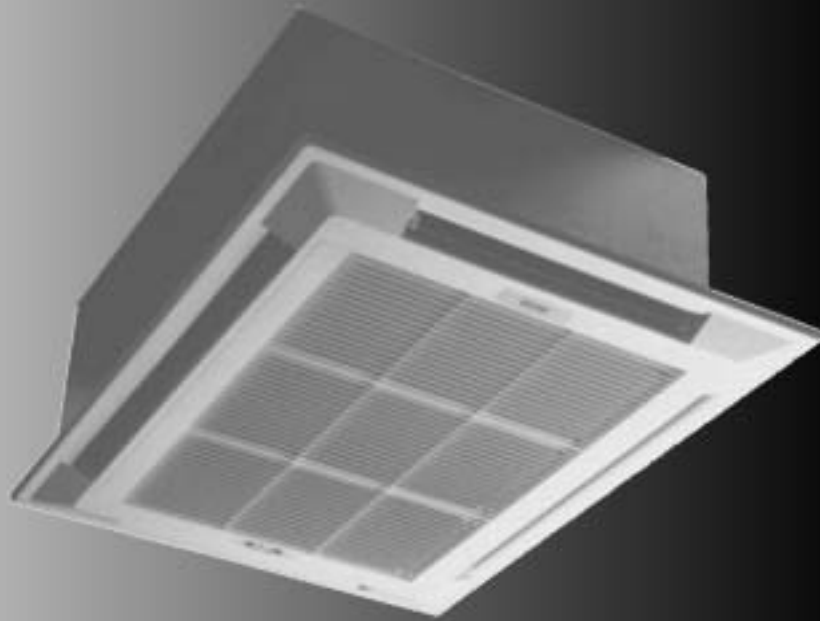


AIREDALE

air conditioning for every environment



TECHNICAL MANUAL

Answer Cassette 5-12



ISO 14001
EMS52086



ISO 9001
FM00542

Contents

General Description	4
Introduction	4
Construction	4
Options	5
Capacity Data – Air Cooled Cooling Only Unit	6
Capacity Data – Air Cooled Heat Pump Unit	6
Capacity Data – Chilled Water Cooling Unit	7
Capacity Data – Chilled Water Cooling Unit	8
Capacity Data – Heating Duties	8
Operating Data	9
Dimensions	11
Technical Data: CAH Range	12
Technical Data: CACW Range	13
Electrical Data	14
Noise Data	14
Field Connections	15
Controls	16

General Description

UNIT IDENTIFICATION

ANSWER UNITS	
CAH	Ceiling Cassette Unit
CACW	Ceiling Cassette Unit - Chilled Water
5-12	Model Size
IR	Micro Controlled - Infra Red Remote Control
P	Micro Controlled - Pendant Control
e.g.	Model CAH 10 IR

INTRODUCTION

The Airedale Answer Cassette is available in 4 models from 5 kW to 12 kW nominal capacity in DX refrigeration, also available are chilled water and reverse cycle heat pump versions. Designed for low noise levels, easy installation and maintenance and a slimline fascia, all ensure minimum obtrusion into the working environment.

A variety of optional extras can be factory fitted including electric heating and low pressure hot water heating. All split system indoor units are supplied with an inert gas holding charge.

CONSTRUCTION

Cabinets are lined internally with fire resistant foam (UL94 VO) for thermal and acoustic insulation. Cases are one piece construction manufactured from lightweight galvanised sheet steel with integral fan mounting rails for added strength. Cases are pre-punched to accept auxiliary drain trays and optional duct spigots.

Fascias are manufactured from fire resistant (UL94 VO) High Impact Polystyrene in Pearl Grey to BS4800/5252F: 22B-15.

EVAPORATOR

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

CHILLED WATER COIL

All chilled water units utilise large surface area coils ideally positioned to optimise heat transfer and airflow. Each coil is manufactured from refrigeration quality copper tubes with mechanically bonded aluminium fins and are circuited from headers to ensure low water pressure drops. An auxiliary drain tray for collecting condensate from the chilled water control valve is included as standard.

FAN

Backward curved centrifugal fans, statically and dynamically balanced for quiet operation. Fan impellers are made from either aluminium on single fan units or fire retardant plastic (UL94 VO) on twin fan units for light weight and corrosion resistant operation. Fans are driven by an enclosed multi-speed motor complete with thermal overload protection and sealed for life lubricated bearings.

REFRIGERATION

Each unit features as standard:

- Externally equalised bi-directional thermostatic expansion valve biflow, with in-built check valve.

CONTROLS

Supplied with a microprocessor and hand held Infra-Red remote controller with wall bracket.

The controller can be supplied with a hard wired pendant remote.

For control of multiple units, a Master/Slave facility is available for up to 20 units.

Please refer to the Controls Section for further details.

ELECTRICAL	A control box located on the outside of the cassette chassis houses all electrical components necessary for efficient and continuous operation. All wiring is numbered and conforms to European standards. Units are powered from a 230V/1PH/50Hz power supply making them suitable for domestic installation.
FILTRATION	Wire framed synthetic filters conforming to BS EN 779 – G2 are fitted. These are re-usable and may be vacuum cleaned. They are fire retardant to UL94 VO.
CONDENSATE PUMP	<p>To carry water out of the unit the condensate pump is fixed to a mounting bracket that can be withdrawn from the side of the chassis and incorporates an inspection hole to allow a visible check on the pump during operation. A float switch is fitted to raise an alarm should the pump become blocked or fail.</p> <p>The lift pump provides a nominal capacity of 0.3l/min at a head of 0.5m.</p>
AIR VANES	All four outlet vanes are driven by an electric motor with the facility to auto sweep or stop in a fixed position. Air outlet vanes are manufactured from aluminium and covered with nylon flock to prevent condensation from forming.
OPTIONS	
Electric Heat	<p>Finned electric heating element(s) complete with overheat cut out protection.</p> <p>Elements are manufactured for maximum surface area and lower working temperature for improved reliability. It is recommended that heat pump units are fitted with this option to offset the defrost cycle.</p>
Low Pressure Hot Water	<p>A low pressure hot water coil constructed of refrigeration quality copper tubes and mechanically bonded aluminium fins can be factory fitted.</p> <p>Note : Only one heating option (Electric or LPHW) can be fitted, but not both.</p>
Chilled Water / LPHW Control Valve	For control of water flow, a 3 way, 4 port control valve is supplied loose for on site fitting directly onto coil inlet / outlet. Actuation is via an On/Off 230V signal.
Fresh Air Intake	The Answer Cassette chassis features three fresh air knockouts. Any number can be removed to allow the fan(s) to draw fresh air into the unit. A spigot is available for fastening to the unit to allow connection of 75mm (3") flexible duct. A nominal volume of 5-10% fresh air can be drawn into the unit depending upon the model and the number of knockouts removed.
Branch Ducting	Conditioned air can be ducted from the unit by removing the branch duct knockouts and connecting flexible ducting via a spigot kit supplied loose. The spigot kit allows the connection of 125mm (5") or 150mm (6") ducting, depending on model size. There are four knockouts in total along two opposing sides.
Pendant Controller	A wall mounted controller with integral thermostat is used to control the unit. This provides one stage of heating and one stage of cooling on heat pump units or one stage of cooling on cooling only units. Temperature set point is adjusted at the controller and there are three fan speeds. Supplied loose for remote mounting.
Activated Carbon & Electrostatic Filter	A synthetic filter media impregnated with carbon particles, complete with electrostatic pre-filter, can be fitted to combat fine particulate, such as cigarette smoke, and odours.

Capacity Data – Air Cooled Cooling Only Unit

Cooling Duty	Air On °C DB/ 50% RH	35°C Ambient					
		High Fan Speed		Medium Fan Speed		Low Fan Speed	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
CAH5/CUS2	22	4.98	3.76	4.83	3.58	4.73	3.39
	24	5.27	3.86	5.11	3.67	5.01	3.47
	27	5.69	3.92	5.52	3.72	5.40	3.53
CAH7/CUS2.5	22	6.59	4.77	6.26	4.34	6.07	4.20
	24	6.99	4.87	6.64	4.43	6.43	4.28
	27	7.60	4.98	7.22	4.53	6.99	4.38
CAH10/CUS3.5	22	9.30	6.68	9.02	6.34	8.74	6.08
	24	9.83	6.80	9.53	6.46	9.24	6.19
	27	10.64	6.93	10.32	6.58	10.00	6.30
CAH12/CUS4	22	10.55	7.42	10.24	7.05	9.92	6.75
	24	11.12	7.52	10.79	7.14	10.46	6.84
	27	12.00	7.65	11.64	7.26	11.28	6.96

Capacity Data – Air Cooled Heat Pump Unit

Cooling Duty	Air On °C DB/ 50% RH	35°C Ambient					
		High Fan Speed		Medium Fan Speed		Low Fan Speed	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
CAH5/CUHS2	22	4.79	3.62	4.65	3.44	4.55	3.26
	24	5.07	3.71	4.92	3.52	4.82	3.34
	27	5.47	3.77	5.31	3.58	5.20	3.39
CAH7/CUHS2.5	22	6.34	4.59	6.02	4.18	5.83	4.04
	24	6.72	4.68	6.38	4.26	6.18	4.12
	27	7.31	4.79	6.94	4.36	6.73	4.22
CAH10/CUHS3.5	22	8.94	6.42	8.68	6.10	8.41	5.84
	24	9.45	6.54	9.17	6.22	8.89	5.95
	27	10.23	6.66	9.93	6.33	9.62	6.06
CAH12/CUHS4	22	10.25	7.21	9.94	6.85	9.64	6.56
	24	10.81	7.31	10.49	6.94	10.16	6.65
	27	11.65	7.43	11.30	7.06	10.95	6.76

TC - Total Cooling Capacity

SC - Sensible Cooling Capacity

Notes:

- 1 All cooling capacities are gross.
- 2 The following multipliers may be applied to the capacities to give duties at 40°C, 45°C ambient. A tolerance of +/- 5% should be observed when calculating with these multipliers.
 Above duties at 40°C ambient x 0.96
 45°C ambient x 0.92

Capacity Data – Chilled Water Cooling Unit

Cooling Duty	Air On °C DB/ 50% RH	Chilled Water Inlet/Outlet 5.0/10.0°C					
		High Fan Speed		Medium Fan Speed		Low Fan Speed	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
CACW5	22	3.71	3.28	3.38	2.98	3.04	2.65
	24	4.91	3.99	4.47	3.63	4.02	3.23
	27	6.53	5.57	5.94	5.06	5.35	4.51
CACW7	22	4.52	3.47	3.70	2.84	3.39	2.56
	24	5.69	4.69	4.67	3.84	4.27	3.47
	27	7.41	6.32	6.08	5.18	5.56	4.68
CACW10	22	6.78	5.37	6.17	4.89	5.63	4.40
	24	8.25	6.85	7.51	6.23	6.85	5.62
	27	10.75	9.17	9.78	8.34	8.92	7.52
CACW12	22	7.30	5.93	6.64	5.40	6.06	4.86
	24	8.84	7.37	8.04	6.71	7.34	6.04
	27	11.50	9.82	10.47	8.94	9.55	8.05

Cooling Duty	Air On °C DB/ 50% RH	Chilled Water Inlet/Outlet 7.0/12.0°C					
		High Fan Speed		Medium Fan Speed		Low Fan Speed	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
CACW5	22	2.79	2.55	2.54	2.32	2.29	2.07
	24	3.88	3.38	3.53	3.08	3.18	2.74
	27	5.57	4.26	5.06	3.88	4.56	3.45
CACW7	22	3.47	3.18	2.84	2.61	2.60	2.35
	24	4.69	4.09	3.84	3.36	3.51	3.03
	27	6.32	4.98	5.18	4.09	4.74	3.69
CACW10	22	5.37	4.86	4.89	4.42	4.46	3.99
	24	6.85	5.80	6.23	5.28	5.69	4.76
	27	9.17	6.87	8.34	6.25	7.61	5.63
CACW12	22	5.93	5.38	5.40	4.90	4.92	4.41
	24	7.37	6.30	6.71	5.73	6.12	5.17
	27	9.82	7.47	8.94	6.80	8.15	6.13

TC - Total Cooling Capacity
 SC - Sensible Cooling Capacity

Notes:

- 1 All cooling capacities are nett.
- 2 Water flow rate = $TC \div (4.19 \times \Delta T)$ l/s.

Capacity Data – Chilled Water Cooling Unit

Cooling Duty	Air On °C DB/ 50% RH	Chilled Water Inlet/Outlet 10.0/15.0°C					
		High Fan Speed		Medium Fan Speed		Low Fan Speed	
		TC kW	SC kW	TC kW	SC kW	TC kW	SC kW
CACW5	22	1.60	1.48	1.46	1.35	1.31	1.20
	24	2.51	2.31	2.29	2.10	2.06	1.87
	27	4.11	3.52	3.74	3.20	3.37	2.85
CACW7	22	1.93	1.78	1.58	1.46	1.45	1.32
	24	3.15	2.89	2.58	2.37	2.36	2.14
	27	4.82	4.16	3.95	3.41	3.62	3.07
CACW10	22	3.41	3.18	3.10	2.89	2.83	2.61
	24	4.86	4.45	4.42	4.05	4.03	3.65
	27	6.95	5.80	6.32	5.28	5.77	4.76
CACW12	22	3.85	3.59	3.50	3.27	3.20	2.94
	24	5.38	4.93	4.90	4.49	4.47	4.04
	27	7.47	6.30	6.80	5.73	6.20	5.17

Capacity Data – Heating Duties

Heating Duty - Heat Pump	Air On °C DB/50% RH	Ambient 7°C DB/6°C WB TC kW
CAH5 / CUH2	20	5.76
CAH7 / CUH2.5	20	7.41
CAH10 / CUH3.5	20	11.18
CAH12 / CUH4	20	12.46

Heating Duty – Hot Water	Air On °C DB/50% RH	LPHW 82°C Inlet/71°C Outlet TC kW
CAH5 / CUH2 & CACW5	20	5.80
CAH7 / CUH2.5 & CACW7	20	7.00
CAH10 / CUH3.5 & CACW10	20	10.20
CAH12 / CUH4 & CACW12	20	11.00

TC - Total Capacity

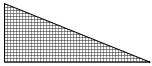
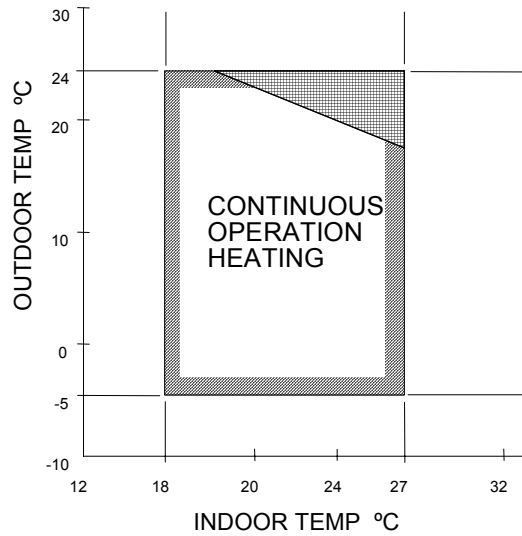
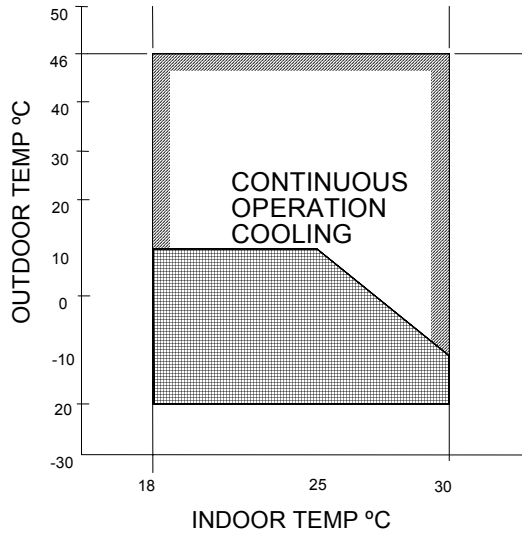
LPHW - Low Pressure Hot Water

Notes:

- 1 All duties based on High Fan speed.
- 2 Water flow rate = TC ÷ (4.19 x Δ T) l/s.

Operating Data

OPERATING LIMITS



Head Pressure control recommended for operation in this area.

REFRIGERATION PIPE SIZING

The following pipe sizes are for general guidance only. Accepted good practices should be followed in the design and installation of the refrigeration pipework system.

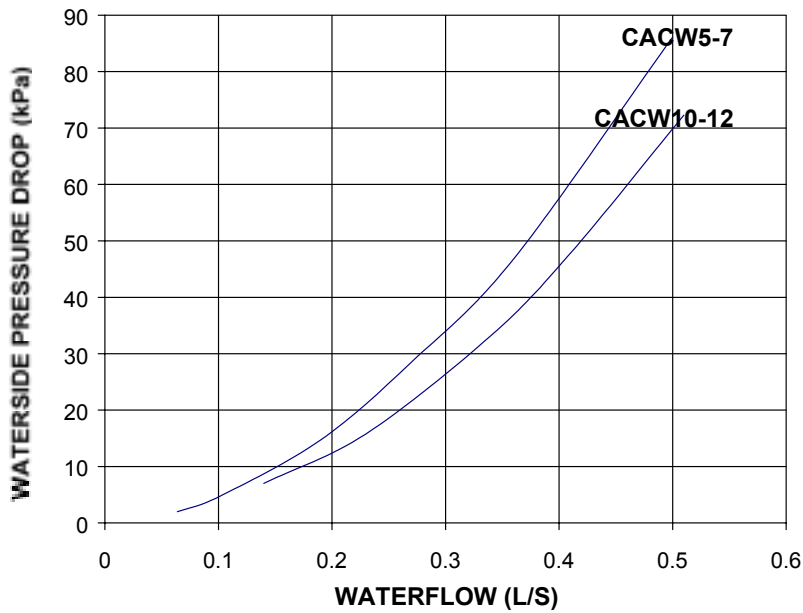
R407C REFRIGERANT		TOTAL EQUIVALENT LENGTH OF RUN (METRES)	MAXIMUM VERTICAL (METRES)	PIPE SIZE
CAH5 / CU(H)S2	SUCTION	0 - 15	10	5/8"
		15 - 40	15	3/4"
	LIQUID	0 - 15	10	1/4"
		15 - 40	15	3/8"
CAH7 / CU(H)S2.5	SUCTION	0 - 10	5	5/8"
		10 - 25	15	3/4"
	LIQUID	25 - 50	15	7/8" - 3/4" Vertical
		0 - 25	15	3/8"
CAH10 / CU(H)S3	SUCTION	25 - 50	15	1/2"
		0 - 15	10	3/4"
	LIQUID	15 - 30	15	7/8"
		30 - 50	15	1 1/8" - 7/8" Vertical
CAH12 / CU(H)S4	SUCTION	0 - 10	5	3/4"
		10 - 25	15	7/8"
	LIQUID	25 - 50	15	1 1/8"
		0 - 10	5	3/8"
		10 - 50	15	1/2"

EQUIVALENT LENGTHS FOR BENDS (METRES)

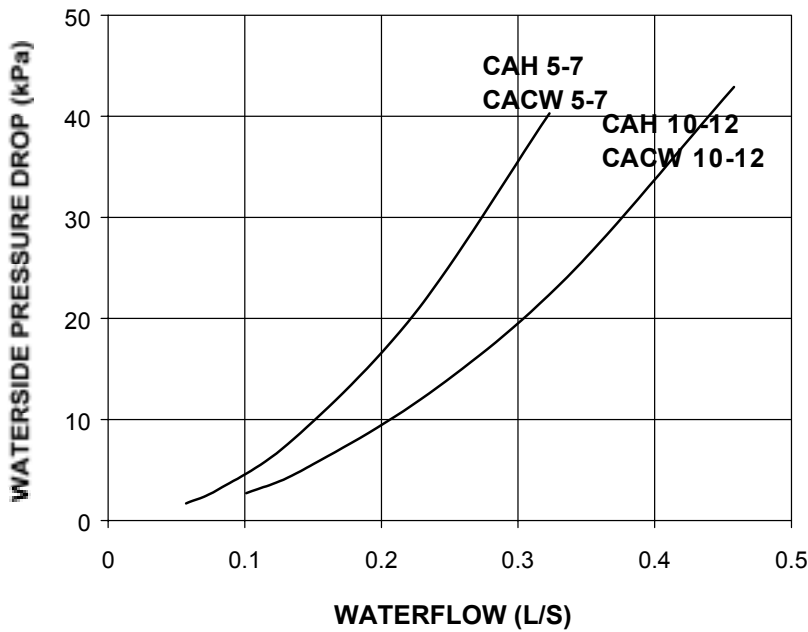
	90°		Site Formed	
	Short Rad	Long Rad	90°	180°
1/4"	0.35	0.28	0.07	0.12
3/8"	0.40	0.30	0.10	0.15
1/2"	0.50	0.33	0.12	0.17
5/8"	0.55	0.35	0.16	0.20
3/4"	0.60	0.42	0.23	0.30
7/8"	0.70	0.45	0.30	0.32

Operating Data

UNIT WATERSIDE PRESSURE DROP EXCLUDING 4 WAY VALVE: CHILLED WATER

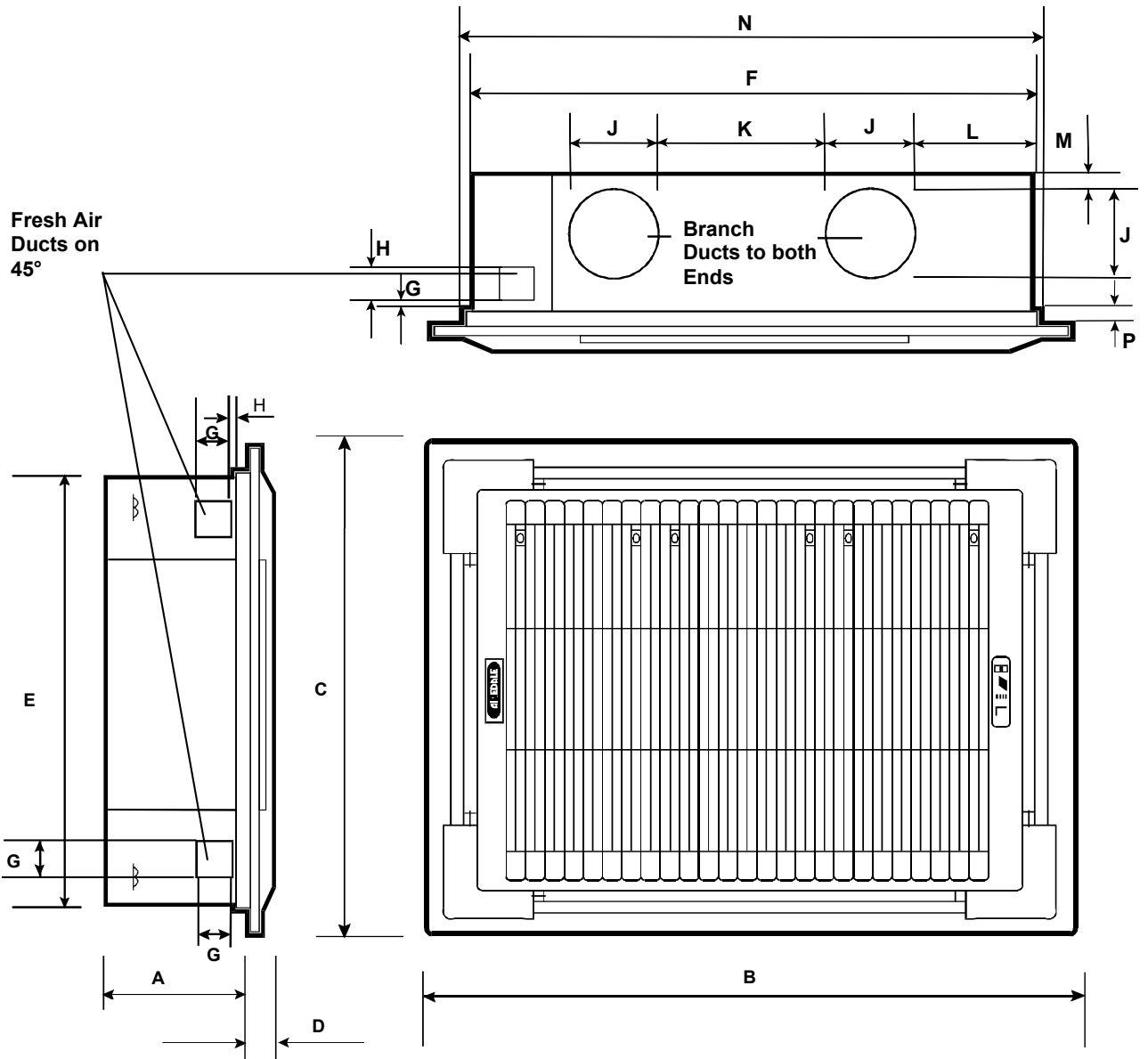


UNIT WATERSIDE PRESSURE DROP EXCLUDING 4 WAY VALVE: LOW PRESSURE HOT WATER



Note: Pressure Drop Through The Valve = (Flow l/s x 0.8)² x 100kPa

Dimensions



CAH/CACW		A	B	C	D	E	F	G	H	J	K	L	M	N	P
5	mm	280	940	940	43	832	832	70	8	Ø 137	83	238	18	841	25
7	mm	280	940	940	43	832	832	70	8	Ø 137	83	238	18	841	25
10	mm	330	1250	940	43	832	1142	70	8	Ø 162	338	240	18	1151	25
12	mm	330	1250	940	43	832	1142	70	8	Ø 162	338	240	18	1151	25

Technical Data: CAH Range

CAH		5	7	10	12
Nominal Capacity (1)	kW	5.6	7.5	10.4	11.9
Nominal Heating Capacity (2)	kW	5.4	7.2	10.6	12.9
Nominal Input (1)	kW	1.9	2.5	3.5	4.2
Capacity Steps	%	0-100	0-100	0-100	0-100
Construction		High Impact Polystyrene Galvanised Steel BS4800/5252F 22B-15 Pearl Grey UL94 VO			
Evaporator		Finned Tube			
Type		Finned Tube			
Quantity		1	1	1	1
Face Area	m ²	0.26	0.26	0.48	0.48
Nominal Airflow	High	0.30	0.33	0.44	0.50
	Med	0.26	0.30	0.40	0.46
	Low	0.24	0.26	0.37	0.44
Discharge		4-way	4-way	4-way	4-way
Fan		Centrifugal			
Type		Centrifugal			
Quantity		1	1	2	2
Diameter	mm	400	400	355	355
Maximum Speed	rpm	680	825	815	895
Refrigeration		Thermostatic Expansion Valve R407c			
Number of Circuits		1	1	1	1
Refrigeration Control		Thermostatic Expansion Valve R407c			
Refrigerant Type		Thermostatic Expansion Valve R407c			
Dimensions/Weights					
Height - Case/Fascia	mm	243/ 80	243/ 80	293/ 80	293/ 80
Width - Case/Fascia	mm	820/ 940	820/ 940	1130/ 1250	1130/ 1250
Depth - Case/Fascia	mm	820/ 940	820/ 940	820/ 940	820/ 940
Weight - Case/Fascia	kg	29/ 8.0	29/ 8.0	44/ 9.5	44/ 9.5
Connections					
Suction	in	5/8	3/4	3/4	3/4
Liquid	in	1/4	3/8	3/8	1/2
Condensate	in	1 1/2	1 1/2	1 1/2	1 1/2
Filtration		593 x 300 Wire Framed Periframe			
Size	mm	593 x 300			
Type		Wire Framed Periframe			
Quantity		2	2	3	3
Arrestance		BS EN 779 - G2			
Condensate Pump					
Maximum Head	mm	500	500	500	500
Nominal Flow Rate	l/m	1.08	1.08	1.08	1.08
Options					
Elec. Heating Capacity	kW	3.0	3.0	5.0	5.0
LPHW* Heating Capacity	kW	5.8	7.0	10.2	11.0
LPHW* Coil Connection	mm	15.0	15.0	22.0	22.0
Branch Duct Connections		1-4	1-4	1-4	1-4
Branch Duct Diameter	mm	125	125	150	150
Ducted Air Volume (3)	m ³ /s	0.09	0.12	0.14	0.17
Fresh Air Connections		1-3	1-3	1-3	1-3
Fresh Air Duct Diameter	mm	75	75	75	75
Fresh Air Volume (4)	m ³ /s	0.03	0.03	0.03	0.03

*Low Pressure Hot Water

- (1) Nominal cooling capacity based on 27°C Dry Bulb/19°C Wet Bulb and a 35°C ambient.
- (2) Nominal reverse cycle heat pump duty based on 20°C Dry Bulb indoor and a 7°C ambient.
- (3) Maximum air volume available through four branch ducts with Cassette fan(s) at high speed.
- (4) Maximum fresh air volume drawn through three air ducts without a boost fan and Cassette fan at high speed.

Technical Data: CACW Range

CACW		5	7	10	12
Nominal Capacity (1)	kW	5.1	5.9	8.4	9.0
Nominal Input (1)	kW	-	-	-	-
Capacity Steps	%	0-100	0-100	0-100	0-100
Construction		High Impact Polystyrene Galvanised Steel BS4800/5252F 22B-15 Pearl Grey UL94 VO			
Chilled Water Coil		Finned Tube			
Type		Finned Tube			
Quantity		1	1	1	1
Face Area	m ²	0.26	0.26	0.48	0.48
Nominal Airflow	High	0.30	0.33	0.44	0.50
	Med	0.26	0.30	0.40	0.46
	Low	0.24	0.26	0.37	0.44
Discharge		4-way	4-way	4-way	4-way
Unit Water Volume	l	1.7	1.7	3.0	3.0
Fan		Centrifugal			
Type		Centrifugal			
Quantity		1	1	2	2
Diameter	mm	400	400	355	355
Maximum Speed	rpm	680	825	815	895
Dimensions/Weights					
Height - Case/Fascia	mm	243/ 80	243/ 80	293/ 80	293/ 80
Width - Case/Fascia	mm	820/ 940	820/ 940	1130/ 1250	1130/ 1250
Depth - Case/Fascia	mm	820/ 940	820/ 940	820/ 940	820/ 940
Weight - Case/Fascia	kg	29/ 8.0	29/ 8.0	44/ 9.5	44/ 9.5
Connections					
Water Inlet	mm	22	22	22	22
Water Outlet	mm	22	22	22	22
Condensate	in	1 1/2	1 1/2	1 1/2	1 1/2
Filtration					
Size	mm	593 x 300			
Type		Wire Framed Periframe			
Quantity		2	2	3	3
Arrestance		BS EN 779 - G2			
Condensate Pump					
Maximum Head	mm	500	500	500	500
Nominal Flow Rate	l/m	1.08	1.08	1.08	1.08
Options					
Elec. Heating Capacity	kW	3.0	3.0	5.0	5.0
LPHW* Heating Capacity	kW	5.8	7.0	10.2	11.0
LPHW* Coil Connection	mm	15.0	15.0	22.0	22.0
Branch Duct Connections		1-4	1-4	1-4	1-4
Branch Duct Diameter	mm	125	125	150	150
Ducted Air Volume (2)	m ³ /s	0.09	0.12	0.14	0.17
Fresh Air Connections		1-3	1-3	1-3	1-3
Fresh Air Duct Diameter	mm	75	75	75	75
Fresh Air Volume (3)	m ³ /s	0.03	0.03	0.03	0.03

*Low Pressure Hot Water

- (1) Nominal cooling capacity based on 27°C Dry Bulb/19°C Wet Bulb air on and 7°C/12.5°C chilled water temperatures.
- (2) Maximum air volume available through four branch ducts with Cassette fan(s) at high speed.
- (3) Maximum fresh air volume drawn through three air ducts without a boost fan and Cassette fan at high speed.

Electrical Data

CAH/CACW		5	7	10	12
Unit Data					
Nominal Run Amps	A	1.0	1.0	1.3	1.3
Maximum Start Amps	A	1.1	1.1	1.5	1.5
Control Circuit	V	230	230	230	230
Mains Supply	V		230/1/50		
Rec. Mains Fuse	A	6	6	6	6
Maximum Incoming Mains	mm ²	2.5	2.5	2.5	2.5
Evaporator Fan					
Quantity		1	1	2	2
Motor Rating	W	110	110	65	65
Full Load Amps	A	0.5	0.5	0.4	0.4
Locked Rotor Amps	A	0.6	0.6	0.5	0.5
Electric Heat					
Capacity	kW	3.0	3.0	5.0	5.0
Current Per Phase	A	12.5	12.5	20.8	20.8
Rec. Mains Fuse with Heat	A	16	16	25	25

Noise Data

	Fan Speed	SPL (1) dBA	SWL (2) dBA	Sound Pressure Frequency Spectrum						
				125	250	500	1000	2000	4000	8000
CAC / CACW5	Low	36.7	48.2	37.8	39.1	33.7	32.9	24.0	17.1	15.9
	Medium	38.7	42.5	38.6	40.8	35.0	35.3	26.6	19.1	15.8
	High	42.3	53.8	40.4	44.0	37.4	39.4	31.5	23.3	16.7
CAC / CACW7	Low	38.7	50.2	38.6	40.8	35.0	35.3	26.6	19.1	15.8
	Medium	42.3	53.8	40.4	44.0	37.4	39.4	31.5	23.3	16.7
	High	44.6	56.1	41.9	46.0	39.1	41.7	34.8	26.7	18.1
CAC / CACW10	Low	40.7	52.2	48.5	42.8	39.4	34.2	22.4	16.1	15.4
	Medium	42.8	54.3	49.1	44.7	41.4	36.5	26.0	17.4	16.3
	High	45.3	56.8	50.0	47.1	43.9	39.3	30.4	19.3	17.7
CAC / CACW12	Low	45.3	56.8	50.0	47.1	43.9	39.3	30.4	19.3	17.7
	Medium	46.4	57.9	50.5	48.2	45.0	40.5	32.3	20.3	18.4
	High	48.6	60.1	51.7	50.3	47.1	42.6	35.9	22.5	20.1

Notes:

- SPL is the overall Sound Pressure Level measured at a distance of 1.5m below the fascia in free field, dry coil conditions, referenced to 2×10^5 Pa.
- SWL is the overall sound power level referenced to 10^{-12} W.

Field Connections

INDOOR UNIT	L1	○	←	Mains Incoming 230/1/50
	N	○	←	
	E	○	←	
	S1A	○	→	Communication Connection ⁽³⁾ To Outdoor Unit
	S1B	○	←	
	S2A	○	→	Communication Connection Between ⁽³⁾ Master/Slave Control Units
	S2B	○	←	
	STOP	○	←	Volt Free Optional Remote Stop / Start
	COM	○	←	
	START	○	←	
	A3	○	→	Optional Auxiliary Alarm
	A3	○	→	Volt Free Input (Normally Closed = Healthy)
	CCA	○	→	Common Normally Closed Contact Normally Open Contact } Common Alarm Changeover Volt Free Contacts
	CA1	○	→	
	CA2	○	→	
	63	○	→	Optional Low Pressure Hot Water Valve
N	○	→	Control Signal 230Vac	
CW	○	→	Optional Chilled Water Valve	
N	○	→	Control Signal 230Vac	

SYSTEM FIELD CONNECTIONS FOR AD05 CONTROLLED UNITS:

INDOOR UNIT	L1	○	→	○	L1	AD05 CONTROLLED OUTDOOR UNIT
	N	○	→	○	N	
	E	○	→	○	E	
	S1A	○	↔	○	S1A	
	S1B	○	↔	○	S1B	

Notes

- 1 Master/Slave control refers to a number of indoor units in one area being controlled at one designated indoor unit by one command. This does not refer to connection to a proprietary commercial BMS system.
- 2 If the indoor unit is to be matched with a non Airedale condensing unit, please consult Airedale for wiring recommendations.
- 3 The indoor and outdoor controls communication connection must be via a 2 core screened cable (minimum size 0.5mm²), earthed at one end.

Controls

CONTROLS

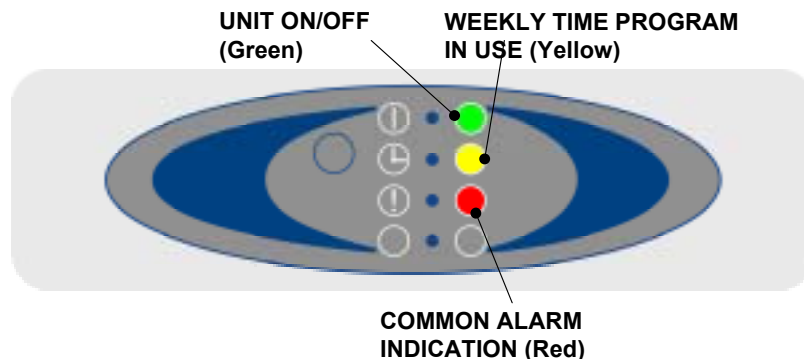
The microprocessor controller enables user defined room conditions to be maintained remotely and alarms to be monitored at the receiver display on the unit fascia. Communication to the controller is by either a hand held infra red transmitter or hardwired pendant, both of which are supplied with a wall mounting bracket and batteries.

FEATURES

- Remote Control, Hand held Infra-red or Hardwired Pendant
- User Friendly Unit Display
- 7 Day Time Clock with 2 periods a day
- Monitoring of condensate level, coil and sensor failure
- Visual Alarms and Diagnostics
- Critical Alarm unit shut down
- Master/Slave option (up to 20 units)

INFRA-RED RECEIVER

The fascia mounted receiver indicates unit status with a series of coloured indicators and an audible buzzer (see Alarms for diagnostics). Being an extension of the indoor unit controller the display is connected by means of a 7 pin plug and socket.

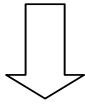


Controls

TRANSMITTER

Small, light and practically designed, the hand held transmitter comes in dark grey, while the Pendant transmitter is offered in light grey.

DISPLAY INDICATORS



TRANSMIT INDICATOR

Flashes when system settings are transmitted.

MODE INDICATOR

Highlights mode of operation.

FAN MODE INDICATOR

Highlights fan speed.

CLOCK/TIMER DISPLAY

Shows current day, time or weekly programme stop/start times.

SETPOINT DISPLAY

Indicates temperature setpoint.

SWING INDICATOR

Indicates operation of the air vanes (5-12kW Cassettes only).

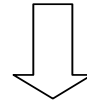
SLEEP INDICATOR

Indicates when sleep mode is selected.

ON/SEND

Press this button to switch the unit on and transmit the system settings. The unit will confirm receipt of the adjustment by producing a short audible tone.

SELECTOR BUTTONS



MODE (OF OPERATION)

Selects the mode options: COOL, AUTO, DRY, FAN & HEAT.

FAN

Selects fan speed options: LOW, MED, HIGH & AUTO.

CLK/TIMER + / -

Selects and adjust the clock or weekly programme stop/start times.

TEMP + / -

Adjusts temperature setpoint in intervals of 1°C between 18 - 30°C.

SLEEP

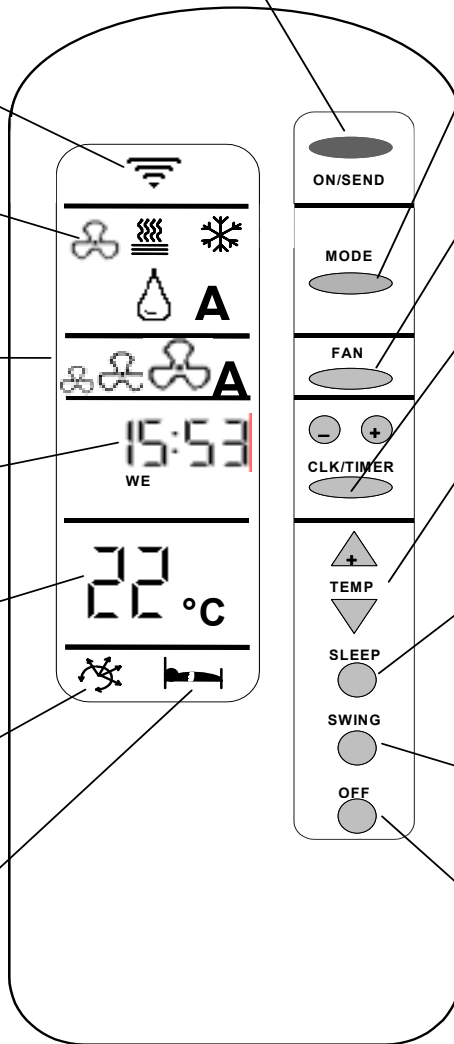
Selects/deselects sleep mode. Using the ON/SEND button, the temperature setpoint will setback 1°C after 1 hour, 2°C after 2 hours.

SWING (5-12kW Cassettes)

Causes the air vanes to oscillate when selected.

OFF

The indoor unit fan will run for 2 minutes after OFF being selected, to dissipate residual heating or cooling.




About Airedale

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 our Airedale Service or your local Sales Engineer.

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 our Training Co-ordinator.

Airedale Departmental Contact Details:

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International Sales	Technical Sales & Applications enquiries	+ 44 (0) 113 238 7714	int.sales@airedale.com
Order Processing	Order progress Order Amendments Order Delivery Times	+ 44 (0) 113 238 7751	info@airedale.com
Contracts	Drawing requests - Contractual matters -	+ 44 (0) 113 238 7785 + 44 (0) 113 238 7759	info@airedale.com
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SUBJECT: Global Changes to Airedale range of Air Conditioning Units

The following statements outline global changes made to the full range of Airedale International Air Conditioning Ltd products and supersede ALL other dated material contained within this manual, quotations and posted to the Airedale.com website:

1. The standard unit colour of all Airedale Manufactured products is Light Grey RAL 7035 (This excludes, Aerovent, Ecotel Outdoor and Cassettes).
2. Units constructed with metal panels are made from Galvanised sheet steel coated with a durable and weatherproof finish.
3. ALL units are run on R407C as standard, R22 is only available as an option to Countries outside the EU.

Literature will be updated to reflect these changes in due course.