1	1	1	1	2	2	2
Motor Size	kW	0.6	0.88	0.6	0.88	0.6	0.88	0.6
Full Load Amps	A	2.6	1.7	2.6	1.7	2.6	1.7	2.6
Locked Rotor Amps	A	9.2	6.1	9.2	6.1	9.2	6.1	9.2
OPTIONAL EXTRAS								
EC Dry cooler Fan - Per Fan								
Quantity		1	1	1	1	2	2	2
Motor Size	kW	0.73	1.68	0.73	1.68	0.73	1.68	0.73
Full Load Amps	A	3.3	2.6	3.3	2.6	3.3	2.6	3.3

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

Interconnecting Wiring	**3 Phase Units**		**L1**	○	←	Mains Incoming 400V / 3Ph + N / 50Hz
			L2	○	←	
			L3	○	←	
			N	○	←	
			PE	○	←	

Interconnecting wiring	**Single Phase Units**		**L1**	○	←	Mains Incoming 230V / 1Ph + N / 50Hz
			N	○	←	
			PE	○	←	

Electrical Data

Dry Cooler		DR45	DR40	DR50	DR55	DR75	DR70	DR95
Unit Data (1)								
Nominal Run Amps	A	3.3	7.86	4.95	7.86	4.95	10.48	6.6
Maximum Start Amps	A	12.2	27.5	18.3	27.5	18.3	36.7	24.4
Recommended Mains Fuse	A	6	16	10	16	10	16	10
Max Mains Cable Incoming	mm²	6	6	6	6	6	6	6
Mains Supply 50Hz		400V/3Ph	230V/1Ph	400V/3Ph	230V/1Ph	400V/3Ph	230V/1Ph	400V/3Ph
Fan - Per Fan								
Quantity		2	3	3	3	3	4	4
Motor Size	kW	0.88	0.6	0.88	0.6	0.88	0.6	0.88
Full Load Amps	A	1.65	2.62	1.65	2.62	1.65	2.62	1.65
Locked Rotor Amps	A	6.1	9.17	6.1	9.17	6.1	9.17	6.1
OPTIONAL EXTRAS								
EC Dry cooler Fan - Per Fan								
Quantity		2	3	3	3	3	4	4
Motor Size	kW	1.68	0.73	1.68	0.73	1.68	0.73	1.68
Full Load Amps	A	2.6	3.3	2.6	3.3	2.6	3.3	2.6

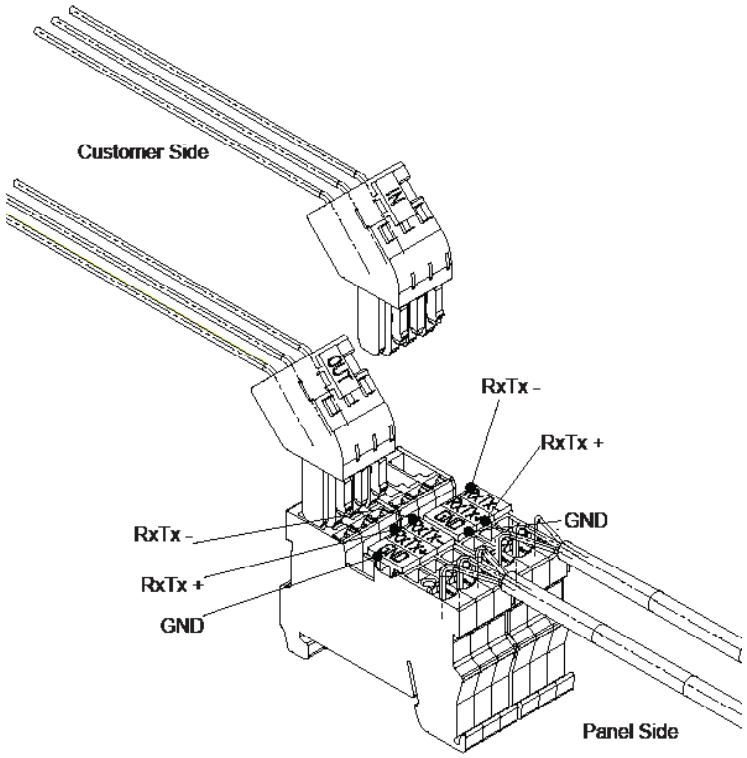
(1) Nominal data based on 35°C ambient and a 50°C mean condensing temperature and using standard fan.

Interconnecting Wiring	**3 Phase Units**		**L1**	○	←	Mains Incoming 400V / 3Ph + N / 50Hz
			L2	○	←	
			L3	○	←	
			N	○	←	
			PE	○	←	

Interconnecting wiring	**Single Phase Units**		**L1**	○	←	Mains Incoming 230V / 1Ph + N / 50Hz
			N	○	←	
			PE	○	←	

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.



Notes

After Sales

Warranty

All Airedale products or parts (non consumable) supplied for installation within the UK mainland and commissioned by an Airedale engineer, carry a full Parts & Labour warranty for a period of 12 months from the date of commissioning or 18 months from the date of despatch, whichever is the sooner.

Parts or Equipment supplied by Airedale for installation within the UK or for Export that are properly commissioned in accordance with Airedale standards and specification, not commissioned by an Airedale engineer; carry a 12 month warranty on non consumable Parts only from the date of commissioning or 18 months from the date of despatch, whichever is the sooner.

Parts or equipment installed or commissioned not to acceptable Airedale standards or specification invalidate all warranty.

Warranty is only valid in the event that

In the period between delivery and commissioning the equipment:

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

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

*Once warranty is confirmed, maintenance must be continued to validate the warranty period.

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

Procedure

When a component part fails, a replacement part should be obtained through our Spares department. If the part is considered to be under warranty, the following details are required to process this requirement. Full description of part required, including Airedale's part number, if known. The original equipment serial number. An appropriate purchase order number.

A spares order will be raised under our warranty system and the replacement part will be despatched, usually within 24 hours should they be in stock. When replaced, the faulty part must be returned to Airedale with a suitably completed and securely attached "Faulty Component Return" (FCR) tag. FCR tags are available from Airedale and supplied with each Warranty order.

On receipt of the faulty part, suitably tagged, Airedale will pass to its Warranty department, where it will be fully inspected and tested in order to identify the reason for failure, identifying at the same time whether warranty is justified or not.

On completion of the investigation of the returned part, a full "Report on Goods Returned" will be issued. On occasion the release of this complete report may be delayed as component manufacturers become involved in the investigation. When warranty is allowed, a credit against the Warranty invoice will be raised. Should warranty be refused the Warranty invoice becomes payable on normal terms.

Exclusions

Warranty may be refused for the following reasons.

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

Returns analysis

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

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