EasiCool™ EZRE

Downflow and Upflow - Precision Air Conditioning

Direct Expansion

6kW - 60kW

Technical Manual
Original Instructions

ecoDesign COMPLIANT

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

Special Precautions

The guidance in this manual must be followed to provide safe, efficient and trouble-free operation. In addition, particular care must be exercised regarding the special precautions listed below. Failure to properly address these critical areas could result in property damage or loss, personal injury or death. These instructions are subject to any additional restrictive local or national codes.

Hazard Intensity Levels

1. **DANGER:** Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.
2. **WARNING:** Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.
3. **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.
4. **IMPORTANT:** Indicates a situation which, if not avoided, MAY result in a potential safety concern.
5. **NOTE:** Indicates information that is not a safety concern but may invalidate warranty if not adhered to.

⚠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.
When working with any air conditioning units, ensure that the electrical isolator is switched off prior to servicing or repair work and that there is no power to any part of the equipment. Also ensure that there are no other power feeds to the unit such as fire alarm circuits, BMS circuits, crankcase heater permanent supplies etc. Electrical installation commissioning and maintenance work on this equipment should be undertaken by competent and trained personnel in accordance with local relevant standards and codes of practice. These Airedale chillers use refrigerant which requires careful attention to proper storage and handling procedures in accordance with EN 378. All service personnel must have hydrocarbon refrigerant handling training.
The supply water pressure to the humidifier assembly must be between 1 - 8 barg.
An overflow weir is incorporated in the common fill/drain tundish. Any pressure build up in the cylinder would be allowed to vent through the tundish to atmosphere. It is MOST IMPORTANT that the steam distribution pipe is not damaged or kinked at any time to avoid the risk of unacceptably high pressure building up in the electrode bottle.
When placing the unit on the floorstand ensure appropriate air seal is used to prevent leakage at the join. It is also important to place all locking bolts in place to secure the unit to its base (EC fan floorstands only).
Care must be taken in sizing double riser systems.
The pipe sizes/refrigerant charges quoted are for guidance only. It is the responsibility of the installing contractor/site engineer to check the pipe sizes/refrigerant charges are correct for each system installation and application. Split systems may require additional oil which should be added to the low side of each compressor. Design should be in accordance with accepted refrigeration practice to ensure good oil return to the compressor(s) under all normal operating conditions.
Any electrically conductive attachment devices used must not touch the wires that are within the tape fabric. The maximum length of a detector loop, including wire and detector tape is 50 metres. However, this tape length is not practical for most applications. Where the tape is concealed or not easily accessible, tape runs should be limited to no more than 30 metres, and 10 to 15 metres per zone is generally used. If the water detector tape is to be attached to or covered by a metallic or conductive surface, care should be taken not to short the conductors. When installing tape to any surface, be careful not to short circuit or ground out the conductors (such as over/under conduit or sharp edges of cable trays etc.). This also applies to any covering which may be applied over the tape. Before installing the tape, be sure to inspect areas where the tape is to be applied for presence of chemical materials that could create problems. If in doubt, it is recommended to clean the floor with a mild detergent.
Warning: no relation can be demonstrated between water hardness and conductivity.
The water supply should conform to Local Water Regulations and within the following guidelines: Supply water pressure between 1.0 barg to 8.0 barg, > 8.0 bar a pressure reducing valve should be fitted. A minimum flow rate of 1.21 l/min is required. The humidifier inlet is fitted with a braided flexible hose, having 3/4” BSPF connection.
It is recommended that a shut off valve and a mechanical strainer be fitted to the water supply prior to the humidifier assembly.

⚠IMPORTANT
If Phase Rotation Protection and an Energy Manager unit are both required, the Energy Manager will require the addition of a field card, please contact Airedale.
Use only 10mm (3/8”) copper tube when connecting the discharge stub to the condensate pump. The discharge line from the pump should rise no more than 6 meters vertically and no more than 8 metres in total length before being interrupted with a swan neck air break and tundish.
The unit is designed for use with either ducted discharge or a plenum. If neither is used, protection from rotating parts in the form of a grille must be used on the discharge air outlet. Placing objects near an unguarded fan may cause injury.
Tandem Compressor and suction throttle valve applications: In part load, gas velocity should be taken into account when selecting and commissioning pipework to ensure full oil return.
REMEMBER excessive pressure loss in interconnecting pipework will impair system performance; this should be factored in during the design of the system and where necessary oil separators employed.
Any adhesive which alters the chemical composition of the tape must be avoided and any use thereof voids any warranty, expressed or implied. **3M Scotch-Weld™ 77 adhesive** is strongly recommended to ensure the warranty will be maintained. When adhesive is used, adhesive with an oily or greasy base MUST be avoided as this will affect the tape’s ability to detect moisture. When the use of an adhesive is not desirable or practical, staples, clips or other devices may be used. When applying the tape to piping a combination of glue and plastic or nylon straps or wire ties may be used. The straps or ties help to cut down installation time and secures the tape to the pipe while the adhesive cures and dries.
The equipment and system should be kept clean and free of solid fouling, scale, corrosion and biological fouling. Failure to do so may invalidate warranty.
The Water Treatment Guidelines do not give exhaustive list of all the substances found in plant items produced by Airedale and specific advice should be sought for individual items of equipment or specific applications, if required.
Do not treat water with softeners! This could cause corrosion of the electrodes or the formation of foam, leading to potential operating problems or failures.
Ensure the union between the humidifier assembly and supply hose is fully tightened. Any looseness, misalignment or damage to the union can lead to water leakage.
The pLAN plugged termination ensures that the connections are made simultaneously. Failure to attach the cables this way may cause damage to the controller.
Fan Power Input (Fan Gain) must be added to the room load to establish full gross cooling capacity requirements. Fan Power Input can be found in the mechanical data sections. Fan Power Input is taken at the operating conditions based on 25Pa ESP.

⚠NOTE
Calculations provide an approximate refrigerant charge. An additional 15% of the total calculated charge should be made available during the commissioning of the units to allow for optimisation of the system refrigerant charge. This is required to accommodate for a range of possible variations in the volume of the system.

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.

SafeCool

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.

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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: connect@airedale.com or telephone:

UK Sales Enquiries	+ 44 (0) 113 239 1000	connect@airedale.com
International Enquiries	+ 44 (0) 113 239 1000	connect@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	marketing@airedale.com

For information, visit us at our Web Site: www.airedale.com

Health and Safety
IMPORTANT
The information contained in this manual is critical to the correct operation and maintenance of the unit and should be read by all persons responsible for the installation, commissioning and maintenance of the Airedale unit.

Safety
The equipment has been designed and manufactured to meet international safety standards but, like any mechanical/ electrical equipment, care must be taken if you are to obtain the best results.

CAUTION ⚠	When working with any air conditioning units ensure that the electrical isolator is switched off prior to servicing or repair work, and that there is no power to any part of the equipment. Also ensure that there are no other power feeds to the unit such as fire alarm circuits, BMS circuits etc.

Electrical installation commissioning and maintenance work on this equipment should be undertaken by competent and trained personnel in accordance with local relevant standards and codes of practice.
The refrigerant used in this range of products is classified under the COSHH regulations as an irritant, with set Workplace Exposure Levels (WEL) for consideration if this plant is installed in confined or poorly ventilated areas.
A full hazard data sheet in accordance with COSHH regulations is available should this be required.

Protective Personal Equipment
Airedale recommends that personal protective equipment is used whilst installing, maintaining and commissioning equipment.

Refrigerant Warning
The Airedale Easicool unit uses R410A refrigerant which requires careful attention to proper storage and handling procedures. Use only manifold gauge sets designed for use with R410A refrigerant. Use only refrigerant recovery units and cylinders designed for high pressure refrigerants. R410A must only be charged in the liquid state to ensure correct blend makeup.The refrigerant must be stored in a clean, dry area away from sunlight. The refrigerant must never be stored above 50°C.

Global Warming Potential
The R410A refrigerant has a GWP of 2088, (Based on EN378-1:2016, 100 year life)

Pressure Equipment Directive (2014/68/EU)

Minimum and Maximum Operation Temperature (TS) and Pressure (PS)

Refrigeration
Allowable Temperature Range (TS) = Min -5°C* to Max 120°C**
Maximum Allowable Pressure (PS) = High Side 40.7 Barg Low Side N/A Barg
*Based on the refrigerant temperature in the unit off state.
**Based on the maximum allowable super heated refrigerant temperature.

Waterside
Allowable Temperature Range (TS) = Min -5°C* to Max 40°C**
Maximum Allowable Pressure (PS) = 10 Barg
*Based on the waterside temperature in the unit off state.
**Based on the waterside temperature in the unit off state.

LPHW Coil
Allowable Temperature Range (TS) = Min -5°C* to Max 82°C**
Maximum Allowable Pressure (PS) = 10 Barg
*Based on the waterside temperature in the unit off state in the lowest permitted ambient temperature.
**Based upon maximum machine running temperatures.

Pressure System Safety Regulations 2000
Refrigeration assemblies/systems may constitute a Pressure System as defi ned in the Pressure System Safety Regulations 2000.

Ecodesign Directive 2009/125/EC
The EasiCool range is exempt from Ecodesign when applied in process cooling applications (i.e. data centres). When the easiCool range is applied in comfort cooling applications above 12kW they are non-Ecodesign compliant. Please refer to your Airedale account manager for full details.

Manual Handling
Some operations when servicing or maintaining the unit may require additional assistance with regard to manual handling. This requirement is down to the discretion of the engineer. Remember do not perform a lift that exceeds your ability.

Dangerous Substances and Explosive Atmospheres Regulations
The completion of a DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) risk assessment must be completed as a legal requirement by the employer of the business where this equipment will be installed. This is not the responsibility of Airedale International Air Conditioning Ltd to undertake as the manufacturer of the equipment.

Environmental Considerations

Freeze Protection

Airedale recommends the following actions to help protect the unit during low temperature operation. This also includes the units subject to low ambient temperatures.

Units with supply water temperatures below +5°C

Glycol is recommended when a supply water temperature of +5°C or below is required or when static water can be exposed to freezing temperatures.

Units subject to ambient temperatures lower than 0°C

Glycol of an appropriate concentration(1) is used within the system to ensure adequate protection. Please ensure that the concentration is capable of protection at least 3°C lower than ambient.

Water / glycol solution is constantly circulated through all waterside pipe work and coils to avoid static water from freezing.

Ensure that pumps are started and running even during shut down periods, when the ambient is within 3°C of the solution freeze point (1) (i.e. if the solution freezes at 0°C, the pump must be operating at 3°C ambient).

(1) Refer to your glycol supplier for details

Environmental Policy

It is our policy to:

- Take a proactive approach to resolve environmental issues and ensure compliance with regulatory requirements.
- Train personnel in sound environmental practices.
- Pursue opportunities to conserve resources, prevent pollution and eliminate waste.
- Manufacture products in a responsible manner with minimum impact on the environment.
- Reduce our use of chemicals and minimise their release to the environment.
- Measure, control and verify environmental performance through internal and external audits.
- Continually improve our environmental performance.

CE Directive

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

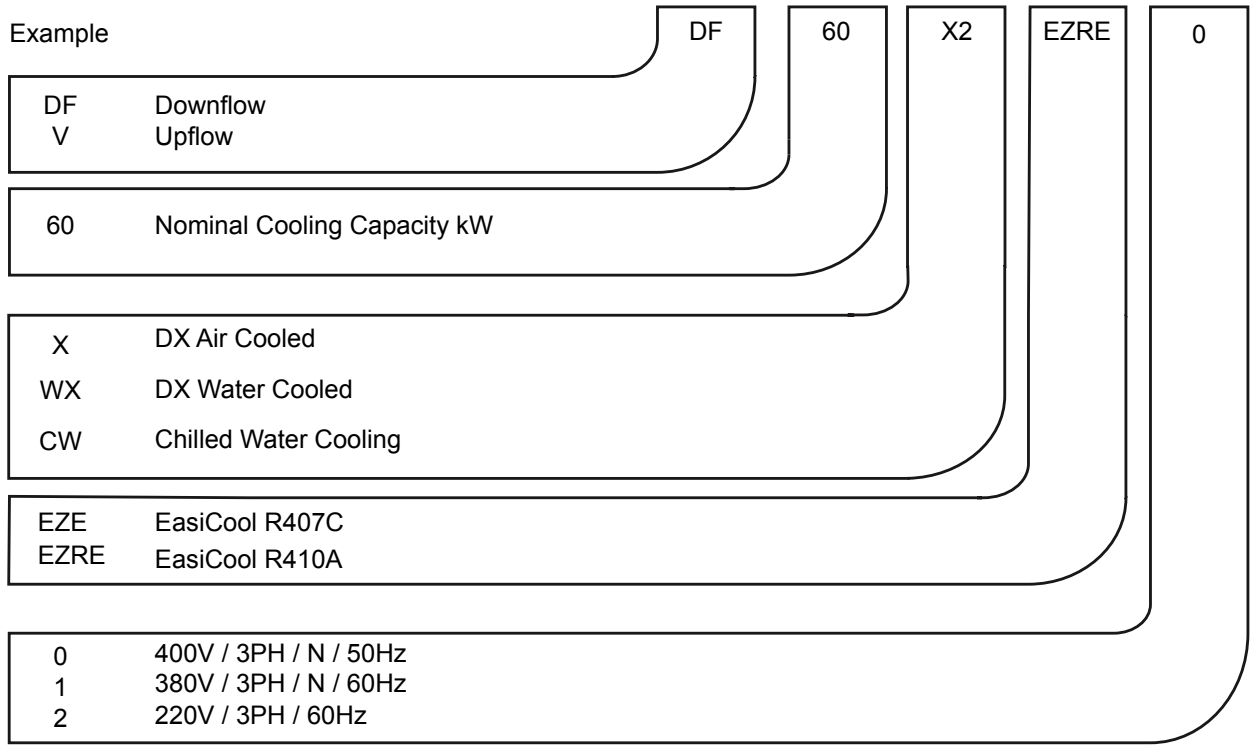
Electromagnetic Compatibility Directive (EMC)	2014/30/EU
Machinery Directive (MD)	89/392/EEC version 2006/42/EC
Pressure Equipment Directive (PED)	2014/68/EU
Ecodesign	2009/125/EC

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

Contents

Specifiers Guide

Nomenclature



Introduction

Designed to provide environmental Precision Air Conditioning for applications such as Telecommunication Facilities, Computer Rooms, Data Centres, Clean Rooms and laboratories.

The EasiCool range comprises of:-

- 38 models as direct expansion air cooled and 38 models as water cooled (Covered in this document) (-0 range).
- 34 models as Single circuit chilled water. (Separate document).(-0, -1 and -2 range)
- 23 Models as direct expansion air cooled and 23 models as water cooled (Separate document) (-1 range)
- 36 Models as direct expansion air cooled and 36 models as water cooled (Separate document) (-2 range)

Full function units provide full control of temperature, humidification, de-humidification, heating and filtration.

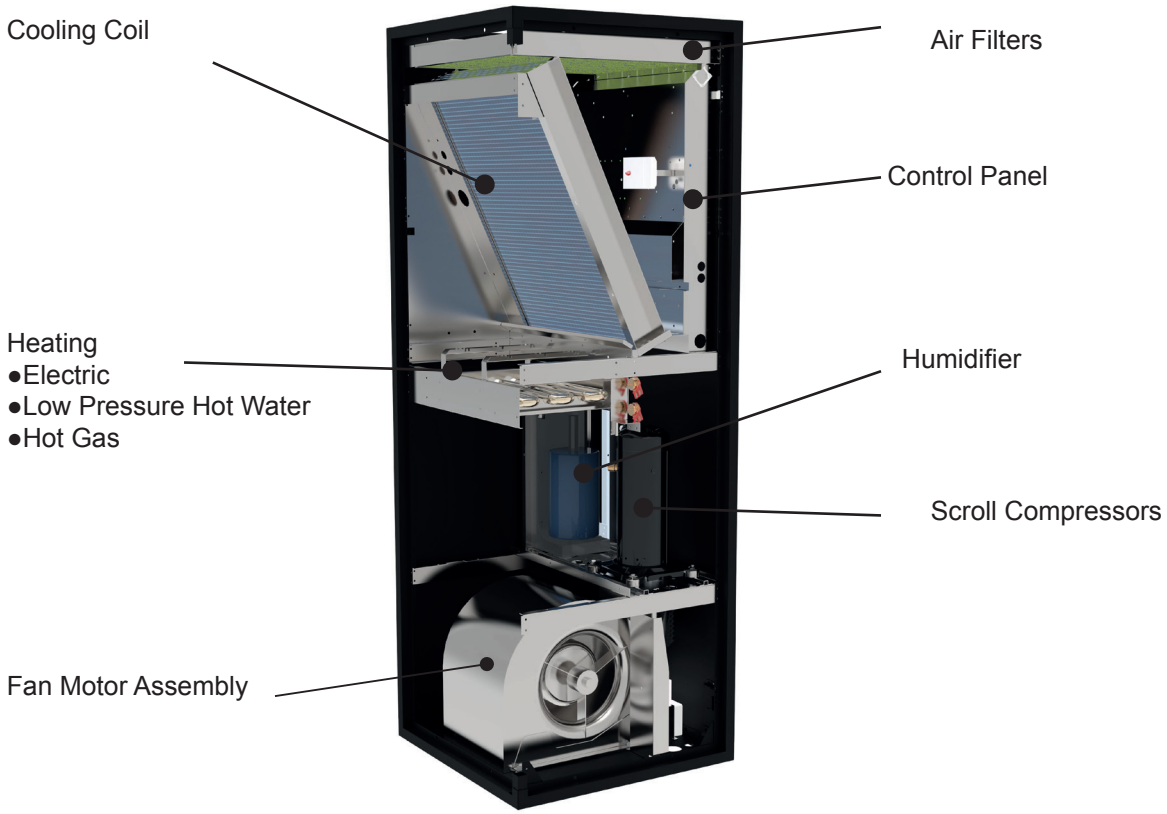
The modular design of the EasiCool allows grouping of differing model types and capacities to be installed side by side. The flexibility of this type of installation provides for multi-circuit functionality. A full range of air cooled condensers is available with the direct expansion indoor units to provide a matched system with optional performance upgrade.

Also available is a full range of Airedale water chillers to complement the chilled water indoor units.

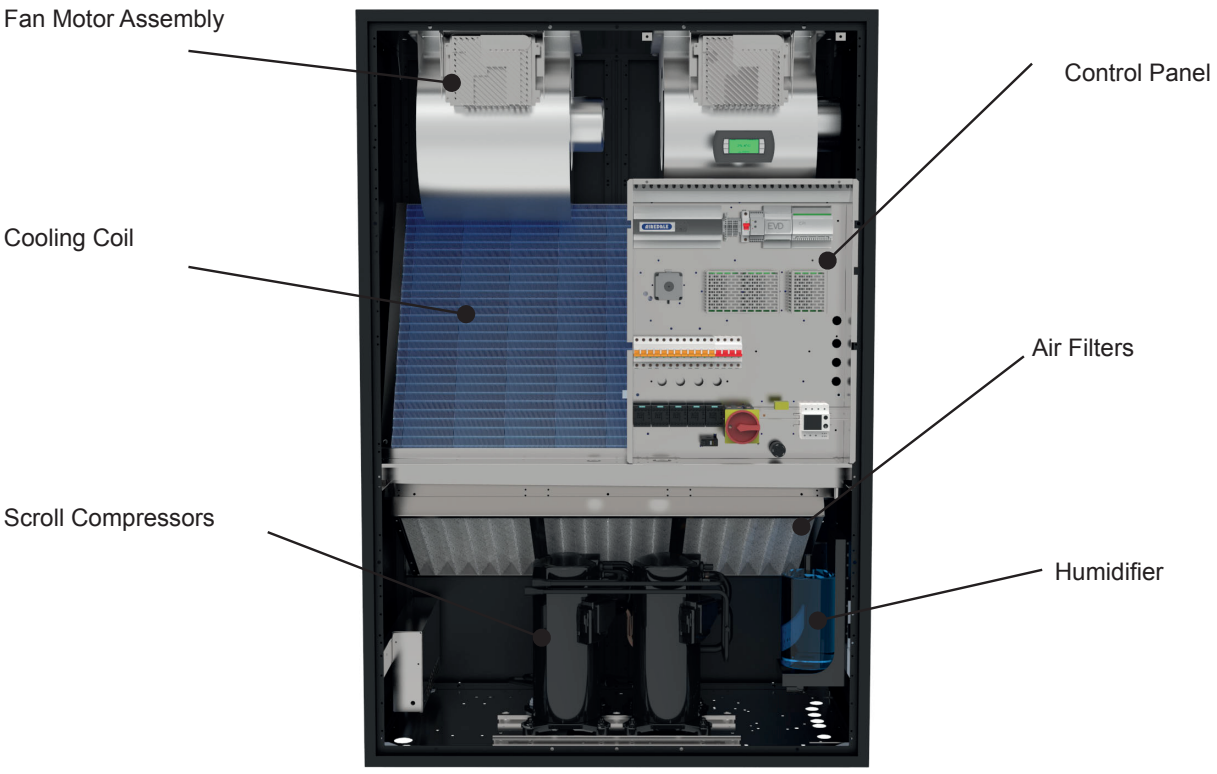
The range has been designed and optimised for operation with ozone benign refrigerant R410A.

Unit Overview

Downflow



Upflow



Construction

The cabinet comprises an black painted aluminium frame with black aluminium corners and removable galvanised sheet steel panels. The unit panels are manufactured from galvanised sheet steel coated with epoxy baked powder paint to provide a durable finish. Standard unit colour is Black Grey (RAL 7021). Optional Light Grey (RAL 7035)

Cabinets are lined internally with fire resistant foam (UL94 V0) thermal and acoustic insulation:

- 30mm deep for removable panels
- 12mm deep for remaining internal surfaces

The cabinet doors are full height, hinged and key lock secured. Hinge arrangement allows flexible door opening/removal for improved access.

Rubberised door seals reduce sound breakout and eradicate leakage.

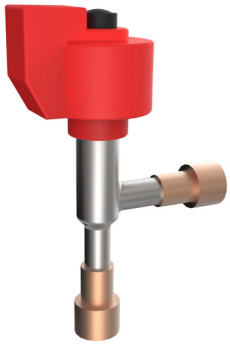
Simple bolt on type doors are available as a cost effective option.

Unit design incorporates a series of M6 fixings to the top and bottom face for connecting to customer ductwork, please contact Airedale for further details.

Sizes 6 - 26

Dependent upon model type, components such as the expansion valve, compressor, humidifier and sight glass are contained within an acoustically lined enclosure to provide both ease of maintenance and to minimise sound emission.

Refrigeration Components



Electronic Expansion Valve

Scroll Compressor

		System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
Refrigeration	Efficient Fixed Speed Scroll Compressor	●	●	●	●
	Evaporator Coil	●	●	●	●
	Refrigeration Sight Glass	●	●	●	●
	Oil Separator	○	○	○	○
	Liquid Line Solenoid Valve	○	○	○	○
	Refrigerant Pump down	○	○	○	○
	Hot Gas Reheat	○	–	○	–
	Suction Throttle Valve	○	○	○	○
	BPHE Condenser	○	●	○	●
	Thermostatic Expansion Valves (TEV)	●	●	●	●
	Electronic expansion Valves (EEV)	○	○	○	○

● Standard Feature ○ Optional Feature – Not Available

Evaporator

Large surface area coil(s) 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.

Fins are coated with a non-stick acrylic film (hydrophilic) which provides additional corrosion protection and efficient surface water removal for improved performance.

The cooling coil is mounted over a full width stainless steel condensate tray.

Factory pressure tested to 45 Barg.

X Models Only Sweat copper pipe for brazed connection as standard.

Compressor

Compressor(s) are mounted on the base via the use of vibration isolators.

Each compressor is designed for use with R410A refrigerant.

	X	X2	WX	WX2
Thermal Protection	●	●	●	●
Single Compressor	●	–	●	–
Tandem Compressors	–	●	–	●

● Standard Feature ○ Optional Feature – Not Available

Tandem Compressors

Comprising of 2 scroll type compressors linked together by refrigerant pipework to one common circuit.
Tandem compressors provide variable control of the system performance by activating individual compressors as required. Multiple steps of unloading allow external load demands to be met with greater precision, eliminating unnecessary temperature and humidity variations. Consequently, system efficiency and reliability are much improved by extending major component working hours.

X and WX Models

Utilise a single hermetic scroll compressor fitted as standard with:

- Thermal motor protection internal or external (dependent upon model size).
- High temperature discharge protection.

X2 and WX2 Models

Utilise a tandem hermetic scroll compressor set, to provide 2 stages of control, fitted as standard with:

- Thermal motor protection internal or external (dependent upon model size).
- High temperature discharge protection.
- Sight glass on common equalisation line.

Refrigeration

Each refrigeration circuit features as standard:

X Type

- Externally Equalised Thermostatic Expansion Valve (TEV).
- Sight Glass.
- Head Pressure Control.
- Filter Drier.
- Low Pressure Switch.
- High pressure Switch.
- Liquid Line Pressure Transducer.
- Holding Charge of Inert Gas.

WX Type

- Externally equalised thermostatic expansion valve (TEV).
- Sight Glass.
- Head Pressure Control.
- Filter Drier.
- Low Pressure Switch.
- High Pressure Switch.
- Liquid Line Pressure Transducer.
- Full operating charge of R410A.
- Bleed valve.
- Binder points.

Head Pressure Control - Intelligent Modulation

(X Models)

The system is fitted with a voltage regulating fan speed controller which allows set point adjustment and system monitoring via the indoor unit microprocessor controller.

A pressure transducer is fitted to the liquid line which in turn feeds back the head pressure to the microprocessor. The condenser fan speed can then modulate via the controller to provide optimum control under varying ambient conditions. The head pressure can be monitored via the display keypad. Units fitted with thermostatic expansion valves (TEV) have the head pressure factory set to 26 Barg (377 psig). nits fitted with optional electronic expansion valves (EEV) have the head pressure factory set to 22 Barg (319 psig). The head pressure can be monitored via the display keypad.

Low Noise Feature for Condenser Fan

(X Models)

Specifically designed for night time operation as optimum low noise levels are achieved with reduced ambient temperature and room loads, this feature is also ideal for residential and other outdoor noise critical applications.

Initiated by setting the microprocessor programmable time clock, the head pressure set point changes from the standard 26 barg (377 psig) (TEV) or 22 barg (319 psig) (optional EEV) to 34 barg (493 psig), reducing the outdoor unit fan speed and corresponding operating sound levels. This feature is enabled by the inclusion of an optional clock card within the microprocessor.

Head Pressure Control -Intelligent Modulation

(WX Models)

A 3 way regulating valve, electronically actuated via the microprocessor, utilises a liquid line pressure transducer to measure and adjust head pressure. The valve will allow cooling water to flow to the condenser, to bypass the condenser, or to allow water flow to both condenser and by-pass line in order to maintain correct refrigerant head pressure. The head pressure can be monitored via the display keypad.

Hot Gas Re-Heat (HGRH)

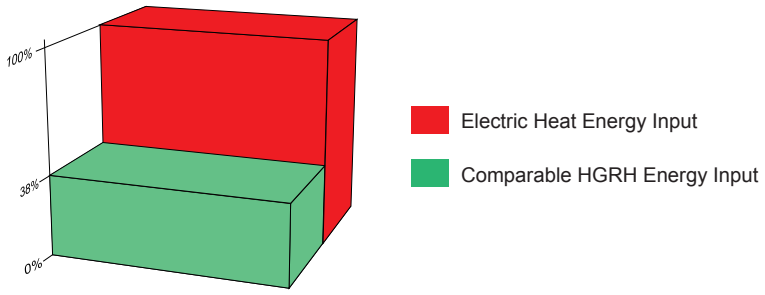
(X Models)

The HGRH system consists of a heating coil and solenoid valve(s) and can be fitted to units with humidification selected. The microprocessor monitors the temperature and humidity setpoints and initiates HGRH to provide optimum system efficiency.

HGRH may be fitted instead of electric heating or low pressure hot water.

During dehumidification, the hot gas re-heat coil re-heats the cooled air from the evaporator coil using hot gas from the discharge line to maintain the room setpoint. Normally reheating of the air during dehumidification is performed by electric heating which requires additional power input. By utilising the available hot gas, the HGRH option does not require additional power input and is therefore far more energy efficient than electric heating.

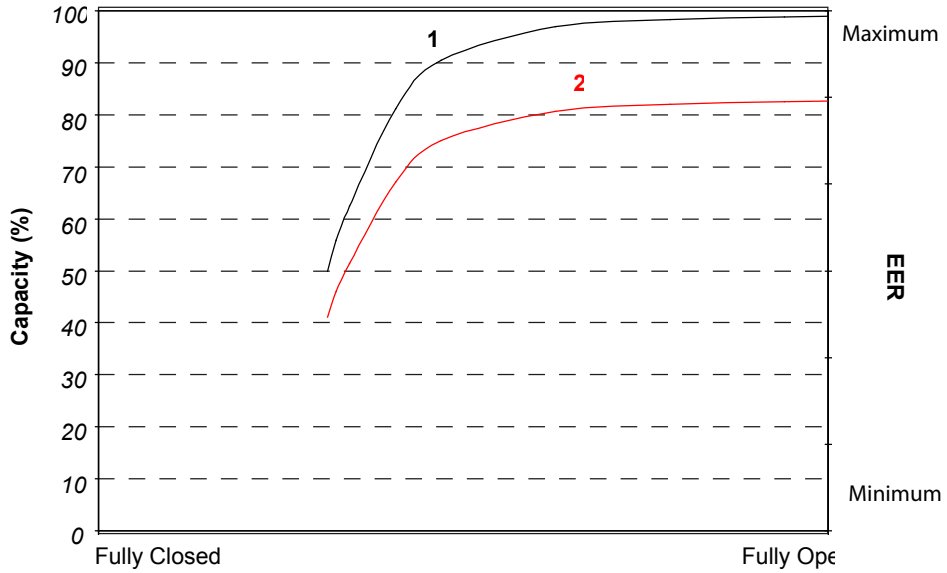
Average Energy Input Comparison HGRH vs Electric Heat



Suction Throttle Valve

The valve can be selected for units fitted with EEVs.

An electrically operated suction throttle valve can be fitted to provide accurate capacity control from 50% to 100% depending on the room load. Precise temperature control is obtained as a result of modulating the refrigerant flow in the evaporator by throttling the valve on the suction line.

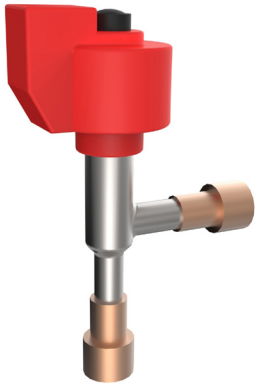


1 Capacity @ 24°C / 45% RH return air conditions
2 EER @ 24°C / 45% RH return air conditions

Electronic Expansion Valves (EEV)

Electronic expansion valves differ to the normal thermostatic expansion valves in their ability to maintain control of the suction superheat at reduced head pressures. This can lead to significant energy savings particularly at reduced loading and low ambient temperatures.

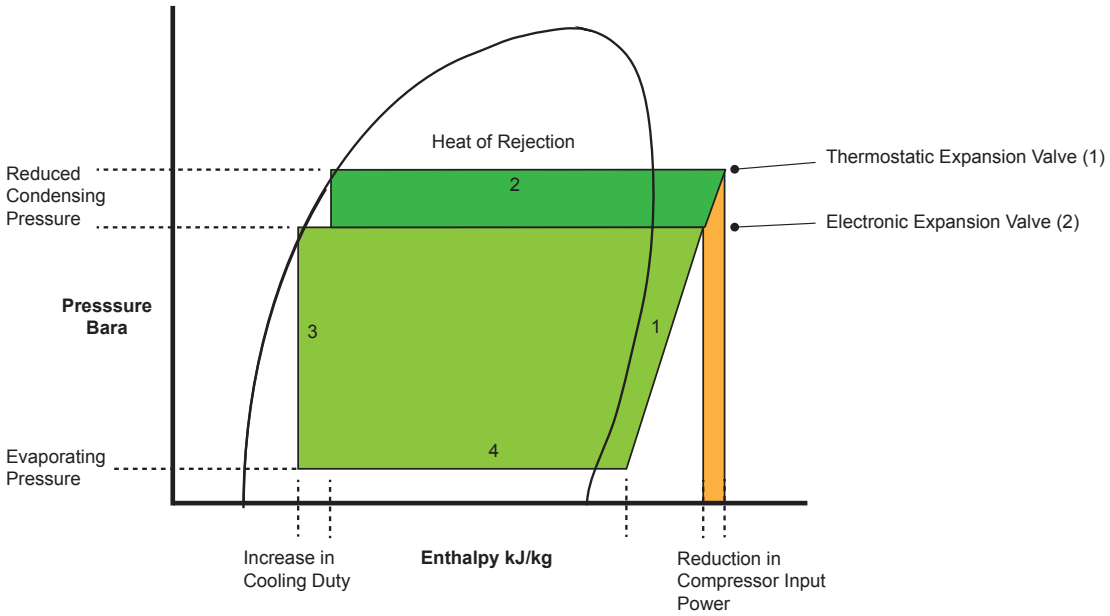
EEV step position, superheat setpoint, head pressure set point and other features can be viewed and adjusted via the microprocessor display.



Whilst offering versatile control at the full design duty of the unit, TEVs do not automatically optimise themselves to all operating conditions. Therefore, if the refrigeration system is operating at 40% or 50% of full load, especially at a lower ambient temperature than that for which the valve was sized, the conventional TEV must have the design head pressure available to ensure good refrigerant control. Maintaining an artificially high condensing pressure is normal in conventional systems.

Using an EEV allows for good refrigeration control whilst operating at part load and lower ambient conditions with a reduced condensing pressure. By fitting an EEV and adjusting the head pressure control setting an increase in the system EER (Energy Efficiency Ratio) of up to 30% can typically be seen. The Mollier diagram shown below helps to illustrate how this increase in efficiency is achieved.

EEV's differ to normal thermostatic expansion valves in their ability to maintain control of refrigerant flow and the suction superheat at reduced head pressures. The turn-down rate of a typical EEV is superior to that of it's thermostatic equivalent, such that a reduced optimum condensing pressure can be maintained at low compressor load. However low the load is on the compressor, from zero to 100%, there will not be a problem with turn down, even down to 10% of the valves rated capacity.



1	Compression	3	Expansion
2	Condensation	4	Evaporation

Key:

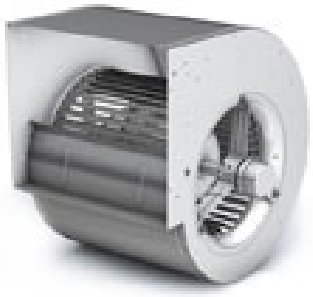
(1) Cooling Cycle @ 22°C ambient with a conventional TEV fitted.

(2) Cooling cycle @ 22°C ambient, demonstrating a typical EEV condensing temperature taking full advantage of lower ambient air temperatures (below 35°C).

Airflow Components

Pleated Disposable Panel Filter

EC Direct Drive Backward Curve Fan



EC Direct Drive Forward Curve Fan

	Features	System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
Airflow Components	EC Fans 6 - 26	●	●	●	●
	AC Fans 6 - 26	○	○	○	○
	AC Fans 28 - 60	●	●	●	●
	EC Fans 28 - 60	○	○	○	○
	AC Larger Fan Motor**	○	○	○	○
	2 way Discharge Grille	–	–	○	○
	3 Way Discharge Grille	–	–	○	○
	Return Air Grille	–	–	●	●
	ISO-C-75 Return Air Filter	●	●	●	●

● Standard Feature ○ Optional Feature – Not Available

** Model Dependant on selected units with AC fans as standard.

EC Motor

Sizes 6 - 26

(Direct Drive)

Units utilise a double inlet, forward curved, direct drive centrifugal fan with integral shaft mounted EC motor which is statically and dynamically balanced for quiet operation. Impellers and casings are galvanised for protection against corrosion. The integral motor runs in sealed for life, lubricated bearings and features automatic thermal overload protection.

Fan speed, airflow and external static pressure are controlled by the use of a 0-10 Volts signal via the microprocessor display keypad which offers easy on site adjustment. Adjustable by increments of 1% within + / - 10% of the set point.

Sizes 6 - 17

Units have a single fan and motor assembly.

Sizes 20 - 26

Units have 2 fan and motor assemblies.

Sizes 28 - 60

(Belt & Pulley) Double inlet forward curved centrifugal fan(s) with galvanised impellers and casing. Mild steel fan shaft with lifetime lubricated ball bearings. Fan and drive assembly design is based on a minimum of 25,000 hours life expectancy. Each fan assembly is separately driven by a high efficiency air cooled AC motor through a pulley and ‘V’ belt drive. The complete motor assembly is mounted on a fully adjustable platform for belt tensioning. Motor specification conforms to Efficiency Class 1(IE2). With integrated plumber block bearings (4kW motors only).

Sizes 28 - 45

Units have a single fan and motor assembly.

Sizes 50 - 60

Units have 2 fan and motor assemblies. Large AC fan motor options available on most sizes, refer to Mechanical Data. Energy efficient Electronically Commutated (EC) fans are also available.

Airflow Switch

An adjustable differential pressure switch activates a visual alarm at the status panel and breaks the power supply in the event of a fan or motor failure.

Filters

Pleated disposable panel filters in a rigid frame. Conform to EN16890:2016 ISO-C-75. Access and removal from unit front. As standard the microprocessor provides an alarm following a preset run time limit being exceeded.

Fan & Motor Assembly Optional Features

Larger & Next Larger Fan Motor

(AC Fan Motors Only Sizes 28 to 60)

For applications where higher static air pressures are required, a larger fan and motor assembly size can be fitted to replace the standard assembly and is available on most models.

Electronically Commutated (EC) Fan Motor

Sizes 6 - 60

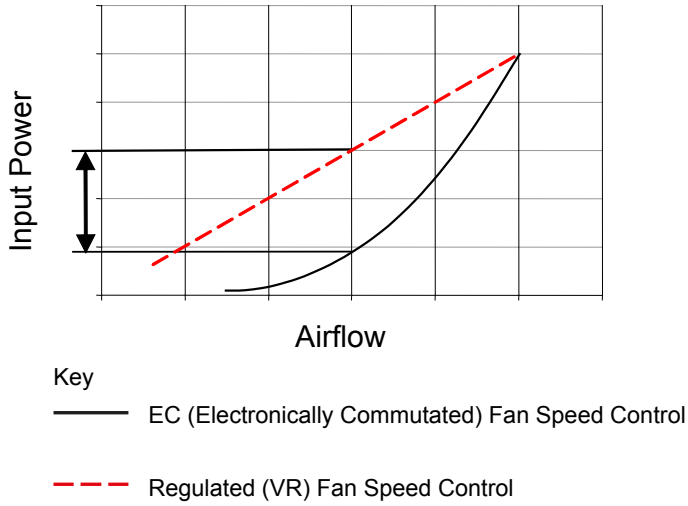
Backward curved impellers, direct drive centrifugal fan assemblies with integral rotor mounted motor which is statically and dynamically balanced for quiet operation. Designed for high corrosion resistance, the impellers are laser welded aluminium with a galvanised rotor and die cast aluminium EC power module. EC motors incorporate integrated electronics to convert AC power to DC for efficient and accurate speed control and are adjustable via the microprocessor display keypad. The fans offer maximum airflow performance while keeping sound levels to a minimum.

The fans are mounted within a floorstand complete with adjustable feet, optional legs and floor tile lip.

(models DF28 - 60 only)

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%, a standard AC fans modulating range is typically 40 to 100% of full fan speed. The EC fan presents superior energy efficiency at full and reduced fan speed compared to the equivalent AC fan motor.

Standard voltage regulated (VR) fan speed controllers offer a linear response. By comparison the EC fan is adjusted on demand via the unit microprocessor with precision, offering substantial energy savings. The following illustration shows a comparison of the typical power input required by each method.



Electrical Components

Energy Manager

	Features	System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
Electrical	Electrical Switch Gear	●	●	●	●
	Door Interlocking Electric Isolator	●	●	●	●
	Energy Manager	○	○	○	○
	Phase Rotation Monitoring	○	○	○	○
	Thyristor Controlled Electric Heat	○	○	○	○

● Standard Feature ○ Optional Feature ━ Not Available

Electrical

The control panel contains the necessary compressor starter contactors, transformer, sub circuit protection, volt free contacts for a common alarm and mains and inter-connecting terminals. The panel is situated within the cabinet and can be removed for essential maintenance of other components within the unit. The electrical control panels are wired to the latest European standards and codes of practice.

Sub Fusing

The electrical mains supply for the system's outdoor unit is supplied via the indoor unit.
MCBs are fitted for protection.

Main Electric Isolator

To ensure complete unit isolation of the electrical panel during adjustment and maintenance a door interlocking isolator is provided as standard.

Energy Manager

Analysis of system energy consumption can be monitored via a dedicated LCD display. Unit parameters can be adjusted via the unit microprocessor control to affect energy usage in line with the system need.

Phase Rotation Protection

A phase sequence relay shall be avaliable for units containing 3 phase scroll compressors, to prevent possible damage by running the compressor the wrong direction.

IMPORTANT ⚠	If Phase Rotation Protection and an Energy Manager unit are both required, the Energy Manager will require the addition of a field card, please contact Airedale.

Heating and Humidification

Electric Heat

Humidifier

	Features	System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
Heating	Electric Heat	○	○	○	○
	Hot gas Reheat	○	━	○	━
	Low Pressure Hot Water	○	○	○	○
Humidification	Humidifier	○	○	○	○
	Condensate Pump	○	○	○	○
	Low Conductivity (Soft Water) Bottle	○	○	○	○
	Standard Conductivity (Moderate/Hard Water) Bottle	○	○	○	○
	High Conductivity (Very Hard Water) Bottle	○	○	○	○
	Cleanable Humidifier Bottle	○	○	○	○

● Standard Feature ○ Optional Feature ━ Not Available

Heating

Hot Gas Re-Heat (HGRH)

(X Models) Refer to Hot Gas Re-Heat (HGRH).

Or

Electric Heating

Multi-stage finned electric heating elements complete with auto and manual reset overheat cut-out protection.

Electric Heating Thyristor Control

Offers precision control between 0 - 100% via the microprocessor.

Or

Low Pressure Hot Water

A low pressure hot water coil constructed of refrigeration quality copper tube and mechanically bonded aluminium fins can be factory fitted. Frost protection is fitted to prevent freezing of the low pressure hot water coil assembly.

Proportional heating control is provided by a factory fitted 3 port, raise/lower type, modulating valve. Access to the right hand side of the unit is required to set up the regulating valve.

Humidifier - Intelligent Modulation

Humidification is provided by an electrode boiler. The sealed humidifier design ensures that only clean sterile steam is supplied to the conditioned area and corrosive salts and minerals are held in the disposable bottle. The steam is distributed through a sparge pipe fitted to the coil assembly. Featuring modulating capacity output control as standard, the system provides continuous modulation of steam output in response to a proportional control signal. The output control range is 20%-100% of the humidifier rated value and is designed to give an approximate steam output of +/- 3% at 25°C at the sensor, thus ensuring precise control of the conditioned space.

The cylinder operating life time is automatically optimised via the integrated water conductivity sensor, which combined with the controls monitors and regulates the water refill cycle to reduce excessive salt deposits and the progressive wear of the cylinder.

All humidifier parameters and alarms are accessible and adjustable via the microprocessor display keypad unit, main features include:

- Supply water conductivity (µS/cm).
- Actual steam output (kg/h).
- Required steam output (kg/h).
- Actual current rating (A).
- Required current rating (A).
- Status mode (Start Up, Running, Filling, Draining).

Water Conductivity & Cylinder TypeConductivity is a measure of the ability of water to pass an electric current, measured in micro Siemens / centimetre (µS/cm). 3 different cylinders are available which correspond to the supply water conductivity. Matching the correct cylinder type with the conductivity of the supply water ensures optimum performance and increases the life span of the cylinder.

1	Low Conductivity (Soft Water)	100 to 350 µS/cm
2	Standard Conductivity (Moderate/Hard Water)	350 to 750 µS/cm
3	High Conductivity (Very Hard Water)	750 to 1250 µS/cm

As standard the humidifier is fitted with the standard conductivity cylinder which covers the majority of water supplies. Where the water conductivity is known, please specify at order. For further details please contact Airedale.

CAUTION ⚠	The supply water pressure to the humidifier assembly must be between 1 - 8 barg.

Humidification

Control Principles

In a humidifier with electrodes, steam shall be produced by passing a current between electrode plates to generate heat. The higher the current being passed between the electrodes, the greater the quantity of steam that is produced.

To modulate the rate of steam production, this system shall vary the level of water within the cylinder, thereby increasing the immersion level of the electrodes and the current being passed between them. The more conducting area that is available to pass current between the electrodes, the larger the amount of steam that shall be produced.

Modulated by the controller, the water level is varied so that the level of steam being produced ensures that the room humidity set-point is continually maintained within a tight tolerance.

Optimised Lifetime

The life span of the Airedale humidification system shall be optimised by the inclusion of a water conductivity sensor into the bottle feed. This sensor shal determine the conductivity level of the supply water and by using an algorithm embedded in the software, determines the frequency that the bottle should be drained. Example: (Optimised Lifetime with High Water Conductivity Supply). As liquid water is boiled off into steam, mineral deposits are left in solution increasing the conductivity of the water. To counter this, the intelligent software increases the frequency of drain meaning that the replenishing supply water keeps the concentration of minerals diluted. By maintaining an acceptable mineral concentration, the bottle life span is maximised.

De-humidification

(With Electric Heating and Humidification only)

Controlled by the microprocessor the de-humidification feature reduces fan speeds by 20% (adjustable). The reduction of fan speed increases de-humidification which means that the time taken to reduce the room humidity to the required level is drastically decreased, along with the energy required to do so.

The return temperature is monitored during de-humidification to ensure that the temperature does not fall to a critical level. If the temperature reaches the low limit de-humidification is cancelled until the return air temperature increases.

Controls

		System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
Controls	Microprocessor Control	●	●	●	●
	Graphical Display	●	●	●	●
	Filter Change Monitoring	○	○	○	○
	Water Detection	○	○	○	○
	Fire / Smoke Detection	○	○	○	○

● Standard Feature ○ Optional Feature – Not Available

Units are fitted with the microprocessor controller which offers powerful analogue and digital control to meet a wide range of monitoring and control requirements. Includes a communication port plus networking and BMS connections.
An 8 x 22 character, white backlit LCD door mounted display keypad assembly is used to view the unit status and allow operator adjustment. Using a combination of text and standard Icons, the unit display is easy to read and interpret.
The standard display keypad visually displays operating alarms by flashing the relevant icon, however, as an optional extra; a display keypad with audible alarms is available.
The default screen shows the unit status and room condition (°C/RH %) without the need for interrogation and an easy to navigate menu structure for further interrogation and adjustment.

Standard Icons


Fan Operating


Cooling - Up to 2 Stages


Heating - Up to 3 Stages


De-humidification


Humidification - Variable

Controls

Temperature Control

A temperature sensor is mounted in the return air with an option for a humidity sensor on full function units.
The temperature sensor is a NTC type thermistor accurate up to +/- 0.25°C and the humidity sensor accurate to +/- 3% RH at 25°C at the sensor. The microprocessor senses the return air conditions and maintains the return air temperature and humidity conditions by controlling cooling, heating, humidification and dehumidification outputs accordingly.

Monitoring

The microprocessor monitors and displays the following values:

- Return Air Temperature.
- Return Air Humidity (Optional on Full Function units).
- Condensing Pressure (Optional on DX units only).
- Coil Temperature Sensor (Indoor).

The maintenance of key components such as compressors and air filters can be monitored via a service indicator which visually demonstrates the status relative to the component service intervals.

Alarm Log

The controller logs and allows viewing of the last 100 conditions recorded in descending chronological order through the keypad display. The standard display keypad visually displays operating alarms, however, as an optional extra, a display keypad with audible alarms is available.

Modbus/Carel BMS Connection

The Airedale controllers shall be able to communicate directly using the Modbus® protocol.
The Modbus® card shall be a small PCB (60mm x 30mm), which can be plugged into the controller to provide it with the following protocol support.

- Modbus® - JBus slave.
- RTU mode (Remote Terminal Unit) with 8 bit encoding and error handling using 16 bit CRC.
- Communication standard connection options of RS485 (multipoint) or RS232 (point-point) Maximum Baud Rate of 19200. The data communication shall be asynchronous serial, 8 data bits, 2 stop bits and no parity (in total 11 bits/datum).

The data/parameters from the controller shall be represented within Modbus® registers, each register containing information pertaining to temperatures, pressures, setpoint, status, etc and is available to the site integration company in a spreadsheet format.

BMS Interface Card

It is possible to integrate the unit control system into a BMS. Communication protocols must be specified at the time of order. Serial protocols options include Modbus RTU and BACnet MSTP. Ethernet IP protocols include BACnet/IP and Modbus TCP. Configuration for all protocols should occur as part of the installation.

Controls

Alarm Handling

An alarm will be generated under the following conditions and will be visually displayed through the alarm log. In addition, under certain conditions the relevant Icon will flash repeatedly as indicated below:

Sizes 6 - 26

- Return air temperature high limit.
- Return air temperature low limit.
- Return air humidity high limit (Optional on Full Function units).
- Return air humidity low limit (Optional on Full Function units).
- Frost protection low limit (LPHW option only).
- Low pressure trip (Optional on DX units only).
- Filter change alarm.
- Manual override.
- Common alarm.
- Power fail reset.
- Communications failure.
- Maintenance - fan and compressor (once hours run limit exceeded).
- Airflow failure ( ).
- Compressor failure (Optional on DX units only) ( ).
- Electric Heating Overheat cut-out ( ).
- Humidifier alarm (Full Function units only) ( ).

Sizes 28 - 60

- Return air temperature high limit.
- Return air temperature low limit.
- Return air humidity high limit (Optional on Full Function units).
- Return air humidity low limit (Optional on Full Function units).
- Frost protection low limit (LPHW option only).
- Low pressure trip (Optional on DX units only).
- Filter change alarm.
- Manual override.
- Common alarm.
- Power fail reset.
- Communications failure.
- Maintenance - fan and compressor (once hours run limit exceeded).
- Fire.
- Flood.
- Phase Failure.
- Critical.
- Non-critical.
- Airflow failure ( ).
- Compressor failure (Optional on DX units only) ( ).
- Electric Heating Overheat cut-out ( ).
- Humidifier alarm (Full Function units only) ( ).

Controls

Password Protection

The control system integrity can be maintained by restricting access with a password PIN number.

CAUTION

IMPORTANT: To change the PIN number, please contact Airedale at time of order with the preferred 4 digit number.

Remote On/Off

Terminals for interlocking are provided to enable or disable the unit remotely.

Fire Shut Down

Terminals for interlocking are provided to shut down the unit in the event of fire.

Compressor Anti-Cycle Control

Programmed to provide automatic anti-cycling delays of up to 10 starts per hour with a minimum off time of 3 minutes.

Compressor Rotation

On tandem compressor units the controller is programmed to provide automatic compressor rotation to ensure equal compressor running times. In the event of a compressor fault on networked systems the controller is programmed to automatically select the next compressor in order of running hours.

Compressor Hours Run Log & Reset

Allows the user to monitor the running times of each compressor and reset after maintenance.
Hours run log or visual service indicator provided.

Evaporator Fan Hours Run Log & Reset

Allows the user to monitor the running times of the evaporator fans and reset after maintenance.
Hours run log or visual service indicator provided.

Head Pressure Control and Condenser Fan Speed Controller

Each refrigerant circuit (TEV or EEV) is fitted with condenser pressure transducers and a modulating condenser fan speed controller to allow the designed head pressure to be monitored and maintained under varying ambient conditions. Condenser fan speed control settings are input via the display keypad.

Evaporator Fan Speed Controller

(Sizes 6 - 26) Evaporator fan speed control is easily set via the display keypad and can be incrementally increased or decreased to meet on site airflow and external static pressure requirements.

Filter Change Alarm

Filter change is managed by the AireTronix software, and is based on fan(s) hours run with an alarm being generated when the pre-set run time limit has been exceeded. The set-point value can be adjusted to suit each application and is factory set to 2000 hours. Hours run log or visual service indicator provided.

LPHW Frost Protection

(DX units with LPHW option)
The coil temperature sensor is mounted on the DX coil and has a fixed 3°C low limit setting to disable DX cooling.

Standard Network Features

As standard the AireTronix controller is capable of the providing a platform for the following and can be enabled on request for 2 to 8 units, please specify at order:

Networking

A Local Area Network (LAN) can be used to connect up to 8 units to offer intercommunication and Duty/Standby control. This also allows the connection of computers, printers and modems on the same communications ring.

For further details, please contact Airedale Controls.
When adding to an existing network, please consult Airedale to ensure strategy compatibility.

Duty/Standby Operation
The controller enables units to operate in run/standby mode, with up to 6 units networked together, without the need for additional hardware or controllers. Standby units can be configured to start when the run unit has a critical alarm and/or a high/low return air temperature alarm. During peak demand, the standby units can temperature assist.

Duty Rotation
Networked units can be configured to duty rotate, providing equal hours run of fans and compressors.

OPTIONAL EXTRAS

Audible Alarm
The display keypad can be upgraded to include audible alerts.

BMS Interface Card
Enables Controlled units to be interfaced with most BMS, factory fitted, please contact Airedale. A wide range of protocols can be accommodated through the use of interface devices. Available as a standard option are: ModBus/Jbus, Carel and Trend. For interfaces such as SNMP, LonWorks, Metasys and BACnet, please contact Airedale. Also available is Airedale's own supervisory plug-in BMS card pCOWEB. Based on Ethernet TCP/IP secure technology with SNMP features. Requires no proprietary cabling or monitoring software and supplied pre programmed with an IP address for ease of set up.

Water Detector
Two methods are available:

1 A solid state (probe) sensor is supplied loose for remote mounting on site.

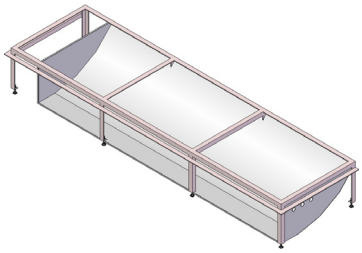
2 Tape suitable for sensing water droplets is supplied loose for remote mounting on site. Standard tape length 10m.

Water Detection Tape Installation
Monitored by a sensing relay, the water detection tape will provide an alarm when in contact with several drops of conductive liquid. High humidity should normally not cause an alarm unless it results in condensation dripping on the tape surface or condensation present on the surface to which the tape is applied.

Smoke Detector
Supplied loose for remote mounting to shut down the unit and activate the alarm upon sensing the presence of smoke.

Firestat
Installed in the return air stream to shut down the unit in the event of an unusually high return air temperature.

General Features



Features		System Configuration			
		Downflow		Upflow	
		X Type	WX Type	X Type	WX Type
	Secure Door Locks	●	●	●	●
	Return Air Grille	▬	▬	●	●
	Condensate Pump	○	○	○	○
	Open Floorstand	○	○	○	○
	Enclosed Floorstand	○	○	○	○
	Ceiling Duct Extension	○	○	○	○

● Standard Feature ○ Optional Feature ▬ Not Available

Open & Enclosed Floorstand
Open or enclosed floorstands are available, complete with adjustable feet and floor tile lip. Enclosed floorstands incorporate an air turning vane. Height of the floorstand; please specify at order.

Discharge Air Configuration
Standard configuration is forward air discharge. Reverse air discharge is available, please specify at order.

Ceiling Duct Extension
Straight and ‘L’ shaped duct extensions up to a height of 1350 mm constructed and finished to match the unit are available. For extensions greater than 1350 mm, please contact Airedale. Height; please specify at order.

Services Side Access Gland Plate
As standard services can be routed through the gland plate in the base of the units. A gland plate can be optionally located to the lower left hand side face of the unit, if required.

Bolt on Doors
Simple bolt on cabinet doors can be factory fitted as a cost reduction option. The cabinet doors are full height and secured by M6 bolts, a 4 mm Allen key is provided for access.

Plain Doors - No Display Keypad
Networking is a standard option of the AireTronix microprocessor; refer to Controls, for full details. To reduce costs, the “slave” units can be supplied with plain doors (no display keypad), in all door types, please specify at order.

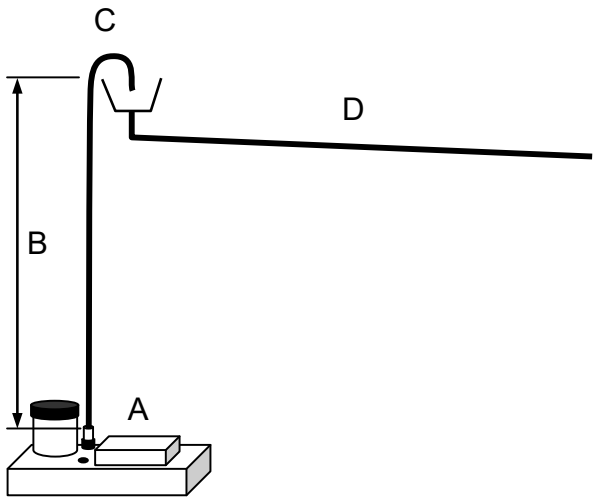
Threaded Water Pipe Connection
As an alternative to brazed water pipe connections, BSP brass male taper threaded connections can be factory fitted.

Export Packing
Units can be supplied packed inside a case to provide additional protection during transportation, (not required for container delivery). Standard construction material is solid wood.

Sterling Board LAT (Wooden Case) Packing
Units shall be supplied complete with additional LAT corner protection and cross braces to afford extra transit protection. Sterling board heat treated man made material shall be used (including pallet) to comply with phytosanity import regulations (please contact Airedale for this option).

Optional Extras General

Condensate Pump



A Condensate Pump
B Condensate pump discharge line; 10mm (3/8”) copper tube; maximum vertical run 6m, maximum TOTAL run 8m
C Swan Neck with Tundish
D Drain line from Tundish, > 10mm (3/8”) tube **(MUST BE copper tube when coupled with humidifier drain)**, minimum fall 1 : 20

Condensate and Humidifier

All drain trays are fitted with their own trap assembly.
Condensate drain may be run to waste via ordinary plastic waste pipe.
Humidifier drain may be run to waste via pipe suitable for liquid temperatures of 100°C.
All drain pipework operating under gravity should be sloped away from the equipment and the gradient should be made as steep as possible.
Suitable rodding positions should be incorporated particularly if the run is long.

Safe Operation of Humidifier

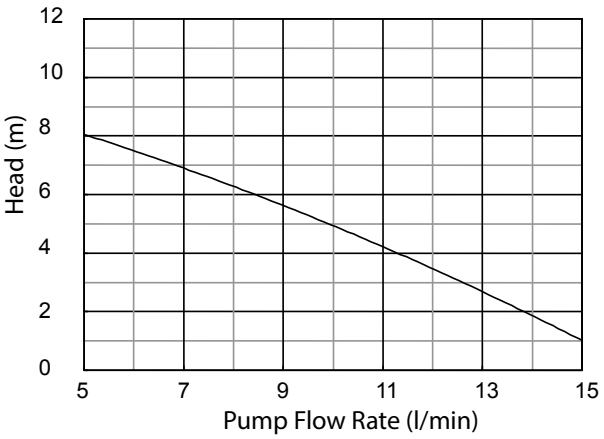
To protect the humidifier bottle from dangerous pressures in event of the steam supply pipe becoming blocked, a tundish is installed between the water inlet solenoid and the cylinder to act as a reservoir and to feed water to the humidifier inlet manifold as required.

CAUTION ⚠	An overflow weir is incorporated in the common fill/drain tundish. Any pressure build up in the cylinder would be allowed to vent through the tundish to atmosphere. It is MOST IMPORTANT that the steam distribution pipe is not damaged or kinked at any time to avoid the risk of unacceptably high pressure building up in the electrode bottle.

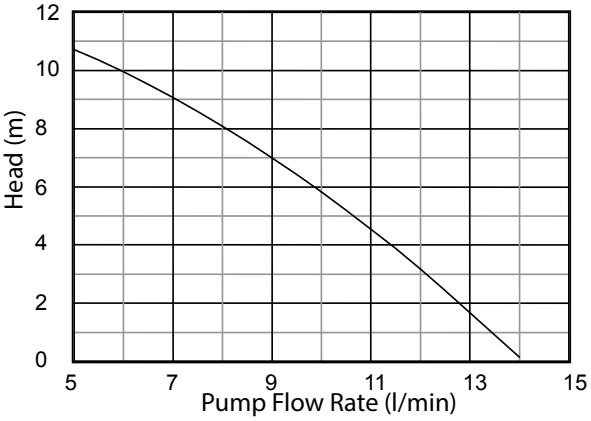
Condensate Pump

The following graphs illustrate the TOTAL static (head) pressure available. The system horizontal pipe losses and vertical lift should be factored in when calculating the condensate pump performance.

6 - 26



28-60



Sizes 6 - 26
The condensate pump has a 3 litre reservoir with a capacity of 5 l/m at a head of 8m and is mounted in the unit base.

Sizes 28 - 60
The condensate pump has a 6 litre reservoir with a capacity of 5 l/m at a head of 10.8m and is mounted in the unit base.

IMPORTANT ⚠	Use only 10mm (3/8”) copper tube when connecting the discharge stub to the condensate pump. The discharge line from the pump should rise no more than 6 meters vertically and no more than 8 metres in total length before being interrupted with a swan neck air break and tundish.

Sound Measurement Method

Measurement Of Sound Power

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 : 2006.
All Sound Power Levels quoted are calculated from measured sound intensity according to
BS EN ISO9614 Part 1 : 2006.

Semi Hemispherical

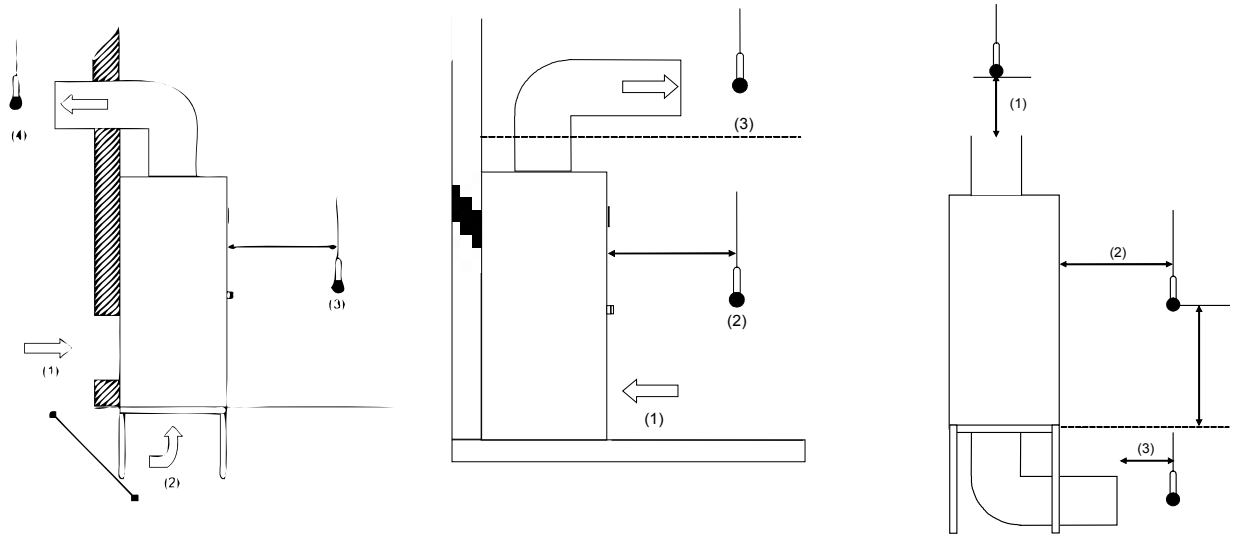
Sound Pressure Levels are calculated from sound power using the semi-hemispherical method where the noise source is in junction with 2 boundaries i.e. the floor and 1 wall.

Free Field

For comparison, the semi hemispherical figures can typically be reduced by 3dB to provide free field conditions.

IMPORTANT

The sound data quoted is based on the unit having a ducted return air, ducted (or underfloor) discharge air and standard forward curved fan and EC motors fitted, refer to illustration below. Case breakout sound data is therefore independent of the discharge air and return air sound data.
For non-ducted return air applications, the overall case breakout sound levels may increase, due to the return air sound being predominant.
Within the conditioned space, sound from in-room ducted discharge air grilles and other equipment will contribute to the overall sound level and should therefore be considered as part of sound calculations.
Specialist acoustic advice is recommended for noise critical applications.



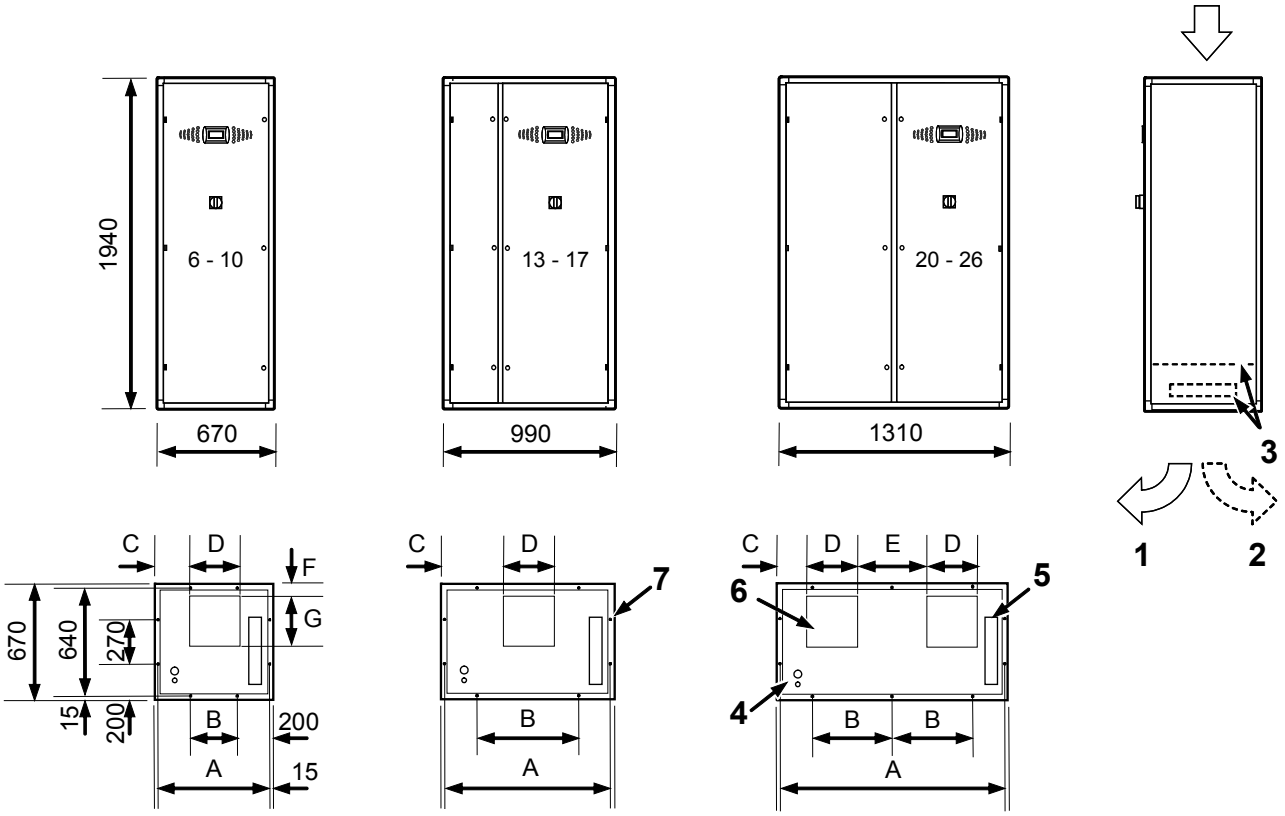
(1) Return Air
(2) Case Breakout
(3) Discharge Air

Notes

Dimensional & Installation Data

Dimensions

DF6 - DF26 - Standard Airflow Configuration (mm) with Standard EC Fan Motors



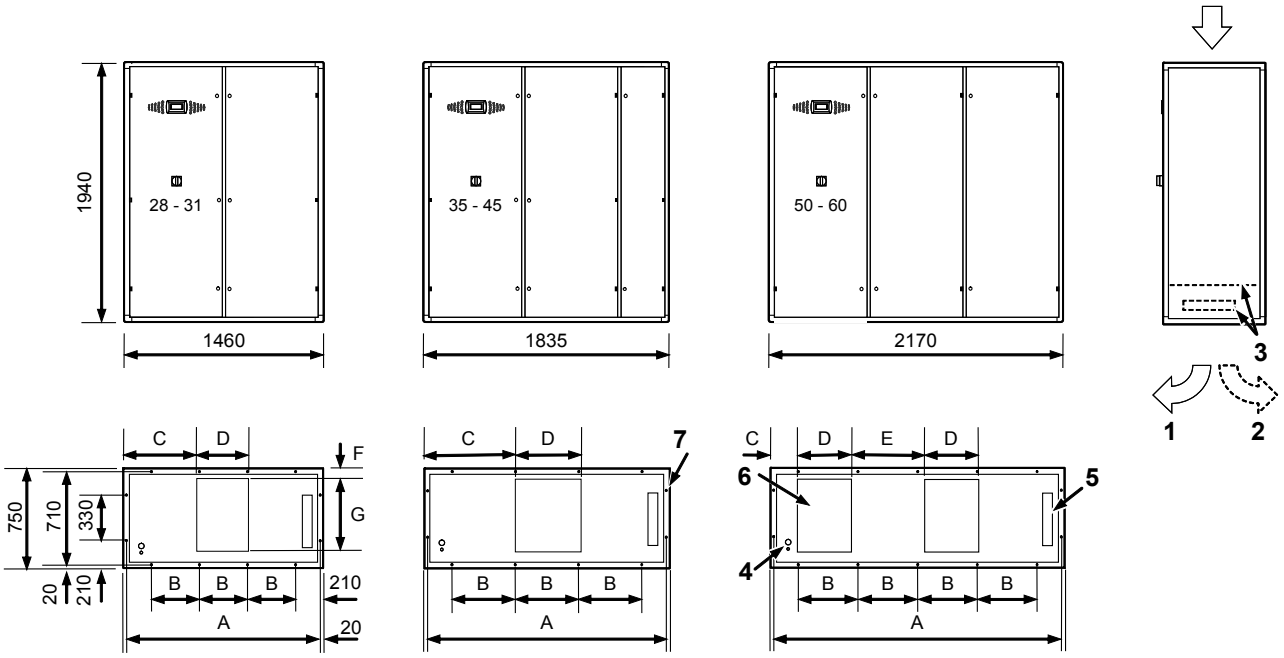
			W x D x H	A	B	C	D	E	F	G
DF6	**X/WX**	mm	670 x 670 x 1940	640	270	216	238	N/A	50	268
DF8	**X/WX**	mm	670 x 670 x 1940	640	270	183	304	N/A	50	268
DF10	**X/WX**	mm	670 x 670 x 1940	640	270	167	337	N/A	50	295
DF13	**X/WX**	mm	990 x 670 x 1940	960	590	326	337	N/A	50	295
DF15	**X/WX**	mm	990 x 670 x 1940	960	590	294	401	N/A	50	347
DF17	**X/WX**	mm	990 x 670 x 1940	960	590	294	401	N/A	50	347
DF20	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295
DF22	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295
DF26	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295

(1) Standard forward airflow direction.
(2) Optional reverse airflow direction.
(3) Optional gland plate and panel for side services access via the right side of unit. For services details contact Airedale.
(4) Base mains cable entry.
(5) Standard base gland plate entry for refrigeration/water services. For services details contact Airedale.
(6) Shaded area denotes fan discharge aperture. Optional EC fan motor discharge aperture provided with protective mesh, not shown.
(7) M6 fixing hole positions.
(8) Units fitted with optional EC fan motors require a floorstand.

Dimensional & Installation Data

Dimensions

DF28 - DF60 - Standard Airflow Configuration (mm) with Standard AC Fan Motors



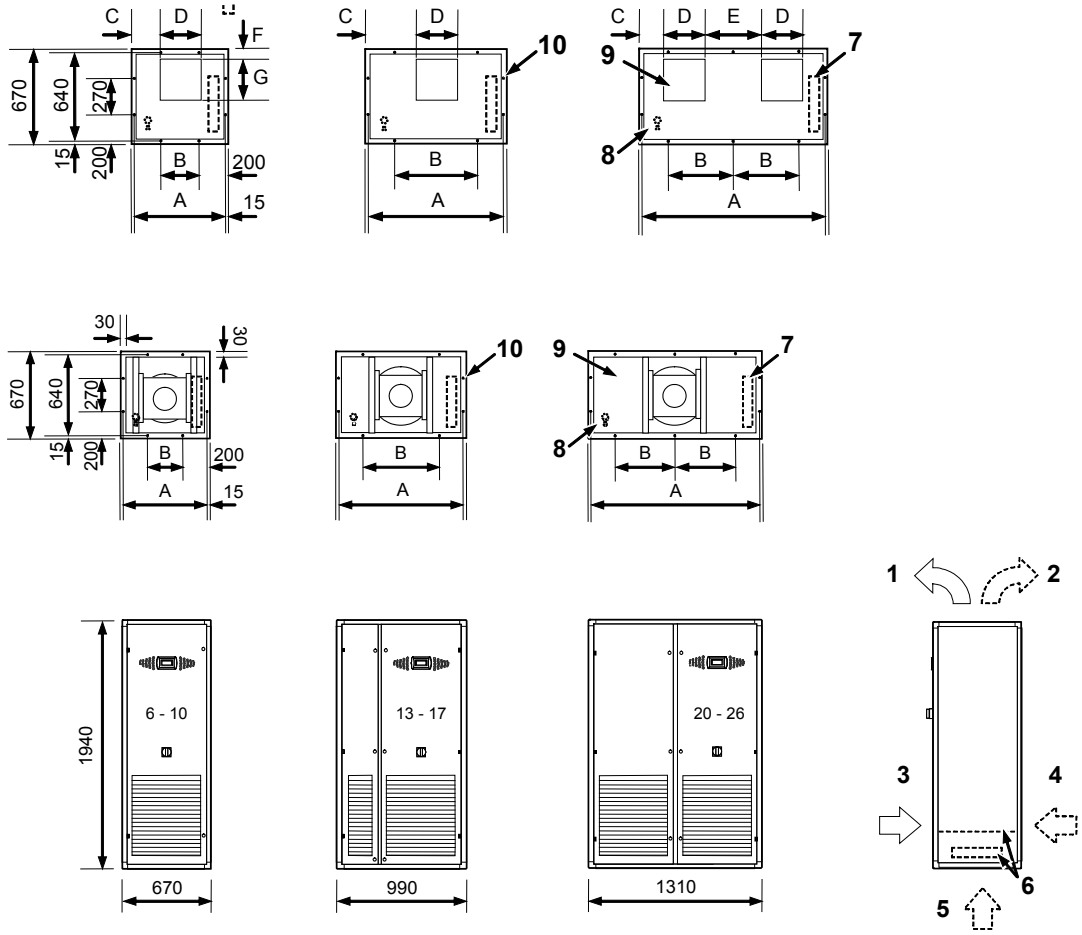
			W x D x H	A	B	C(8)	D(8)	E	F(9)	G(8)
DF28	**X/WX**	mm	1460 x 750 x 1940	1420	347	540	379	N/A	91 (113)	546
DF31	**X/WX**	mm	1460 x 750 x 1940	1420	347	540	379	N/A	91 (113)	546
DF35	**X/WX**	mm	1835 x 750 x 1940	1795	472	679	477	N/A	91 (113)	546
DF40	**X/WX**	mm	1835 x 750 x 1940	1795	472	679	477	N/A	91 (113)	546
DF45	**X/WX**	mm	1835 x 750 x 1940	1795	472	679	477	N/A	91 (113)	546
DF50	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	206	401	543	76 (257)	345
DF55	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	206	401	543	76 (257)	345
DF60	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	206	401	543	76 (257)	345

(1) Standard forward airflow direction.
(2) Optional reverse airflow direction.
(3) Optional gland plate and panel for side services access via the right side of unit. For services details contact Airedale.
(4) Base mains cable entry.
(5) Standard base gland plate entry for refrigeration/water services. For services details contact Airedale.
(6) Shaded area denotes fan discharge aperture. Optional EC fan motor discharge aperture provided with protective mesh, not shown.
(7) M6 fixing hole positions.

Dimensional & Installation Data

Dimensions

V6 - V26 - Standard Airflow Configuration (mm) with Standard EC Fan Motors



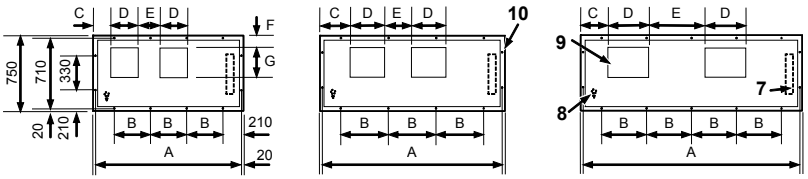
			W x D x H	A	B	C	D	E	F	G
V6	**X/WX**	mm	670 x 670 x 1940	640	270	216	238	N/A	50	268
V8	**X/WX**	mm	670 x 670 x 1940	640	270	183	304	N/A	50	268
V10	**X/WX**	mm	670 x 670 x 1940	640	270	167	337	N/A	50	295
V1	**X/WX**	mm	990 x 670 x 1940	960	590	387	337	N/A	50	295
V15	**X/WX**	mm	990 x 670 x 1940	960	590	355	401	N/A	50	347
V17	**X/WX**	mm	990 x 670 x 1940	960	590	355	401	N/A	50	347
V20	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295
V22	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295
V26	**X2/WX2**	mm	1310 x 670 x 1940	1280	455	166	337	303	50	295

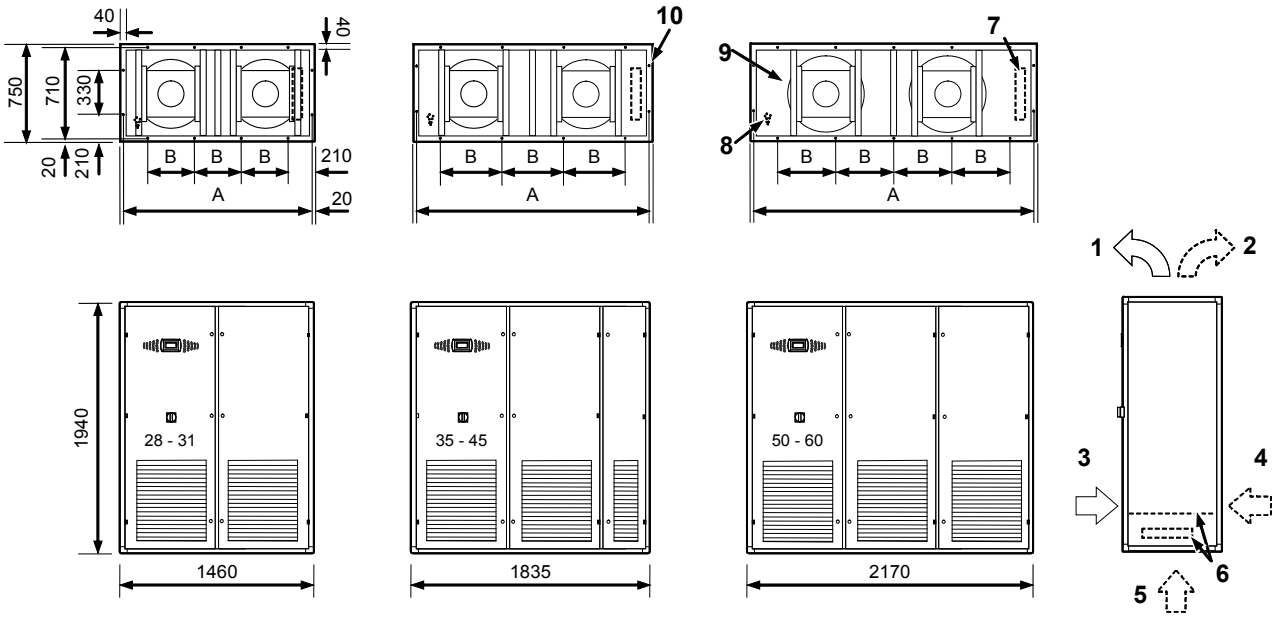
(1) Standard forward airflow direction.
(2) Optional reverse airflow direction.
(3) Optional gland plate and panel for side services access via the right side of unit. For services details contact Airedale.
(4) Base mains cable entry.
(5) Standard base gland plate entry for refrigeration/water services. For services details contact Airedale.
(6) Shaded area denotes fan discharge aperture. Optional EC fan motor discharge aperture provided with protective mesh, not shown.
(7) M6 fixing hole positions.
(8) Figures in brackets represent position of fan discharge aperture when larger AC fan motor option is fitted.
(9) Figures in brackets represent optional reverse air discharge configuration when fitted with standard AC fan motors.
(10) Units fitted with optional EC fan motors require a floorstand.

Dimensional & Installation Data

Dimensions

V28 - V60 - Standard Airflow Configuration (mm) with Standard AC Fan Motors





			W x D x H	A	B	C	D	E	F[8]	G
V28	**X/X2/WX/WX2**	mm	1460 x 750 x 1940	1420	347	175	271	208	123 (335)	292
V31	**X/X2/WX/WX2**	mm	1460 x 750 x 1940	1420	347	175	271	208	123 (335)	292
V35	**X/X2/WX/WX2**	mm	1835 x 750 x 1940	1795	472	304	337	258	123 (335)	292
V40	**X/X2/WX/WX2**	mm	1835 x 750 x 1940	1795	472	304	337	258	123 (335)	292
V45	**X2/WX2**	mm	1835 x 750 x 1940	1795	472	304	337	258	123 (335)	292
V50	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	277	401	544	78 (327)	345
V55	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	277	401	544	78 (327)	345
V60	**X2/WX2**	mm	2170 x 750 x 1940	2130	438	277	401	544	78 (327)	345

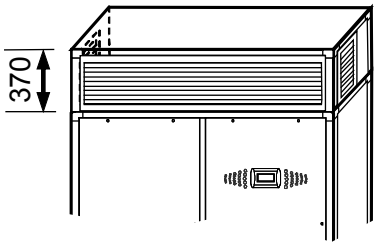
(1) Standard forward airflow direction.
(2) Optional reverse airflow direction.
(3) Optional gland plate and panel for side services access via the right side of unit. For services details contact Airedale.
(4) Base mains cable entry.
(5) Standard base gland plate entry for refrigeration/water services. For services details contact Airedale.
(6) Shaded area denotes fan discharge aperture. Optional EC fan motor discharge aperture provided with protective mesh, not shown.
(7) M6 fixing hole positions.
(8) Figures in brackets represent position of fan discharge aperture when larger AC fan motor option is fitted.
(9) Figures in brackets represent optional reverse air discharge configuration when fitted with standard AC fan motors.
(10) Units fitted with optional EC fan motors require a floorstand.

Dimensional & Installation Data

Upflow

Options

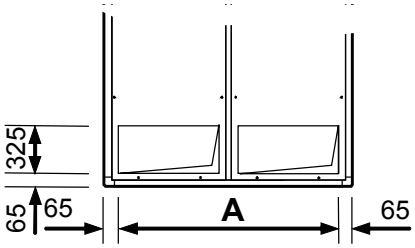
Discharge Air Plenum



1 Discharge air plenum shows as 3 way, also available is front discharge only

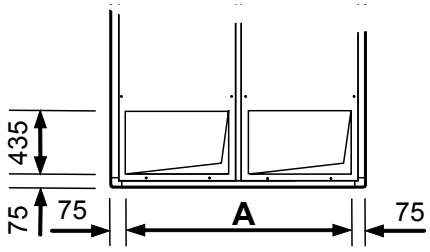
Rear Return Air Aperture (mm)

V6 - V26



			A
V6	X/WX	mm	540
V8	X/WX	mm	540
V10	X/WX	mm	540
V13	X/WX	mm	860
V15	X/WX	mm	860
V17	X/WX	mm	860
V20	X2/WX2	mm	1180
V22	X2/WX2	mm	1180
V26	X2/WX2	mm	1180

V28 - V60



			A
V28	X/X2/WX/WX2	mm	1310
V31	X/X2/WX/WX2	mm	1310
V35	X/X2/WX/WX2	mm	1685
V40	X/X2/WX/WX2	mm	1685
V45	X2/WX2	mm	1685
V50	X2/WX2	mm	3020
V55	X2/WX2	mm	3020
V60	X2/WX2	mm	3020

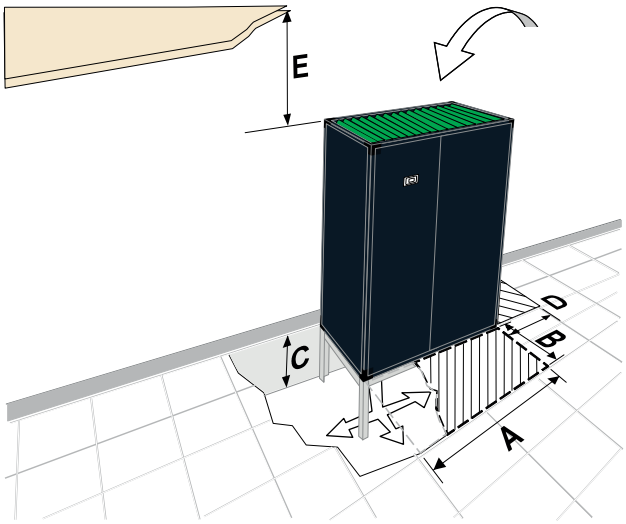
1 25 mm flange required to return air duct work, supplied by others.
2 M6 fixings holes required.

Dimensional & Installation Data

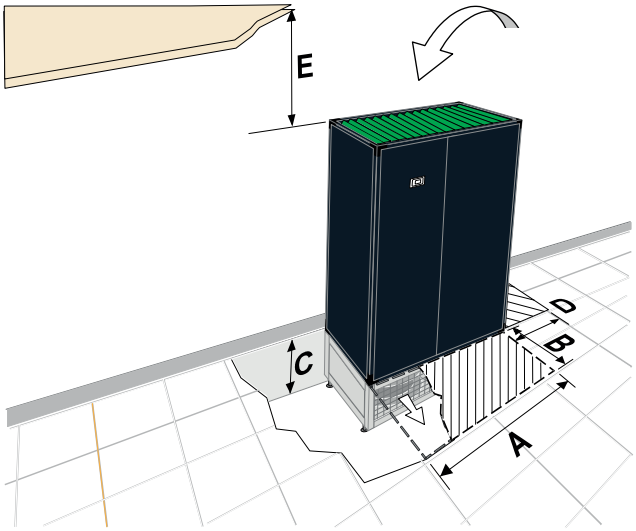
Positioning

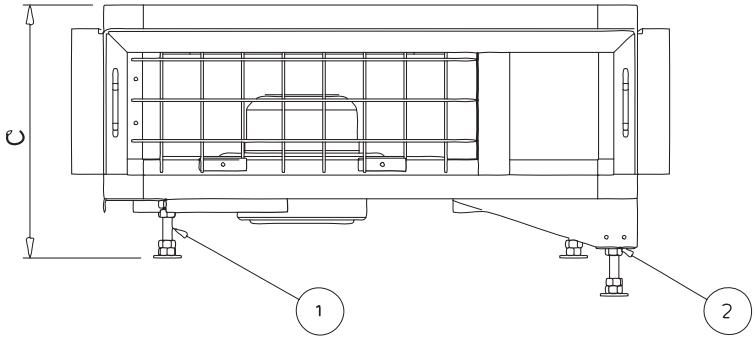
Down flow

Standard Return and Standard Fan Motors



Standard Return and Optional Backward Curved EC Fan Motors





(1) With adjustable feet fitted
(2) With variable size leg and adjustable feet fitted

CAUTION ⚠	When placing the unit on the floorstand ensure appropriate air seal is used to prevent leakage at the join. It is also important to place all locking bolts in place to secure the unit to its base (EC fan floorstands only).

Dimensional & Installation Data

Minimum Unit Clearances

Open & Enclosed Floorstands Option

		A	B	C - Floorstand(3)	D(4)
DF6 - DF10	mm	670	610	Min 200 - Max 750 (+ 50mm Feet Adjustable +/- 20mm)	Min 300
DF13 - DF17	mm	990	610		Min 300
DF20 - DF26	mm	1310	610		Min 300
DF28 - DF31	mm	1460	700	Min 300 - Max 800 (+ 50mm Feet Adjustable +/- 20mm)	N/A
DF35 - DF45	mm	1835	700		N/A
DF50 - DF60	mm	2170	700		N/A

Backward Curved EC Fan Motor Option

		A	B	C (3)				D(5)
				With Feet Only (4)		With Leg & Feet (4)		
				Min	Max	Min	Max	
DF6 - DF10	mm	670	610	284	329	604	1074	Min 300
DF13 - DF17	mm	990	610	362	407	697	1152	Min 300
DF20 - DF26	mm	1310	610	362	407	697	1152	Min 300
DF28 - DF31	mm	1460	700	356	401	686	1146	Min 300
DF35 - DF45	mm	1835	700	356	401	686	1146	Min 300
DF50 - DF60	mm	2170	700	356	401	686	1146	Min 300

Minimum Ceiling Clearance

		E			
		Forward Only	Forward & 1 Side	Forward & 2 Sides	All Faces
DF6 - DF10	mm	470	240	160	120
DF13 - DF17	mm	550	330	240	170
DF20 - DF26	mm	560	370	280	190
DF28 - DF31	mm	620	410	310	210
DF35 - DF45	mm	640	450	350	230
DF50 - DF60	mm	640	480	380	240

(1) Shown with optional open floor stand.

(2) Shaded area indicates minimum service and maintenance requirements.

(3) Dimension C denotes recommended minimum/maximum floorstand height, refer to Airedale for special applications, please specify at order.

(4) Min = Threaded foot at minimum extension.
Max = Threaded foot at maximum extension.

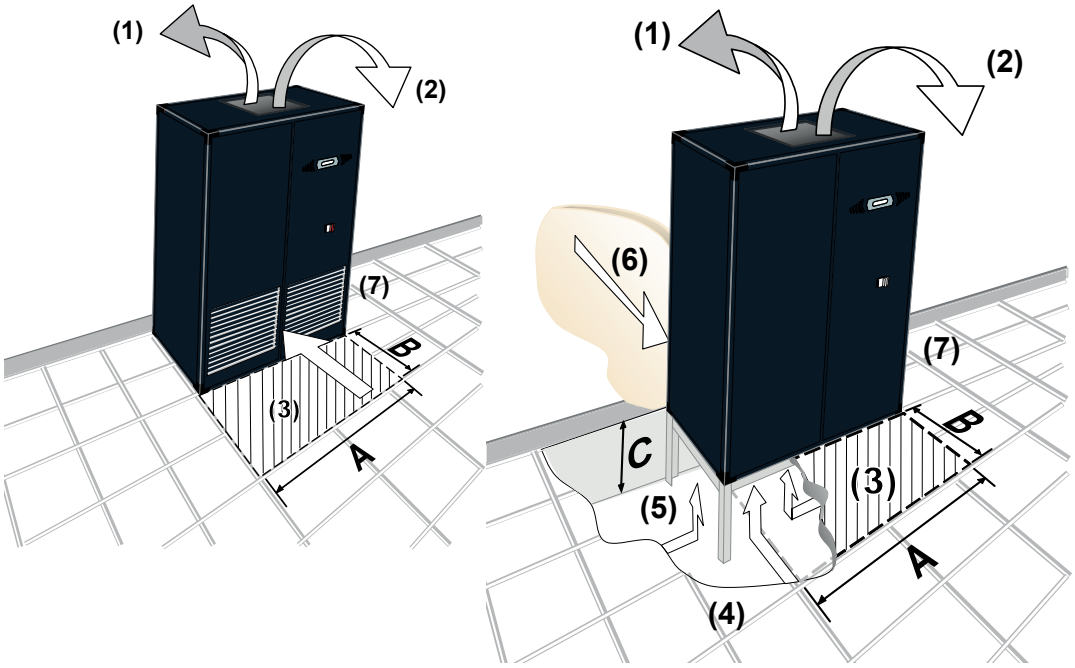
(5) Dimension D refers to units fitted with LPHW which require access to the RHS of the unit to set up the regulating valve.

(6) SERVICES SIDE ACCESS GLAND PLATE, OPTIONAL POSITION; ensure appropriate clearance is available to the base of the RHS of the unit if this option is selected.

Dimensional & Installation Data

Positioning

Upflow



IMPORTANT ⚠	The unit is designed for use with either ducted discharge or a plenum. If neither is used, protection from rotating parts in the form of a grille must be used on the discharge air outlet. Placing objects near an unguarded fan may cause injury.

Minimum Unit Clearance

		A	B	C - Floorstand(3)
V6 - V10	mm	670	610	Min 200 - Max 750
V13 - V17	mm	990	610	(+ 50mm Feet
V20 - V26	mm	1310	610	Adjustable +/- 20mm)
V28 - V31	mm	1460	700	Min 300 - Max 800
V35 - V45	mm	1835	700	(+ 50mm Feet
V50 - V60	mm	2170	700	Adjustable +/- 20mm)

(1) Reversed discharge air.
(2) Forward discharge air.
(3) Shaded area indicates minimum service and maintenance requirements
(4) Shown with optional open floor stand.
(5) Optional base return.
(6) Optional rear return.
(7) SERVICES SIDE ACCESS GLAND PLATE, OPTIONAL POSITION; ensure appropriate clearance is available to the base of the RHS of the unit if this option is selected.

Dimensional & Installation Data

Weights

Downflow

		Standard Evaporator Fan - Fwd EC Motor		Optional Evaporator Fan - Bkwd EC Motor		
EZRE		Machine(1)	Operating(1)	Machine(1)	Operating(1)	Floorstand
DF6X	kg	194		176		26
DF8X	kg	195		179		26
DF10X	kg	199		187		26
DF13X	kg	217		206		29
DF15X	kg	241		213		29
DF17X	kg	242		214		29
DF20X2	kg	293		267		44
DF22X2	kg	293		267		44
DF26X2	kg	293		267		44
DF28X	kg	414		380		125
DF31X	kg	419		375		125
DF35X	kg	477		430		128
DF40X	kg	500		439		128
DF45X	kg	553		492		128
DF50X2	kg	621		562		190
DF55X2	kg	638		579		190
DF60X2	kg	638		573		190
DF6WX	kg	210	212	192	194	26
DF8WX	kg	215	216	199	200	26
DF10WX	kg	218	219	206	207	26
DF13WX	kg	240	241	229	230	29
DF15WX	kg	271	273	243	245	29
DF17WX	kg	275	277	247	249	29
DF20WX2	kg	334	336	308	310	44
DF22WX2	kg	334	336	308	310	44
DF26WX2	kg	333	336	307	310	44
DF28WX	kg	470	476	436	442	125
DF31WX	kg	475	481	431	437	125
DF35WX	kg	537	543	490	496	128
DF40WX	kg	565	571	504	510	128
DF45WX	kg	640	650	579	589	128
DF50WX2	kg	712	722	653	663	190
DF55WX2	kg	731	741	672	682	190
DF60WX2	kg	731	741	666	676	190

(1) Weights quoted for units fitted with the standard Forward curved EC fan motor ***include*** the cooling fan weight within the unit cabinet (AHU).
(2) Weights quoted for units fitted with the optional Backward Curved EC fan motor ***exclude*** the cooling fan weight within the unit cabinet (AHU).
(3) Machine weight includes a refrigerant charge / Operating weight includes calculated water volume.

Dimensional & Installation Data

Weights

Upflow

		Standard Evaporator Fan - Fwd EC Motor		Optional Evaporator Fan - Bkwd EC Motor	
EZRE		Machine(1)	Operating(1)	Machine(1)	Operating(1)
V6X	kg	174		165	
V8X	kg	173		166	
V10X	kg	177		174	
V13X	kg	211		213	
V15X	kg	235		220	
V17X	kg	236		221	
V20X2	kg	289		285	
V22X2	kg	289		285	
V26X2	kg	289		285	
V28X	kg	412		415	
V28X2	kg	421		424	
V31X	kg	412		407	
V31X2	kg	445		440	
V35X	kg	474		465	
V35X2	kg	516		507	
V40X	kg	497		475	
V40X2	kg	525		503	
V45X2	kg	531		509	
V50X2	kg	619		609	
V55X2	kg	636		626	
V60X2	kg	640		630	
V6WX	kg	189	191	180	182
V8WX	kg	193	194	186	187
V10WX	kg	196	197	193	194
V13WX	kg	234	235	236	237
V15WX	kg	265	267	250	252
V17WX	kg	268	270	253	255
V20WX2	kg	326	328	322	324
V22WX2	kg	326	328	322	324
V26WX2	kg	325	328	321	324
V28WX	kg	468	474	471	477
V28WX2	kg	477	483	480	486
V31WX	kg	468	474	463	469
V31WX2	kg	500	506	495	501
V35WX	kg	534	540	525	531
V35WX2	kg	576	582	567	573
V40WX	kg	562	568	540	546
V40WX2	kg	589	595	567	573
V45WX2	kg	620	630	598	608
V50WX2	kg	709	719	699	709
V55WX2	kg	729	739	719	729
V60WX2	kg	733	743	723	733

(1) Weights quoted for units fitted with the standard forward curved EC fan motor ***include*** the cooling fan weight within the unit cabinet (AHU).
(2) Machine weight includes a refrigerant charge / Operating weight includes calculated water volume..

Installation

Refrigeration Pipework

Oil Traps

For long vertical rises in both liquid and discharge lines, it is essential that oil traps are located every 4m to ensure proper oil movement / entrapment. In addition there should be an oil trap at the exit of the air handling unit before a vertical riser is applied (refer to example below).

Pipe Supports

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

Pipe O/D (inches)	Support distance (m)
3/8 - 7/8”	1.0
1 1/8 - 2 1/8”	2.0

Lines passing through walls

Refrigerant lines that rub against solid objects wear holes in the copper pipework and cause leaks, the lines must pass through sleeved openings in such a manner that the lines do not touch.

Horizontal Sections

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

Discharge Risers

Consideration must be taken when designing vertical risers. Refrigerant velocity must be ensured in vertical risers at a minimum of 8m/s.

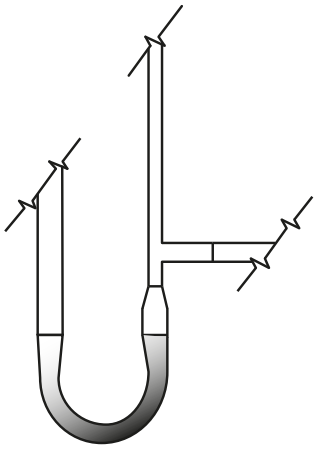
If required double risers must be designed into the system. Pipework must be sizes based upon a reduction in unit capacity as low as 30% of design.

The double riser must be sized so that the refrigerant still maintains adequate velocity for the oil to travel around the system.

At part load the velocity is reduced in the larger diameter pipe (and cannot carry oil). An oil trap is formed forcing vapour up the smaller tube which still has adequate velocity due to its size to continue carrying oil around the system.

The trap at the base of the riser must be as small as possible. This ensures that the trap causes a pressure drop causing vapour to pass up the smaller tube.

When the load increases the velocity of the refrigerant ensures that oil carries up both tubes.



CAUTION ⚠	Care must be taken in sizing double riser systems.

Installation

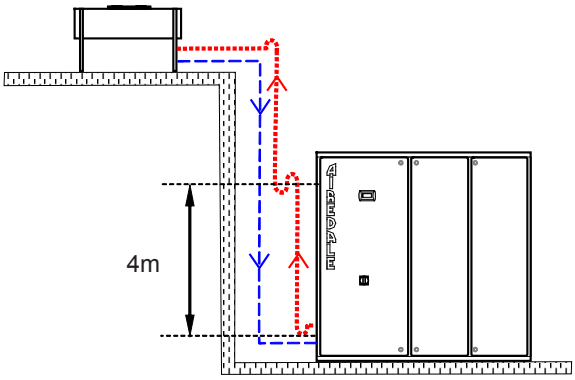
Liquid Line

If the system is configured with the EasiCool higher than the condenser unit it may be required to increase the degree of sub cooling to prevent flashing gas occurring in the liquid line. This flashing is due to excess pressure drop caused by the static head of liquid refrigerant and can results in poor operation of the evaporator and expansion device.
Careful pipe sizing is recommended to ensure that the liquid line does not have excessive pressure drop
Increasing the liquid line tube size can minimise pipe pressure drop.
However as a fail safe it is recommended that the condenser is installed above the indoor unit to allow for correct liquid drain.

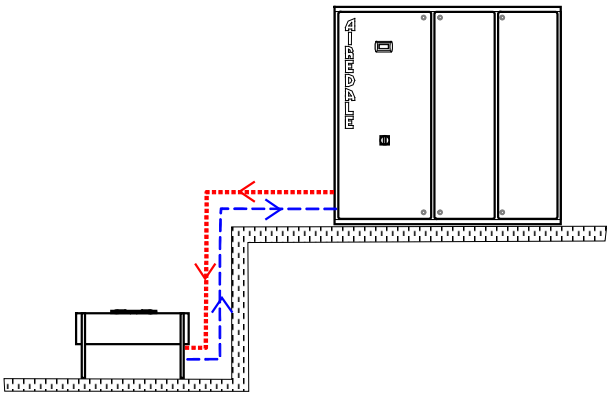
Pipe Insulation

The liquid line of the system must be insulated if passing through extremely warm places (boiler houses etc). Ensuring that the refrigerant does not become flash gas.

Condenser above Air Handling Unit



Condenser below Air Handling Unit



Discharge Line Liquid Line

Refrigerant Charging Guide

The following information can be used to estimate the refrigerant quantity required in a typical split system installation.

Unit Refrigerant Charge

(kg / Circuit)

The following information can be used to estimate the refrigerant quantity required in a typical split system installation.
The table shows the refrigerant charge / circuit for the indoor and outdoor units.

Indoor Unit			Standard Condenser		Larger Condenser	
(IR)	kg/Circuit	HGRH kg/Circuit	(OR)	kg/Circuit	(OR)	kg/Circuit
DF6X-EZRE	1	1.1	CR12	1.4	CR16	2.7
DF8X-EZRE	1	1.1	CR16	2.7	CR22	2.2
DF10X-EZRE	1	1.1	CR16	2.7	CR22	2.2
DF13X-EZRE	1.5	1.7	CR22	2.2	CR30	4.3
DF15X-EZRE	1.5	1.7	CR22	2.2	CR30	4.3
DF17X-EZRE	1.5	1.7	CR30	4.3	CR50	4.9
DF20X2-EZRE	2.2	2.4	CR30	4.3	CR50	4.9
DF22X2-EZRE	2.2	2.4	CR50	4.9	CR65	9.8
DF26X2-EZRE	2.2	2.4	CR50	4.9	CR65	9.8
DF28X-EZRE	2.7	3	CR50	4.9	CR65	9.8
DF31X-EZRE	2.7	3	CR50	4.9	CR65	9.8
DF35X-EZRE	3.3	3.7	CR50	4.9	CR65	9.8
DF40X-EZRE	3.5	3.9	CR65	9.8	CR80	8.4
DF45X-EZRE	4.2	4.6	CR80	8.4	CR105	16.7
DF50X2-EZRE	4.5	5	CR80	8.4	CR105	16.7
DF55X2-EZRE	5.3	5.8	CR80	8.4	CR105	16.7
DF60X2-EZRE	5.4	5.9	CR80	8.4	CR105	16.7

Indoor Unit			Standard Condenser		Larger Condenser	
(IR)	kg/Circuit	HGRH kg/Circuit	(OR)	kg/Circuit	(OR)	kg/Circuit
V6X-EZRE	1	1.1	CR12	1.4	CR16	2.7
V8X-EZRE	1	1.1	CR16	2.7	CR22	2.2
V10X-EZRE	1	1.1	CR16	2.7	CR22	2.2
V13X-EZRE	1.5	1.7	CR22	2.2	CR30	4.3
V15X-EZRE	1.5	1.7	CR22	2.2	CR30	4.3
V17X-EZRE	1.5	1.7	CR30	4.3	CR50	4.9
V20X2-EZRE	2.2	2.5	CR30	4.3	CR50	4.9
V22X2-EZRE	2.2	2.5	CR50	4.9	CR65	9.8
V26X2-EZRE	2.2	2.5	CR50	4.9	CR65	9.8
V28X-EZRE	2.7	3	CR50	4.9	CR65	9.8
V28X2-EZRE	2.6	2.9	CR50	4.9	CR65	9.8
V31X-EZRE	2.7	3	CR50	4.9	CR65	9.8
V31X2-EZRE	2.6	2.9	CR50	4.9	CR65	9.8
V35X-EZRE	3.3	3.7	CR50	4.9	CR65	9.8
V35X2-EZRE	3.3	3.7	CR50	4.9	CR65	9.8
V40X-EZRE	3.5	4	CR65	9.8	CR80	8.4
V40X2-EZRE	3.6	4.1	CR65	9.8	CR80	8.4
V45X2-EZRE	4.2	4.7	CR80	8.4	CR105	16.7
V50X2-EZRE	4.5	5.1	CR80	8.4	CR105	16.7
V55X2-EZRE	5.2	5.8	CR80	8.4	CR105	16.7
V60X2-EZRE	5.4	5.9	CR80	8.4	CR105	16.7

Packaged Unit Pre-Charged Refrigerant Volumes

Indoor Unit (IR)	kg/Circuit
DF6WX-EZRE	1.4
DF8WX-EZRE	1.6
DF10WX-EZRE	1.6
DF13WX-EZRE	1.4
DF15WX-EZRE	2.0
DF17WX-EZRE	2.5
DF20WX2-EZRE	3.2
DF22WX2-EZRE	3.2
DF26WX2-EZRE	3.2
DF28WX-EZRE	5.3
DF31WX-EZRE	5.3
DF35WX-EZRE	6.0
DF40WX-EZRE	6.0
DF45WX-EZRE	8.7
DF50WX2-EZRE	9.0
DF55WX2-EZRE	9.7
DF60WX2-EZRE	9.8

Indoor Unit (IR)	kg/Circuit
V6WX-EZRE	1.4
V8WX-EZRE	1.6
V10WX-EZRE	1.6
V13WX-EZRE	2.1
V15WX-EZRE	2.6
V17WX-EZRE	2.6
V20WX2-EZRE	3.2
V22WX2-EZRE	3.2
V26WX2-EZRE	3.2
V28WX-EZRE	5.3
V28WX2-EZRE	5.2
V31WX-EZRE	5.3
V31WX2-EZRE	5.2
V35WX-EZRE	6.0
V35WX2-EZRE	5.9
V40WX-EZRE	6.0
V40WX2-EZRE	6.1
V45WX2-EZRE	8.7
V50WX2-EZRE	8.9
V55WX2-EZRE	9.7
V60WX2-EZRE	9.8

CAUTION ⚠	The pipe sizes/refrigerant charges quoted are for guidance only. It is the responsibility of the installing contractor/site engineer to check the pipe sizes/refrigerant charges are correct for each system installation and application. Split systems may require additional oil which should be added to the low side of each compressor. Design should be in accordance with accepted refrigeration practice to ensure good oil return to the compressor(s) under all normal operating conditions.

Liquid Line Refrigerant Charge (kg/m)

The following table shows the refrigerant charge / metre for the liquid line, using R410A and assuming a liquid line temperature of 40°C.

Liquid Line (m)	kg/m
3/8”	0.05
1/2”	0.09
5/8”	0.15
3/4”	0.21
7/8”	0.30
1 1/8”	0.53

Installation

Calculation of System Refrigerant Charge (kg)

The system refrigerant charge can be calculated using the following equation

SR = LR + IR + OR

Where:

SR	=	Total System Refrigerant Charge (kg)
LR	=	Total Liquid Line Refrigerant Charge. (As calculated from above)
IR	=	Indoor Unit Refrigerant Charge.
OR	=	Outdoor Unit Refrigerant Charge.

Example

Indoor Unit Model Ref. = DF10X-EZRE
Outdoor Unit Model Ref = CR16 Condenser
Interconnecting Pipework = 10 metres

From the Refrigerant Pipe Sizing Guide, the liquid line size given for pipework length of 10 metres is:0.05kg/m

LR = L x m

Where:

L	=	10 metres
m	=	0.05 kg/m (Liquid Line Size = 3/8”)
LR	=	10 x 0.05 = 0.5kg

System Refrigerant Charge

SR = LR + IR + OR

Where:

LR = 0.5 kg. (As calculated from above)
IR = 1.0 kg
OR = 2.7 kg

SR = 0.5 + 1.0 + 2.7

Therefore

System Refrigerant Charge

= 4.2 kg / Circuit

⚠NOTE	Calculations provide an approximate refrigerant charge. An additional 15% of the total calculated charge should be made available during the commissioning of the units to allow for optimisation of the system refrigerant charge. This is required to accommodate for a range of possible variations in the volume of the system.

Installation

Liquid Sub Cooling

The degree of liquid sub cooling required to prevent flashing of liquid refrigerant can be calculated by the following method.

Subcooling = Condensing temperature — Saturation temperature (Nett pressure at expansion valve)

Given the following as an example:

- Refrigerant R410A
- Condensing temperature (54.4°C) equivalent condensing pressure at 54.4°C = 34 Bar
- Liquid lift 20m
- Piping friction loss 0.21 bar
- Losses through valves and fittings 0.5 Bar

Pressure Loss due to Liquid Lift

= H x spl

Where

H = Height (m)

spl = Static pressure loss

= 20 x 0.115 = 2.3 bar

Total Pressure Loss in Liquid Line

TPL Liquid = PFL + Valves

Where

PFL = Pipe friction loss (0.21Bar)

Valves = Losses through Valves and fittings

= 0.21 +0.5 + 2.3

Total pressure loss in liquid line = 3.01 Bar

Nett Pressure at Expansion Valve

= Condensing pressure - Total pressure loss in liquid line

= 34 - 3.01 = 30.99 bar

Saturation temperature at the nett pressure at expansion valve (30.99 bar) = 52°C (from refrigerant tables)

Sub Cooling Required

= Condensing temperature - Saturation temperature

= 54.4 - 52 = 2.4 °C

Therefore liquid sub cooling required to prevent liquid flashing = 2.4 °C

Oil Charging Guide

In order to determine if a system requires additional oil to accommodate for long interconnecting pipe lines and oil traps, a simple calculation can be used to approximate the volume of oil required as follows:

OT = (RC / 200) - (OC x 0.09)

Where

OT = Additional Oil Charge / Circuit (kg)

RC = Total Refrigerant Charge / Circuit (kg)

OC = Total Compressor Oil Charge / Circuit (l)

This calculation is based on the following assumptions:

1) 10% of the total compressor oil charge enters the system

2) A specific gravity of 0.09 between oil and water

3) Oil is added at a rate of 5 grams per kilogram of refrigerant

Example

What is the additional oil charge required per circuit for an DF10X-EZRE matched with a CR16 and a 3/8” 80m interconnecting liquid line?

Refrigerant charge of an DF10X - EZRE = 1.0 kg

Refrigerant charge of a CR50 = 2.7 kg

Interconnecting pipe line = 80 x 0.05 = 4.0 kg

Total system refrigerant charge = 1.0 + 2.7 + 4.0 = 7.7 kg

Compressor oil charge(s) = 1.2 litre

So,

OT = (RC / 200) - (OC x 0.09)

OT = (7.7 / 200) - (1.2 x 0.09)

OT = -0.07 litre

A negative value (as above) suggests that there is already sufficient oil in the system. You can calculate the maximum refrigerant charge for this system when additional oil charge is required as follows:

OT = (RC / 200) - (OC x 0.09)
RC = OT + (OC x 0.09 x 200)
RC = 0 + (1.2x 0.09 x 200)
RC = 21.6 kg

Refrigerant Pipesizing Guide - X Type Downflow

Pipe lengths calculated for Indoor unit with Airedale Outdoor Unit match.

Indoor	Outdoor	Indoor Unit Connection Size		Equivalent Pipe Lengths with R410A					
				0-15m			15-40m		
					Discharge			Discharge	
		Liquid	Discharge	Liquid	Horizontal(1)	Vertical(2)	Liquid	Horizontal(1)	Vertical(2)
DF6X	CR12	3/8”	1/2”	3/8”	1/2”	3/8”	3/8”	1/2”	3/8”
DF8X	CR16	3/8”	1/2”	3/8”	1/2”	1/2”	3/8”	5/8”	1/2”
DF10X	CR16	3/8”	1/2”	3/8”	5/8”	1/2”	3/8”	5/8”	1/2”
DF13X	CR22	3/8”	5/8”	3/8”	5/8”	1/2”	1/2”	3/4”	5/8”
DF15X	CR22	3/8”	5/8”	1/2”	5/8”	5/8”	1/2”	3/4”	5/8”
DF17X	CR30	3/8”	5/8”	1/2”	3/4”	5/8”	1/2”	7/8”	5/8”
DF20X2	CR30	1/2”	7/8”	1/2”	3/4”	5/8”	1/2”	7/8”	3/4”
DF22X2	CR50	1/2”	7/8”	1/2”	3/4”	5/8”	5/8”	7/8”	3/4”
DF26X2	CR50	1/2”	7/8”	1/2”	3/4”	3/4”	5/8”	7/8”	7/8”
DF28X	CR50	1/2”	7/8”	5/8”	7/8”	3/4”	5/8”	7/8”	7/8”
DF31X	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	1 1/8”	7/8”
DF35X	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	1 1/8”	7/8”
DF40X	CR65	5/8”	1 1/8”	5/8”	1 1/8”	7/8”	3/4”	1 1/8”	7/8”
DF45X	CR80	5/8”	1 1/8”	5/8”	1 1/8”	1 1/8”	3/4”	1 1/8”	1 1/8”
DF50X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	3/4”	1 1/8”	1 1/8”
DF55X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	3/4”	1 1/8”	1 1/8”
DF60X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	7/8”	1 1/8”	1 1/8”

(1) For interconnecting pipework with a predominantly horizontal layout.
(2) For interconnecting pipework with a predominantly vertical layout.

IMPORTANT ⚠	Tandem Compressor and suction throttle valve applications: In part load, gas velocity should be taken into account when selecting and commissioning pipework to ensure full oil return.

IMPORTANT ⚠	REMEMBER excessive pressure loss in interconnecting pipework will impair system performance; this should be factored in during the design of the system and where necessary oil separators employed.

Refrigerant Pipesizing Guide - X Type Upflow

Pipe lengths calculated for Indoor unit with Airedale Outdoor Unit match.

Indoor	Outdoor	Indoor Unit Connection Size		Equivalent Pipe Lengths with R410A					
				0-15m			15-40m		
					Discharge			Discharge	
		Liquid	Discharge	Liquid	Horizontal(1)	Vertical(2)	Liquid	Horizontal(1)	Vertical(2)
V6X	CR12	3/8”	1/2”	3/8”	1/2”	3/8”	3/8”	1/2”	3/8”
V8X	CR16	3/8”	1/2”	3/8”	1/2”	1/2”	3/8”	5/8”	1/2”
V10X	CR16	3/8”	1/2”	3/8”	5/8”	1/2”	3/8”	5/8”	1/2”
V13X	CR22	3/8”	5/8”	3/8”	5/8”	1/2”	1/2”	3/4”	5/8”
V15X	CR22	3/8”	5/8”	1/2”	5/8”	5/8”	1/2”	3/4”	5/8”
V17X	CR30	3/8”	5/8”	1/2”	3/4”	5/8”	1/2”	7/8”	5/8”
V20X2	CR30	1/2”	7/8”	1/2”	3/4”	5/8”	1/2”	7/8”	3/4”
V22X2	CR50	1/2”	7/8”	1/2”	3/4”	5/8”	5/8”	7/8”	3/4”
V26X2	CR50	1/2”	7/8”	1/2”	3/4”	3/4”	5/8”	7/8”	7/8”
V28X	CR50	1/2”	7/8”	5/8”	7/8”	3/4”	5/8”	7/8”	7/8”
V28X2	CR50	1/2”	7/8”	5/8”	7/8”	3/4”	5/8”	7/8”	7/8”
V31X	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	1 1/8”	7/8”
V31X2	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	7/8”	7/8”
V35X	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	1 1/8”	7/8”
V35X2	CR50	1/2”	7/8”	5/8”	7/8”	7/8”	5/8”	7/8”	7/8”
V40X	CR65	5/8”	1 1/8”	5/8”	1 1/8”	7/8”	3/4”	1 1/8”	7/8”
V40X2	CR65	5/8”	1 1/8”	5/8”	7/8”	7/8”	3/4”	7/8”	7/8”
V45X2	CR80	5/8”	1 1/8”	5/8”	7/8”	7/8”	3/4”	7/8”	7/8”
V50X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	3/4”	1 1/8”	1 1/8”
V55X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	3/4”	1 1/8”	1 1/8”
V60X2	CR80	5/8”	1 3/8”	3/4”	1 1/8”	1 1/8”	7/8”	1 1/8”	1 1/8”

(1) For interconnecting pipework with a predominantly horizontal layout.
(2) For interconnecting pipework with a predominantly vertical layout.

IMPORTANT ⚠	Tandem Compressor and suction throttle valve applications: In part load, gas velocity should be taken into account when selecting and commissioning pipework to ensure full oil return.

IMPORTANT ⚠	REMEMBER excessive pressure loss in interconnecting pipework will impair system performance; this should be factored in during the design of the system and where necessary oil separators employed.

Ethylene Glycol Correction Factors - WX Models

For conditions outside those quoted, please refer to Airedale.

The Use of Glycol

Glycol is recommended when a supply water temperature of +5°C or below is required or when static water can be exposed to freezing temperatures.

The presence of glycol in the system has a direct effect upon the Cooling Duty, the Design Flow Rate and the unit Pressure Drop.

To approximate the effect of glycol on unit performance, the following correction factors when applied can be used as a guide.

Where:

$\dot{v}$ = Corrected Flow Rate

THR = Equivalent Total Heat of Rejection (THR) (kW), refer to ***Cooling Duties - WX Models***, (the change in THR values as glycol concentration is increased is negligible.)

ΔT = Temperature difference between Water/Glycol Inlet/Outlet (°C).

ΔP = Maximum Water/ Glycol Pressure Drop for the indoor unit (kPa).

ΔP_W = Equivalent Water Pressure Drop for indoor unit (kPa), use the corrected flow rate $\dot{v}$. Refer to ***Waterside Pressure Drop (kPa) - WX Models***.

						Ethylene Glycol (Volume) / Freezing Point °C			
						10% / -4°C	20% / -9°C	30% / -15°C	40% / -23°C
$\dot{v}$	Corrected Flow Rate	=	THR / ΔT	Flow Rate	x by	0.240	0.250	0.250	0.260
ΔP	Corrected Pressure Drop	=	ΔPw	Pressure Drop		1.041	1.083	1.133	1.200

Example: V26WX2-EZ Condensing Entering / Leaving at 30°C/35°C, Based on ΔT of 5°C, 24°C/45% RH Ambient, 20% Ethylene Glycol

						Ethylene Glycol (Volume) / Freezing Point °C			
						10% / -4°C	20% / -9°C	30% / -15°C	40% / -23°C
$\dot{v}$	1.76 l/s	=	THR (35.2) / ΔT (12 - 7 = 5ΔT) =	7.04	x by	0.240	0.250	0.250	0.260
ΔP	157Pa	=	ΔPw	145 kPa		1.041	1.083	1.133	1.200

Water Detector Tape Installation

Monitored by a sensing relay, the water detection tape will provide an alarm when in contact with several drops of conductive liquid. High humidity should normally not cause an alarm unless it results in condensation dripping on the tape surface or condensation present on the surface to which the tape is applied. The recommended installation process is as follows:

- When applying to a surface such as concrete, the most popular method is to press the tape firmly onto a continuous film of approved adhesive or glue. When properly glued to the floor the tape lies flat on the floor avoiding “bridging” (where the detector lifts off the floor allowing water to run under the detector without detection) and avoids damage to the detector.
- When applying the tape directly to the piping, the tape is simply strapped to the pipe.
- Care should be taken to prevent the wire detectors in the tape from coming into contact with any electrically conductive material causing a “fault” condition. Anything used in applying the tape which interferes with the capability of the fleece substrate may adversely affect the detector’s function.
- The tape should not be installed under piping or equipment that can condense liquid as the condensation could drip on the tape causing an alarm.
- The tape should not be installed directly under an air handling unit, but around the unit.
- In the sub-floor of a computer room the tape should be installed after the raised floor, conduit and piping are installed and the sub-floor cleaned and sealed.

IMPORTANT ⚠	Any adhesive which alters the chemical composition of the tape must be avoided and any use thereof voids any warranty, expressed or implied. **3M Scotch-Weld™ 77 adhesive** is strongly recommended to ensure the warranty will be maintained. When adhesive is used, adhesive with an oily or greasy base MUST be avoided as this will affect the tape’s ability to detect moisture. When the use of an adhesive is not desirable or practical, staples, clips or other devices may be used. When applying the tape to piping a combination of glue and plastic or nylon straps or wire ties may be used. The straps or ties help to cut down installation time and secures the tape to the pipe while the adhesive cures and dries.

CAUTION ⚠	Any electrically conductive attachment devices used must not touch the wires that are within the tape fabric. The maximum length of a detector loop, including wire and detector tape is 50 metres. However, this tape length is not practical for most applications. Where the tape is concealed or not easily accessible, tape runs should be limited to no more than 30 metres, and 10 to 15 metres per zone is generally used. If the water detector tape is to be attached to or covered by a metallic or conductive surface, care should be taken not to short the conductors. When installing tape to any surface, be careful not to short circuit or ground out the conductors (such as over/under conduit or sharp edges of cable trays etc.). This also applies to any covering which may be applied over the tape. Before installing the tape, be sure to inspect areas where the tape is to be applied for presence of chemical materials that could create problems. If in doubt, it is recommended to clean the floor with a mild detergent.

For further information, please refer to Airedale’s Technical Bulletin and Loose Part Instruction Manual.

Water Treatment Guidelines

Protecting Plant

It is important that the Airedale plant and equipment is properly protected and maintained to ensure optimal system performance.

⚠IMPORTANT	The equipment and system should be kept clean and free of solid fouling, scale, corrosion and biological fouling. Failure to do so may invalidate warranty.

Properly maintaining the system can improve energy efficiency and life expectancy. Acceptable water treatment levels for the system should be determined by the water treatment specialist on a project by project, system by system basis. The table below provides a guide to the acceptable range required for Airedale plant, although hardness of water may vary depending on the location of the site.

PH (41°C - 104°F / 5°C - 40°C)	7.0 - 8.5	Total Hardness (mg CaCO3/L)	<200
Electrical Conductivity (µs/cm)	<800	Total Iron (mg Fe/l)	<3.0
Chloride (mg Cl/l)	<200	Soluble Iron (mg Fe/l)	<1.0
Alkalinity (mg CaCO3/l	<100	Ammonium (mg NH4+/l)	<1.0
Sulphate ion (mg S02 4-/l)	<200	Sulphide (mg S2-/l)	<5

When completing a chemical clean or a dynamic flush and dose on the secondary system from the low loss header or buffer vessel, primary units such as chillers, condensers and air conditioning units should have a full-bore bypass installed as close to the plant as possible. The plant should be placed in bypass when carrying out the chemical clean in order to protect sensitive plant items and smaller bore pipes from blockage. Airedale chillers have an optional, factory-fitted flushing bypass that can be integrated within the waterside pipework. Installers should refer to Airedale for the most up to date guidelines of pre-commissioning cleaning of pipework systems and ongoing water quality maintenance and systems in operation. The manufacturer is not responsible for damage to or malfunctioning of equipment caused by failure to treat water or by improperly treated system water - this applies to both before and after commissioning.

Choice of Chemicals

Below is a table of metallic and non-metallic substances found in plant items produced by Airedale.
All chemicals to be used during the water treatment process should be carefully selected by the water treatment specialist so that they do not have a detrimental effect on these items, any component within the plant and equipment or the system as a whole. Frost protection and the dosing of chemicals such as monoethylene glycol and polypropylene glycol should be carefully considered in terms of dosing levels and blended chemical compatibility. Thermal efficiency should also be considered, on a project-by-project basis.

⚠IMPORTANT	This is not an exhaustive list and specific advice should be sought for individual items of equipment or specific applications, if required.

Copper	Stainless Steel (AISI 302)	Silicon	PA66
Brass	Stainless Steel (AISI 316)	PVC	Neoprene
Cast Bronze	Nickel Plated Brass	PTFE	Nitrile-Butylene Elastomer
Cast Iron	Galvanized Iron	PPS	Ethylene Propylene Rubber
Mild Steel	VITON (Rubber/Silicone mix)	PPE	EPDM
TPE	Synthetic Fibre	PPA 40-GF	Diaphragm

Filling Stage

- Before filling plant items, a visual inspection of valves should take place to ensure that there are no open ends such as drain cocks opened during installation.
- The plant items should be filled with clean water, dosed with corrosion inhibitor and biocides as required in order to prevent corrosion and biological growth. Refer to BSRIA recommendations regarding pre-filling.
- Manual or automatic air vents should be opened to release displaced air from the system during the filling process until pressurised.

Humidifier Bottle Information

Limit Values for the supply water with Medium to High conductivity in an immersed electrode humidifier.

			Min	Max
Hydrogen ions		pH	7	8.5
Specific conductivity at 20°C	σR, 20°C	µS/cm	300	1250
Total dissolved solids	TDS	mg/l	(1)	(1)
Dry residue at 180°C	R180	mg/l	(1)	(1)
Total hardness TH		mg/l CaCO3	100(2)	400
Temporary hardness		mg/l CaCO3	60(3)	300
Iron + Manganese		mg/l Fe + Mn	0	0.2
Chlorides		ppm- Cl	0	30
Silica		mg/l SiO2	0	20
Residual chlorine		mg/l Cl	0	0.2
Calcium sulphate		mg/l CaSO4	0	100
Metallic impurities		mg/l	0	0
Solvents, diluents, soaps, lubricants		mg/l	0	0

(1) Values depending on specific conductivity; in general: TDS σ 0.93 * σ20; R180 ≅ 0.65 * σ20
(2) not lower than 200% of the chloride content in mg/l of Cl-
(3) not lower than 300% of the chloride content in mg/l of Cl-

Limit Values for the supply water with Medium to Low conductivity in an immersed electrode humidifier.

			Min	Max
Hydrogen ions		pH	7	8.5
Specific conductivity at 20°C	σR, 20°C	µS/cm	125	500
Total dissolved solids	TDS	mg/l	(1)	(1)
Dry residue at 180°C	R180	mg/l	(1)	(1)
Total hardness TH		mg/l CaCO3	50(2)	250
Temporary hardness		mg/l CaCO3	30(3)	150
Iron + Manganese		mg/l Fe + Mn	0	0.2
Chlorides		ppm- Cl	0	20
Silica		mg/l SiO2	0	20
Residual chlorine		mg/l Cl	0	0.2
Calcium sulphate		mg/l CaSO4	0	60
Metallic impurities		mg/l	0	0
Solvents, diluents, soaps, lubricants		mg/l	0	0

(1) Values depending on specific conductivity; in general: TDS σ 0.93 * σ20; R180 ≅ 0.65 * σ20

(2) not lower than 200% of the chloride content in mg/l of Cl-

(3) not lower than 300% of the chloride content in mg/l of Cl-

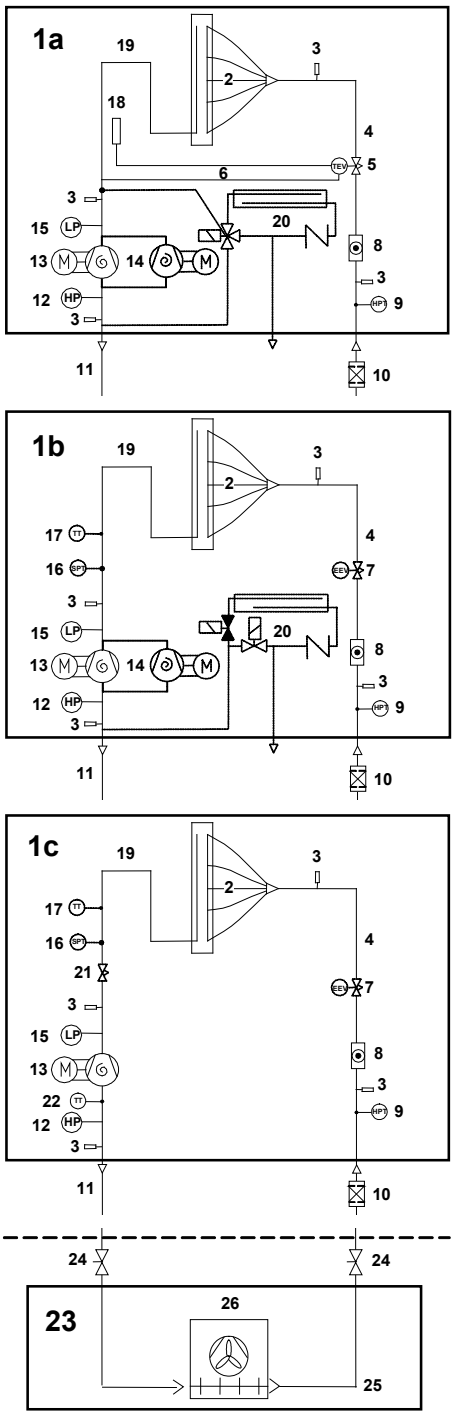
CAUTION ⚠	Warning: no relation can be demonstrated between water hardness and conductivity.

IMPORTANT ⚠	Do not treat water with softeners! This could cause corrosion of the electrodes or the formation of foam, leading to potential operating problems or failures.
CAUTION ⚠	The water supply should conform to Local Water Regulations and within the following guidelines: Supply water pressure between 1.0 barg to 8.0 barg, > 8.0 bar a pressure reducing valve should be fitted. A minimum flow rate of 1.21 l/min is required. The humidifier inlet is fitted with a braided flexible hose, having 3/4” BSPF connection.
IMPORTANT ⚠	Ensure the union between the humidifier assembly and supply hose is fully tightened. Any looseness, misalignment or damage to the union can lead to water leakage.
CAUTION ⚠	It is recommended that a shut off valve and a mechanical strainer be fitted to the water supply prior to the humidifier assembly.

System Pipework Schematic

X Type

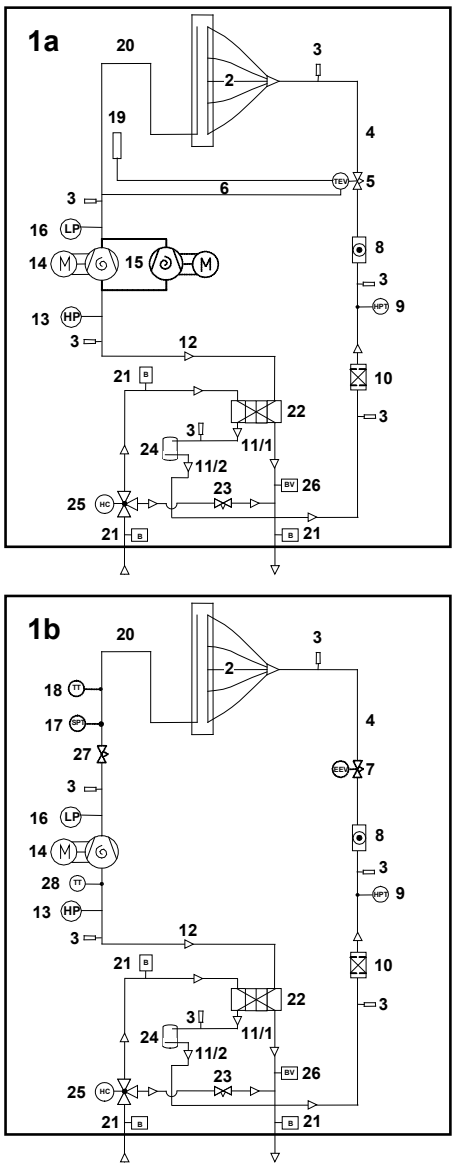
Design should be in accordance with good refrigeration practice to ensure good oil return to the compressor under all normal operating conditions to prolong the life of your unit.



1	INDOOR UNIT
1a	Shown with Optional Hot Gas Re-Heat (HGRH): Sizes 6 - 35 comprising: Coil, Check Valve & 3 Way Solenoid Valve
1b	Shown with Optional Hot Gas Re-Heat (HGRH): Sizes 40 - 60 comprising: Coil, Check Valve & 2 x 2 way Solenoid Valves (1 NC and 1 NO)
1c	Shown with Optional Suction Throttle Valve, optional EEV standard with Suction Throttle Valve selection
2	Evaporator Coil
3	Schrader Point
4	Liquid Expansion Line
5	Thermostatic Expansion Valve (TEV) - Standard
6	Equalisation Line - Standard with TEV - Standard
7	Electronic Expansion Valve (EEV) - Optional in place of TEV and standard with Suction Throttle Valve option
8	Sight Glass
9	Head Pressure Transducer
10	Filter Drier (Supplied Loose)
11	Discharge Line
12	High Pressure Switch
13	Scroll Compressor
14	Additional Scroll Compressor (Tandem Set), Suction Throttle Valve not available with Tandem set
15	Low Pressure Switch
16	Suction Pressure Transducer - With Optional EEV
17	Temperature Transmitter - With Optional EEV
18	TEV Bulb - Standard with TEV
19	Suction Line
20	Hot Gas Re-Heat Option
21	Suction Throttle Valve; not available with HGRH and not available with Tandem Scroll units (Sizes 20X2 - 26X2 & 50X2 - 60X2)
22	Temperature Sensor - Discharge Gas (Sizes 28X - 45X & 50X2 - 60X2)
23	MATCHED OUTDOOR CONDENSER
24	Shut Off Valve (Supplied loose) - Optional with Outdoor Units
25	Liquid Line
26	Condenser Coil & Fan

System Pipework Schematic

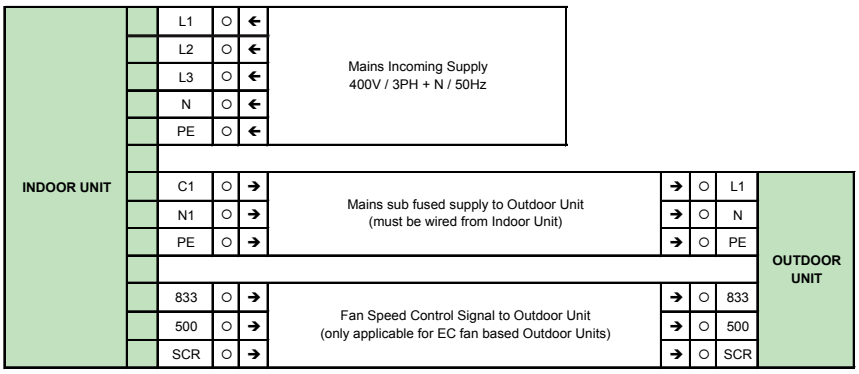
WX Type



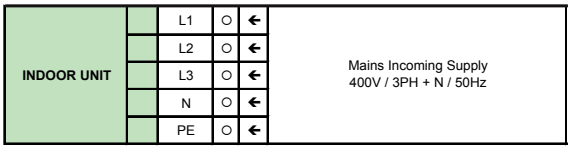
1	INDOOR UNIT
1a	Shown with standard Thermostatic Expansion Valve
1b	Shown with Optional Suction Throttle Valve, optional EEV standard with Suction Throttle Valve selection
2	Evaporator Coil
3	Schrader Point
4	Liquid Expansion Line
5	Thermostatic Expansion Valve (TEV) - Standard
6	Equalisation Line - Standard with TEV
7	Electronic Expansion valve (EEV) - Optional in place of TEV
8	Sight Glass
9	Head Pressure Transducer
10	Filter Drier
11	Liquid Line 1 & 2
12	Discharge Line
13	High Pressure Switch
14	Scroll Compressor
15	Additional Scroll Compressor (Tandem Set), Suction Throttle Valve not available with Tandem set
16	Low Pressure Switch
17	Suction Pressure Transducer - With Optional EEV
18	Temperature Transmitter - With Optional EEV
19	TEV Bulb - Standard with TEV
20	Suction Line
21	Binder Point
22	Plate Condenser
23	Bypass Leg & Bypass Balancing Valve
24	Liquid Receiver
25	Head Pressure Control Valve
26	Bleed Valve
27	Suction Throttle Valve; not available with HGRH and not available with Tandem Scroll units (Sizes 20X2 - 26X2 & 50X2 - 60X2)
28	Temperature Sensor - Discharge Gas (Sizes 28X - 45X & 50X2 - 60X2)

Interconnecting Wiring

X Models (Matched System)



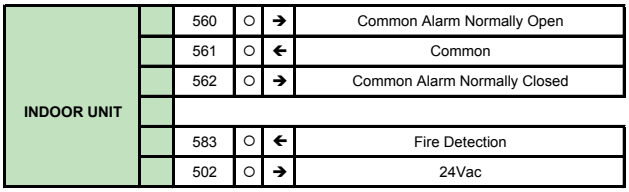
WX Models (Non-Matched System)



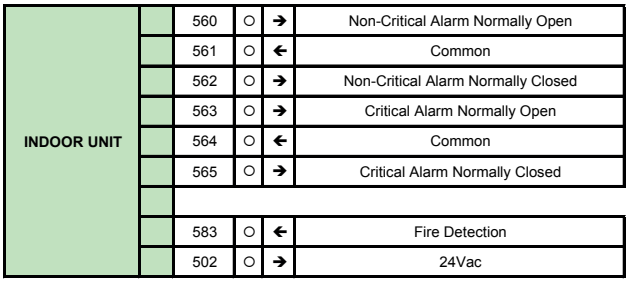
X and WX Models

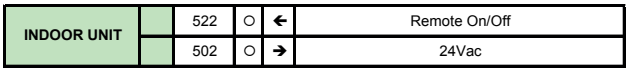
Indoor Controls Only

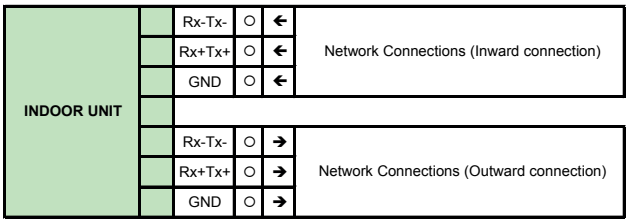
Sizes 6-26



Sizes 28-60



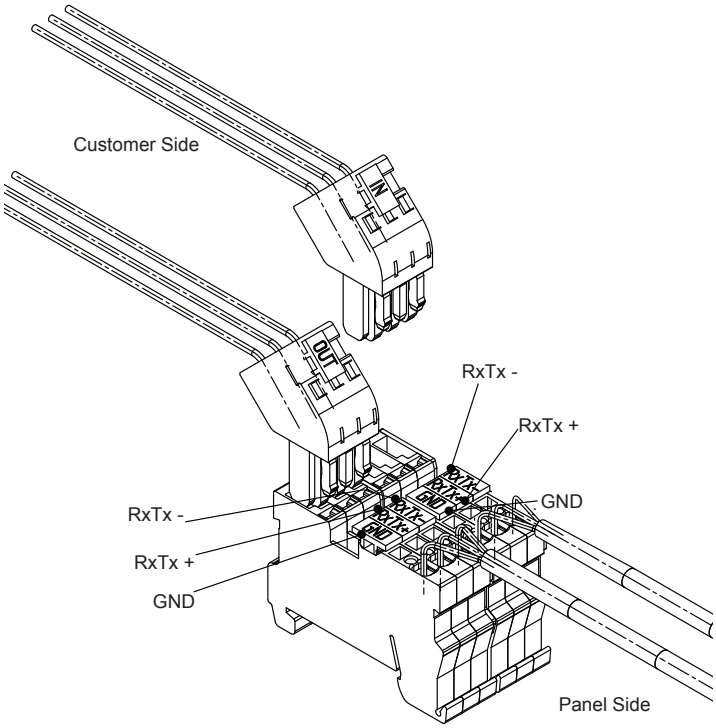




IMPORTANT ⚠	This system has been designed to be connected to a TN type distribution system. For alternate distribution type systems, contact Airedale.

pLAN Termination

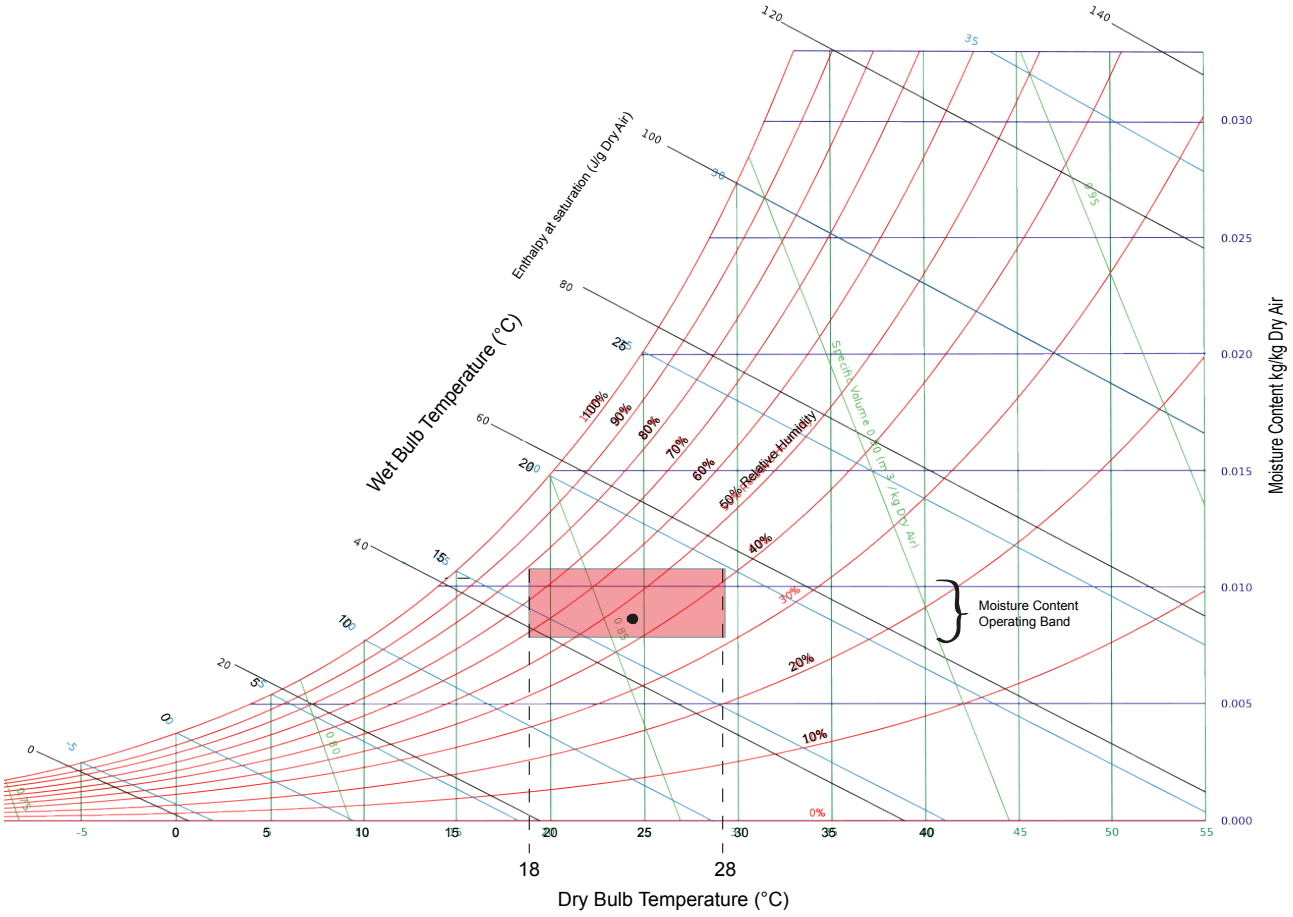
⚠**IMPORTANT**	The plugged termination ensures that the connections are made simultaneously. Failure to attach the cables this way may cause damage to the controller.



Technical Data

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55% (Based upon 24°C Dry Bulb)
Outdoor Temperature	-20°C to +41°C



● Nominal Design Operating Condition 24°C Dry Bulb 45% RH

IMPORTANT ⚠	Fan Power Input (Fan Gain) must be added to the room load to establish full gross cooling capacity requirements. Fan Power Input can be found in the mechanical data sections. Fan Power Input is taken at the operating conditions based on 25Pa ESP.

Technical Data Downflow Units X Type

Performance Data Standard Condenser

Cooling Capacity (1)		Ambient							
	Air On	25°C		30°C		35°C		40°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
DF6X-EZRE CR012	22/50	6.3	6.1	6.3	6.1	6.3	6.0	5.9	5.8
	24/45	6.6	6.6	6.6	6.6	6.5	6.5	6.2	6.2
	26/40	6.9	6.9	6.9	6.9	6.8	6.8	6.5	6.5
DF8X-EZRE CR016	22/50	8.0	7.9	8.0	7.9	7.8	7.7	7.4	7.4
	24/45	8.4	8.4	8.4	8.4	8.2	8.2	7.8	7.8
	26/40	8.8	8.7	8.8	8.7	8.6	8.4	8.4	7.7
DF10X-EZRE CR016	22/50	10.5	10.4	10.5	10.4	10.0	10.0	9.4	9.4
	24/45	11.0	11.0	10.9	10.9	10.4	10.4	9.9	9.9
	26/40	11.5	11.5	11.4	11.4	10.9	10.9	10.5	10.3
DF13X-EZRE CR022	22/50	13.6	12.4	13.6	12.4	13.4	12.3	12.7	11.8
	24/45	14.1	13.7	14.1	13.7	13.9	13.5	13.1	13.0
	26/40	14.7	14.7	14.7	14.7	14.4	14.4	13.7	13.7
DF15X-EZRE CR022	22/50	15.4	14.5	15.4	14.5	15.0	14.2	14.2	13.7
	24/45	16.0	15.7	16.0	15.7	15.6	15.4	14.8	14.8
	26/40	16.6	16.6	16.6	16.6	16.2	16.2	15.4	15.4
DF17X-EZRE CR030	22/50	17.7	16.5	17.7	16.5	17.1	16.1	16.1	15.4
	24/45	18.3	18.0	18.3	18.0	17.6	17.5	16.6	16.6
	26/40	18.9	18.9	18.9	18.9	18.1	18.1	17.1	17.1
DF20X2-EZRE CR030	22/50	21.3	19.9	21.2	19.8	20.0	19.0	18.8	18.2
	24/45	22.2	21.9	22.0	21.7	20.8	20.8	19.6	19.6
	26/40	23.1	23.1	22.8	22.8	21.6	21.6	20.5	20.5
DF22X2-EZRE CR050	22/50	21.9	21.2	21.9	21.2	21.9	21.2	21.1	20.5
	24/45	22.9	22.9	22.9	22.9	22.9	22.9	22.0	22.0
	26/40	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55% (based upon 24°C Dry Bulb)
Outdoor Temperature	-20°C to +41°C

Technical Data Downflow Units X Type

Performance Data Standard Condenser

Cooling Capacity (1)		Ambient							
	Air On	25°C		30°C		35°C		40°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
DF26X2-EZRE CR050	22/50	26.5	24.2	26.5	24.2	26.5	24.2	25.0	23.3
	24/45	27.5	26.5	27.5	26.5	27.4	26.4	25.9	25.4
	26/40	28.6	28.6	28.6	28.6	28.4	28.4	26.9	26.9
DF28X-EZRE CR050	22/50	25.0	24.3	25.0	24.3	25.0	24.3	23.7	23.4
	24/45	26.1	26.1	26.1	26.1	26.1	26.1	24.8	24.8
	26/40	27.4	27.4	27.4	27.4	27.3	27.3	26.1	26.1
DF31X-EZRE CR050	22/50	28.4	28.2	28.4	28.2	28.2	28.1	26.7	26.7
	24/45	29.7	29.7	29.7	29.7	29.4	29.4	28.0	28.0
	26/40	31.2	31.2	31.2	31.2	30.8	30.8	29.4	28.8
DF35X-EZRE CR050	22/50	32.9	32.5	32.9	32.5	32.2	31.9	30.5	30.4
	24/45	34.5	34.5	34.5	34.5	33.7	33.7	32.0	32.0
	26/40	36.3	36.3	36.3	36.3	35.4	34.8	34.1	32.1
DF40X-EZRE CR065	22/50	36.7	36.6	36.7	36.6	35.8	35.8	33.9	33.9
	24/45	38.5	38.5	38.5	38.5	37.4	37.4	35.6	35.6
	26/40	40.4	40.4	40.4	40.4	39.3	38.7	37.9	35.9
DF45X-EZRE CR080	22/50	41.4	39.2	41.4	39.2	41.4	39.2	39.3	37.7
	24/45	43.2	42.9	43.2	42.9	43.1	42.9	40.9	40.9
	26/40	45.1	45.1	45.1	45.1	44.9	44.9	42.8	42.8
DF50X2-EZRE CR080	22/50	48.2	45.1	48.2	45.1	47.6	44.7	45.0	42.9
	24/45	50.2	49.3	50.2	49.3	49.5	48.7	46.8	46.6
	26/40	52.3	52.3	52.3	52.3	51.3	51.3	48.6	48.6
DF55X2-EZRE CR080	22/50	54.5	48.8	54.5	48.8	53.1	47.9	50.0	46.0
	24/45	56.6	53.7	56.6	53.7	55.0	52.6	51.9	50.5
	26/40	58.7	58.7	58.7	58.7	56.8	56.8	53.7	53.7
DF60X2-EZRE CR080	22/50	61.5	54.3	61.5	54.3	58.9	52.8	55.4	50.6
	24/45	63.8	59.6	63.8	59.6	60.9	57.7	57.3	55.4
	26/40	66.1	65.2	66.1	65.2	62.9	62.9	59.3	59.3

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55% (based upon 24°C Dry Bulb)
Outdoor Temperature	-20°C to +41°C

Technical Data Downflow Units X Type

Performance Data Larger Condenser

Cooling Capacity (1)		Ambient									
	Air On	25°C		30°C		35°C		40°C		45°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
DF6X-EZRE CR016	22/50	6.3	6.1	6.3	6.1	6.3	6.1	6.0	5.8	5.7	5.6
	24/45	6.6	6.6	6.6	6.6	6.6	6.6	6.2	6.2	5.9	5.9
	26/40	6.9	6.9	6.9	6.9	6.9	6.9	6.6	6.6	6.3	6.2
DF8X-EZRE CR022	22/50	8.0	7.9	8.0	7.9	8.0	7.9	7.8	7.7	7.4	7.3
	24/45	8.4	8.4	8.4	8.4	8.4	8.4	8.1	8.1	7.8	7.8
	26/40	8.8	8.7	8.8	8.7	8.8	8.7	8.6	8.3	8.4	7.7
DF10X-EZRE CR022	22/50	10.5	10.4	10.5	10.4	10.5	10.4	10.0	10.0	9.5	9.5
	24/45	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.5	10.0	10.0
	26/40	11.5	11.5	11.5	11.5	11.5	11.5	11.0	11.0	10.6	10.5
DF13X-EZRE CR030	22/50	13.6	12.4	13.6	12.4	13.5	12.4	12.8	11.9	12.0	11.4
	24/45	14.1	13.7	14.1	13.7	14.0	13.6	13.2	13.1	12.5	12.5
	26/40	14.7	14.7	14.7	14.7	14.5	14.5	13.8	13.8	13.1	13.1
DF15X-EZRE CR030	22/50	15.4	14.5	15.4	14.5	15.1	14.3	14.3	13.8	13.5	13.2
	24/45	16.0	15.7	16.0	15.7	15.7	15.4	14.9	14.8	14.1	14.1
	26/40	16.6	16.6	16.6	16.6	16.3	16.3	15.6	15.6	14.8	14.8
DF17X-EZRE CR050	22/50	17.7	16.5	17.7	16.5	17.7	16.5	17.2	16.2	16.3	15.6
	24/45	18.3	18.0	18.3	18.0	18.3	18.0	17.8	17.6	16.9	16.9
	26/40	18.9	18.9	18.9	18.9	18.9	18.9	18.3	18.3	17.4	17.4
DF20X2-EZRE CR050	22/50	21.3	19.9	21.3	19.9	21.3	19.9	20.5	19.4	19.4	18.6
	24/45	22.2	21.9	22.2	21.9	22.2	21.9	21.4	21.2	20.3	20.3
	26/40	23.1	23.1	23.1	23.1	23.1	23.1	22.2	22.2	21.2	21.2
DF22X2-EZRE CR065	22/50	21.9	21.2	21.9	21.2	21.9	21.2	21.2	20.6	20.1	19.8
	24/45	22.9	22.9	22.9	22.9	22.9	22.9	22.2	22.2	21.1	21.1
	26/40	24.0	24.0	24.0	24.0	24.0	24.0	23.2	23.2	22.2	22.2
DF26X2-EZRE CR065	22/50	26.5	24.2	26.5	24.2	26.5	24.2	25.2	23.4	23.8	22.5
	24/45	27.5	26.5	27.5	26.5	27.5	26.5	26.2	25.5	24.8	24.5
	26/40	28.6	28.6	28.6	28.6	28.6	28.6	27.1	27.1	25.8	25.8

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55% (based upon 24°C Dry Bulb)
Outdoor Temperature	-20°C to +41°C

Technical Data Downflow Units X Type

Performance Data Larger Condenser

Cooling Capacity (1)		Ambient									
	Air On	25°C		30°C		35°C		40°C		45°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
DF28X-EZRE CR065	22/50	25.0	24.3	25.0	24.3	25.0	24.3	23.9	23.5	22.7	22.5
	24/45	26.1	26.1	26.1	26.1	26.1	26.1	25.0	25.0	23.8	23.8
	26/40	27.4	27.4	27.4	27.4	27.4	27.4	26.3	26.3	25.3	24.8
DF31X-EZRE CR065	22/50	28.4	28.2	28.4	28.2	28.4	28.2	26.9	26.9	25.5	25.5
	24/45	29.7	29.7	29.7	29.7	29.6	29.6	28.2	28.2	26.8	26.8
	26/40	31.2	31.2	31.2	31.2	31.0	31.0	29.7	29.2	28.4	26.9
DF35X-EZRE CR065	22/50	32.9	32.5	32.9	32.5	32.5	32.1	30.8	30.6	29.1	29.1
	24/45	34.5	34.5	34.5	34.5	33.9	33.9	32.3	32.3	30.7	30.7
	26/40	36.3	36.3	36.3	36.3	35.6	35.2	34.3	32.6	33.2	29.8
DF40X-EZRE CR080	22/50	36.7	36.6	36.7	36.6	36.7	36.6	35.2	35.2	33.4	33.4
	24/45	38.5	38.5	38.5	38.5	38.5	38.5	36.9	36.9	35.2	35.2
	26/40	40.4	40.4	40.4	40.4	40.4	40.4	39.0	38.1	37.7	35.3
DF45X-EZRE CR105	22/50	41.4	39.2	41.4	39.2	41.4	39.2	39.5	37.9	37.4	36.4
	24/45	43.2	42.9	43.2	42.9	43.2	42.9	41.2	41.2	39.1	39.1
	26/40	45.1	45.1	45.1	45.1	45.1	45.1	43.0	43.0	41.0	41.0
DF50X2-EZRE CR105	22/50	48.2	45.1	48.2	45.1	48.0	44.9	45.3	43.1	42.6	41.2
	24/45	50.2	49.3	50.2	49.3	49.8	48.9	47.1	46.8	44.4	44.4
	26/40	52.3	52.3	52.3	52.3	51.6	51.6	49.0	49.0	46.2	46.2
DF55X2-EZRE CR105	22/50	54.5	48.8	54.5	48.8	53.5	48.1	50.5	46.3	47.2	44.2
	24/45	56.6	53.7	56.6	53.7	55.4	52.9	52.3	50.8	49.0	48.4
	26/40	58.7	58.7	58.7	58.7	57.3	57.3	54.2	54.2	50.8	50.8
DF60X2-EZRE CR105	22/50	61.5	54.3	61.5	54.3	59.5	53.1	56.0	51.0	52.0	48.4
	24/45	63.8	59.6	63.8	59.6	61.5	58.1	57.9	55.8	53.9	53.0
	26/40	66.1	65.2	66.1	65.2	63.5	63.3	59.9	59.9	55.8	55.8

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55% (based upon 24°C Dry Bulb)
Outdoor Temperature	-20°C to +41°C

Technical Data Downflow Units X Type

Noise Data

	Sound Measurement		Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
DF6X	Discharge Air	Power	71	65	69	67	67	67	66	58	54
	Return Air	Power	62	68	68	66	59	54	51	49	39
	Case Breakout	Power	58	64	66	58	55	52	47	44	38
	Sound @ 3m	Pressure	43	50	51	43	40	37	33	29	24
DF8X	Discharge Air	Power	77	70	74	73	72	72	71	64	59
	Return Air	Power	68	73	74	72	65	59	56	54	44
	Case Breakout	Power	63	70	71	63	60	56	53	50	43
	Sound @ 3m	Pressure	48	55	57	49	45	42	38	36	29
DF10X	Discharge Air	Power	80	73	77	76	75	75	74	67	62
	Return Air	Power	71	76	77	75	68	62	59	57	47
	Case Breakout	Power	66	73	74	66	63	59	55	53	47
	Sound @ 3m	Pressure	51	58	60	52	48	45	41	38	32
DF13X	Discharge Air	Power	77	71	74	72	72	72	71	64	59
	Return Air	Power	67	73	74	72	65	59	56	54	44
	Case Breakout	Power	63	70	71	63	60	56	52	50	44
	Sound @ 3m	Pressure	48	56	57	49	45	42	38	36	30
DF15X	Discharge Air	Power	73	70	75	72	69	68	67	62	57
	Return Air	Power	66	73	74	71	62	55	52	53	42
	Case Breakout	Power	62	70	72	63	57	54	49	51	44
	Sound @ 3m	Pressure	47	55	57	49	43	39	34	36	29
DF17X	Discharge Air	Power	77	74	78	76	73	72	70	66	61
	Return Air	Power	70	77	78	75	66	59	55	56	46
	Case Breakout	Power	65	73	76	67	61	57	52	53	46
	Sound @ 3m	Pressure	50	59	61	52	46	43	38	39	31
DF20X2	Discharge Air	Power	81	74	78	77	76	77	75	68	63
	Return Air	Power	72	77	78	76	69	63	60	59	48
	Case Breakout	Power	67	74	76	68	64	61	56	54	48
	Sound @ 3m	Pressure	52	59	61	53	49	46	42	40	34
DF22X2	Discharge Air	Power	85	79	83	81	80	81	79	72	67
	Return Air	Power	76	81	82	80	73	67	64	63	52
	Case Breakout	Power	71	78	80	72	68	65	60	58	52
	Sound @ 3m	Pressure	56	64	65	57	54	50	46	43	37
DF26X2	Discharge Air	Power	85	79	83	81	80	81	79	72	67
	Return Air	Power	76	81	82	80	73	67	64	63	52
	Case Breakout	Power	71	78	80	72	68	65	60	58	52
	Sound @ 3m	Pressure	56	64	65	57	54	50	46	43	37

(1) dB(A) is the overall sound level, measured on the A scale

(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Downflow Units X Type

Noise Data

	Sound Measurement		Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
DF28X	Discharge Air	Power	87	77	80	79	81	81	82	79	76
	Return Air	Power	68	77	71	63	66	63	58	56	47
	Case Breakout	Power	70	80	70	63	67	67	60	57	48
	Sound @ 3m	Pressure	55	65	56	49	53	52	45	42	34
DF31X	Discharge Air	Power	91	78	84	83	85	84	85	83	80
	Return Air	Power	71	77	75	66	69	66	61	60	52
	Case Breakout	Power	73	80	74	67	70	69	63	60	52
	Sound @ 3m	Pressure	58	66	59	52	55	55	48	46	38
DF35X	Discharge Air	Power	90	77	83	82	87	83	84	82	79
	Return Air	Power	71	76	74	65	71	65	60	59	51
	Case Breakout	Power	72	78	73	66	71	68	61	60	51
	Sound @ 3m	Pressure	58	65	58	51	57	53	47	45	37
DF40X	Discharge Air	Power	92	80	86	85	89	86	86	85	81
	Return Air	Power	73	78	76	67	73	67	62	62	53
	Case Breakout	Power	75	80	75	68	74	70	64	62	54
	Sound @ 3m	Pressure	60	65	61	54	59	56	49	48	40
DF45X	Discharge Air	Power	92	80	86	85	89	86	86	85	81
	Return Air	Power	73	78	76	67	73	67	62	62	54
	Case Breakout	Power	75	80	75	68	74	70	64	62	54
	Sound @ 3m	Pressure	60	65	61	54	59	56	49	48	40
DF50X2	Discharge Air	Power	89	78	84	86	82	83	84	81	76
	Return Air	Power	69	76	75	69	66	64	59	58	48
	Case Breakout	Power	71	79	74	69	67	68	61	58	49
	Sound @ 3m	Pressure	56	64	59	55	52	53	47	43	34
DF55X2	Discharge Air	Power	89	78	84	86	82	83	84	81	76
	Return Air	Power	70	77	75	69	67	64	60	58	48
	Case Breakout	Power	71	79	74	69	68	68	62	58	49
	Sound @ 3m	Pressure	57	64	59	55	53	53	47	44	35
DF60X2	Discharge Air	Power	91	80	85	89	84	85	86	83	79
	Return Air	Power	71	79	76	72	69	66	62	60	51
	Case Breakout	Power	73	81	75	73	69	69	63	60	52
	Sound @ 3m	Pressure	58	66	60	58	55	54	49	46	37

(1) dB(A) is the overall sound level, measured on the A scale
(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Downflow Units X Type DF6X - DF10X

Mechanical Data

			DF6X-EZRE-0	DF8X-EZRE-0	DF10X-EZRE-0
Standard Condenser Match			**1 x CR012**	**1 x CR016**	**1 x CR016**
Capacity					
Nom Cooling (Gross)	(1)	kW	6.5	8.2	10.4
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.25	0.54	0.77
Dimensions - W x D x H		mm	670 x 670 x 1940	670 x 670 x 1940	670 x 670 x 1940
Weight - Machine	(3)	kg	194	195	199
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	328	233	274
Nominal Airflow		m³/s	0.55	0.75	0.95
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	0.70	0.70	1.20
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	3/8	3/8	3/8
Discharge (Sweat)		in	1/2	1/2	1/2
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			1	1	1
OPTIONAL EXTRAS					
Larger Condenser Match			**CR016**	**CR022**	**CR022**
Nom Cooling (Gross)	(1)	kW	6.6	8.4	11.0
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	4.2	4.8	5.3
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1335 / 2215	1705 / 2215	2145 / 2215
Maximum ESP		Pa	475	295	50
Fan Power Input (Fan Gain)	(2)	kW	0.56	0.56	0.56
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	6.5	7.5	8.4
Water Flow (Nominal)		l/s	0.14	0.17	0.19
LPHW Connection Sizes		mm	22	22	22

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Downflow Units X Type DF6X - DF10X

Electrical Data

		DF6X-EZRE-0	DF8X-EZRE-0	DF10X-EZRE-0
Standard Condenser Match - X		CR012	CR016	CR016
Unit Data Full Function - X				
Nominal Run Amps	A	19.23	20.23	21.23
Maximum Start Amps	A	41.63	50.63	58.63
Recommended Mains Fuse Size	A	25	25	25
Unit Data Cooling Only - X				
Nominal Run Amps	A	8.4	9.4	10.4
Maximum Start Amps	A	30.8	39.8	47.8
Recommended Mains Fuse Size	A	16	16	16
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 2	1 x 2.6	1 x 3.3
Nominal Run Amps	A	3.6	4.6	5.6
Locked Rotor Amps	A	26	35	43
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.29	0.29	0.29
Full Load Amps	A	1.37	1.37	1.37
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.94	0.94	0.94
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.7	0.7	0.7
Full Load Amps	A	3.1	3.1	3.1

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type DF13X - DF17X

Mechanical Data

			DF13X-EZRE-0	DF15X-EZRE-0	DF17X-EZRE-0
Standard Condenser Match			**1 x CR022**	**1 x CR022**	**1 x CR030**
Capacity					
Nom Cooling (Gross)	(1)	kW	13.9	15.6	17.6
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.62	0.67	1.04
Dimensions - W x D x H		mm	990 x 670 x 1940	990 x 670 x 1940	990 x 670 x 1940
Weight - Machine	(3)	kg	241	241	242
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	443	324	245
Nominal Airflow		m³/s	1.00	1.20	1.40
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	1.20	1.66	1.89
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	3/8	3/8	3/8
Discharge (Sweat)		in	5/8	5/8	5/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			2	2	2
OPTIONAL EXTRAS					
Larger Condenser Match			**CR030**	**CR030**	**CR050**
Nom Cooling (Gross)	(1)	kW	14.1	16.0	18.3
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	7.4	8.1	8.6
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1105 / 1560	1310 / 1560	1515 / 1560
Maximum ESP		Pa	310	195	45
Fan Power Input (Fan Gain)	(2)	kW	0.60	0.60	0.60
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	11.5	12.5	13.3
Water Flow (Nominal)		l/s	0.26	0.28	0.30
LPHW Connection Sizes		mm	22	22	22

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Downflow Units X Type DF13X - DF17X

Electrical Data

		DF13X-EZRE-0	DF15X-EZRE-0	DF17X-EZRE-0
Standard Condenser Match - X		CR022	CR022	CR030
Unit Data Full Function - X				
Nominal Run Amps	A	22.73	26.23	27.43
Maximum Start Amps	A	79.63	85.03	92.03
Recommended Mains Fuse Size	A	32	32	32
Unit Data Cooling Only - X				
Nominal Run Amps	A	11.9	15.4	16.6
Maximum Start Amps	A	68.8	74.2	81.2
Recommended Mains Fuse Size	A	16	20	20
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.6	1.6
Full Load Amps	A	4.8	7.2	7.2
Locked Rotor Amps	A	4.8	7.2	7.2
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 4.2	1 x 5	1 x 5.6
Nominal Run Amps	A	7.1	8.2	9.4
Locked Rotor Amps	A	64	67	74
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.95	0.95	0.95
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type DF20X2 - DF26X2

Mechanical Data

			DF20X2-EZRE-0	DF22X2-EZRE-0	DF26X2-EZRE-0
Standard Condenser Match			**1 x CR030**	**1 x CR050**	**1 x CR050M**
Capacity					
Nom Cooling (Gross)	(1)	kW	20.8	22.9	27.4
Capacity Steps			2	2	2
Fan Power Input (Fan Gain)	(2)	kW	1.16	1.86	1.86
Dimensions - W x D x H		mm	1310 x 670 x 1940	1310 x 670 x 1940	1310 x 670 x 1940
Weight - Machine	(3)	kg	293	293	293
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			2/1	2/1	2/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	342	192	192
Nominal Airflow		m³/s	1.70	2.00	2.00
Compressor - Scroll			Tandem		
Quantity			2	2	2
Oil Charge Volume (Total)		l	2.40	2.40	2.40
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	1/2	1/2	1/2
Discharge (Sweat)		in	7/8	7/8	7/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			3	3	3
OPTIONAL EXTRAS					
Larger Condenser Match			**CR050**	**CR065**	**CR065**
Nom Cooling (Gross)	(1)	kW	22.2	22.9	27.5
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	9.0	9.6	9.6
Electric Heating (Total)		kW	15.0	15.0	15.0
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1745 / 2165	2055 / 2165	2055 / 2165
Maximum ESP		Pa	450	145	145
Fan Power Input (Fan Gain)	(2)	kW	1.53	1.53	1.53
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	16.1	16.6	16.6
Water Flow (Nominal)		l/s	0.36	0.37	0.37
LPHW Connection Sizes		mm	22	22	22

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Downflow Units X Type DF20X2 - DF26X2

Electrical Data

Standard Condenser Match - X		DF20X2-EZRE-0 CR030	DF22X2-EZRE-0 CR050	DF26X2-EZRE-0 CR050
Unit Data Full Function - X				
Nominal Run Amps	A	42.45	42.45	45.45
Maximum Start Amps	A	79.85	79.85	102.35
Recommended Mains Fuse Size	A	50	50	63
Unit Data Cooling Only - X				
Nominal Run Amps	A	20.8	20.8	23.8
Maximum Start Amps	A	58.2	58.2	80.7
Recommended Mains Fuse Size	A	25	25	32
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 3.3	2 x 3.3	2 x 4.2
Nominal Run Amps	A	5.6	5.6	7.1
Locked Rotor Amps	A	43	43	64
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		2	2	2
Number of Elements		6	6	6
Rating	kW	15	15	15
Current per Phase	A	21.65	21.65	21.65
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type DF28X - DF31X

Mechanical Data

			DF28X-EZRE-0	DF31X-EZRE-0
Standard Condenser Match			**1 x CR050**	**1 x CR050**
Capacity				
Nom Cooling (Gross)	(1)	kW	26.1	29.4
Capacity Steps			1	1
Fan Power Input (Fan Gain)	(2)	kW	2.60	4.60
Dimensions - W x D x H		mm	1460 x 750 x 1940	1460 x 750 x 1940
Weight - Machine	(3)	kg	414	419
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)	
Material/Colour			Frame: Aluminium Frame with Aluminium Corners	
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins	
Cooling/Dehum Stages			1/1	1/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP	
Fan Transmission Type			Belt and Pulley	
Quantity			1	1
Motor Shaft Power	(4)	kW	2.2	4.0
Speed @ 25Pa / Maximum ESP		rpm	871 / 909	1008 /1171
Maximum ESP		Pa	75	265
Nominal Airflow		m³/s	2.40	2.80
Compressor - Scroll			Single	
Quantity			1	1
Oil Charge Volume (Total)		l	3.30	3.30
Oil Type			Polyol Ester	
Refrigeration			Single Circuit	
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A	
Holding Charge	(5)		Inert Gas	
Connections				
Liquid (Sweat)		in	1/2	1/2
Discharge (Sweat)		in	7/8	7/8
Condensate Drain Hose		mm	19	19
Filtration			Disposable to ISO-C-75 - 75mm	
Quantity			3	3
OPTIONAL EXTRAS				
Larger Condenser Match			**CR065**	**CR065**
Nom Cooling (Gross)	(1)	kW	26.1	29.6
Hot Gas Reheat				
Nom Heating (Gross)	(6)	kW	12.7	13.5
Electric Heating (Total)		kW	20.0	20.0
Humidifier				
Capacity		kg/hr	1.6 - 8.0	1.6 - 8.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection	
Condensate Pump				
Head		m	10.8	10.8
Flow		l/m	5	5
Drain			10mm Stainless Steel Stub Connection	
Evaporator Fan Options:				
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP	
Fan Transmission Type			Belt and Pulley	
Quantity			1	1
Motor Shaft Power	(4)	kW	3.0 / 4.0	N/A
Speed @ Maximum ESP		rpm	1144 / 1439	N/A
Maximum ESP		Pa	362 / 722	N/A
Fan Power Input (Fan Gain)	(2)	kW	3.5 / 4.6	N/A
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP	
Fan Transmission Type			Direct Drive	
Quantity			2	2
Motor Shaft Power	(4)	kW	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1570 / 2165	1775 / 2165
Maximum ESP		Pa	595	390
Fan Power Input (Fan Gain)	(2)	kW	1.53	1.53
Low Pressure Hot Water			Copper Tube/Aluminium Fin	
Capacity Gross	(7)	kW	21.3	22.7
Water Flow (Nominal)		l/s	0.48	0.51
LPHW Connection Sizes		mm	22	22

Technical Data Downflow Units X Type DF28X - DF31X

Electrical Data

		DF28X-EZRE-0	DF31X-EZRE-0
Standard Condenser Match - X		CR050	CR050
Unit Data Full Function - X			
Nominal Run Amps	A	57.90	63.26
Maximum Start Amps	A	198.90	176.36
Recommended Mains Fuse Size	A	80	80
Unit Data Cooling Only - X			
Nominal Run Amps	A	25.42	30.78
Maximum Start Amps	A	166.42	143.88
Recommended Mains Fuse Size	A	32	40
Max Mains Incoming Cable Size	mm²	35	35
Mains Supply	V	400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24
Evaporator Fan - Motor Per Fan			
Electrical Input Power	kW	2.5	4.5
Full Load Amps	A	4.68	8.14
Locked Rotor Amps	A	32.8	57
Compressor - Per Compressor			
Quantity x Motor Size	kW	1 x 8.4	1 x 9.47
Nominal Run Amps	A	15	16.9
Locked Rotor Amps	A	156	130
Type of Start		Direct On Line	
Standard Condenser Match - AC Motor - Per Fan			
Electrical Input Power	kW	0.6	0.6
Full Load Amps	A	2.62	2.62
OPTIONAL EXTRAS			
Electric Heating			
Stage of Reheat		3	3
Number of Elements		8	8
Rating	kW	20	20
Curent per Phase	A	32.48	32.48
Humidifier			
Capacity	kg/hr	8	8
Rating	kW	6	6
Full Load Amps	A	8.66	8.66
Evaporator Fan Options			
Larger Fan Motor - AC Motor - Per Fan			
Electrical Input Power	kW	3.5	N/A
Full Load Amps	A	6.18	N/A
Locked Rotor Amps	A	43.3	N/A
Standard Size Motor - EC Motor - Per Fan			
Electrical Input Power	kW	3.4	3.4
Full Load Amps	A	5.2	5.2
Condenser Fan Options			
Standard Condenser Motor - EC Motor - Per Fan			
Electrical Input Power	kW	0.73	0.73
Full Load Amps	A	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type DF35X - DF45X

Mechanical Data

			DF35X-EZRE-0	DF40X-EZRE-0	DF45X-EZRE-0
Standard Condenser Match			**1 x CR050**	**1 x CR065**	**1 x CR080**
Capacity					
Nom Cooling (Gross) - X	(1)	kW	33.7	37.4	43.1
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	4.60	6.30	6.30
Dimensions - W x D x H		mm	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940
Weight - Machine	(3)	kg	477	500	553
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt and Pulley		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	4.0	5.5	5.5
Speed @ 25Pa / Maximum ESP		rpm	980 /1078	1094 / 1186	1094 / 1186
Maximum ESP		Pa	165	175	175
Nominal Airflow		m³/s	3.30	3.70	3.70
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	3.30	3.30	6.70
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	1/2	5/8	5/8
Discharge (Sweat)		in	7/8	1 1/8	1 1/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 75mm		
Quantity			3	3	3
OPTIONAL EXTRAS					
Larger Condenser Match			**CR065**	**CR080**	**CR105**
Nom Cooling (Gross)	(1)	kW	33.9	38.5	43.2
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	19.4	20.3	20.3
Electric Heating (Total)		kW	20.0	20.0	20.0
Humidifier					
Capacity		kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	10.8	10.8	10.8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Evaporator Fan Options:					
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt and Pulley		
Quantity			1	N/A	N/A
Motor Shaft Power	(4)	kW	5.5	N/A	N/A
Speed @ Maximum ESP		rpm	1196	N/A	N/A
Maximum ESP		Pa	322	N/A	N/A
Fan Power Input (Fan Gain)	(2)	kW	6.30	N/A	N/A
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity	(4)	kW	2	2	2
Motor Shaft Power			N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1895 / 2165	2135 / 2165	2135 / 2165
Maximum ESP		Pa	285	70	70
Fan Power Input (Fan Gain)	(2)	kW	2.78	3.78	3.78
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	30.0	31.5	31.5
Water Flow (Nominal)		l/s	0.67	0.70	0.70
LPHW Connection Sizes		mm	22	22	22

Technical Data Downflow Units X Type DF35X - DF45X

Electrical Data

Standard Condenser Match - X		DF35X-EZRE-0 CR050	DF40X-EZRE-0 CR065	DF45X-EZRE-0 CR080
Unit Data Full Function - X				
Nominal Run Amps	A	65.76	70.02	78.94
Maximum Start Amps	A	209.36	207.32	231.94
Recommended Mains Fuse Size	A	80	80	100
Unit Data Cooling Only - X				
Nominal Run Amps	A	33.28	37.54	46.46
Maximum Start Amps	A	176.88	174.84	199.46
Recommended Mains Fuse Size	A	40	50	63
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	4.5	6.1	6.1
Full Load Amps	A	8.14	11.1	11.1
Locked Rotor Amps	A	57	77.7	77.7
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 10.85	1 x 12.15	1 x 13.73
Nominal Run Amps	A	19.4	20.7	27
Locked Rotor Amps	A	163	158	180
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		8	8	8
Rating	kW	20	20	20
Current per Phase	A	32.48	32.48	32.48
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	6.3	N/A	N/A
Full Load Amps	A	10.9	N/A	N/A
Locked Rotor Amps	A	69.8	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.4	3.4	3.4
Full Load Amps	A	5.2	5.2	5.2
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type DF50X2 - DF60X2

Mechanical Data

			DF50X2-EZRE-0	DF55X2-EZRE-0	DF60X2-EZRE-0
Standard Condenser Match			**1 x CR080**	**1 x CR080**	**1 x CR080**
Capacity					
Nom Cooling (Gross)	(1)	kW	49.5	53.0	60.9
Capacity Steps			2	2	2
Fan Power Input (Fan Gain)	(2)	kW	2.60	2.60	3.50
Dimensions - W x D x H		mm	2170 x 750 x 1940	2170 x 750 x 1940	2170 x 750 x 1940
Weight - Machine	(3)	kg	621	638	638
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			2/1	2/1	2/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt and Pulley		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	2.2	2.2	3.0
Speed @ 25Pa / Maximum ESP		rpm	1167 / 1170	1167 / 1170	1307 / 1311
Maximum ESP		Pa	35	35	75
Nominal Airflow		m³/s	4.20	4.20	4.60
Compressor - Scroll			Tandem		
Quantity			2	2	2
Oil Charge Volume (Total)		l	6.6	6.6	6.6
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	5/8	5/8	5/8
Discharge (Sweat)		in	1 3/8	1 3/8	1 3/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 75mm		
Quantity			4	4	4
OPTIONAL EXTRAS					
Larger Condenser Match			**CR105**	**CR105**	**CR105**
Nom Cooling (Gross)	(1)	kW	49.8	55.4	61.5
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	25.9	25.9	26.9
Electric Heating (Total)		kW	30.0	30.0	30.0
Humidifier					
Capacity		kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	10.8	10.8	10.8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Evaporator Fan Options:					
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt and Pulley		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	3.0 / 4.0	3.5 / 4.0	4.0
Speed @ Maximum ESP		rpm	1448 / 1498	1448 / 1498	1497
Maximum ESP		Pa	310 / 360	310 / 360	275
Fan Power Input (Fan Gain)	(2)	kW	7.0 / 9.2	7.0 / 9.2	9.2
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1265 / 1510	1265 / 1510	1390 / 1510
Maximum ESP		Pa	320	320	185
Fan Power Input (Fan Gain)	(2)	kW	3.78	3.78	3.78
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	38.3	38.3	39.8
Water Flow (Nominal)		l/s	0.85	0.85	0.89
LPHW Connection Sizes		mm	22	22	22

Technical Data Downflow Units X Type DF50X2 - DF60X2

Electrical Data

Standard Condenser Match - X		DF50X2-EZRE-0 CR080	DF55X2-EZRE-0 CR080	DF60X2-EZRE-0 CR080
Unit Data Full Function - X				
Nominal Run Amps	A	91.02	94.82	103.10
Maximum Start Amps	A	232.02	207.92	246.70
Recommended Mains Fuse Size	A	100	125	125
Unit Data Cooling Only - X				
Nominal Run Amps	A	47.72	51.52	59.8
Maximum Start Amps	A	188.72	164.62	203.4
Recommended Mains Fuse Size	A	63	63	80
Max Mains Incoming Cable Size	mm²	50	50	50
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	2.5	2.5	3.4
Full Load Amps	A	4.68	4.68	6.32
Locked Rotor Amps	A	32.8	32.8	45.5
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 8.4	2 x 9.47	2 x 10.85
Nominal Run Amps	A	15	16.9	19.4
Locked Rotor Amps	A	156	130	163
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		12	12	12
Rating	kW	30	30	30
Current per Phase	A	43.30	43.30	43.30
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	3.5	3.5	4.6
Full Load Amps	A	6.18	6.18	8.12
Locked Rotor Amps	A	43.3	43.3	60.9
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.1	3.1	3.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

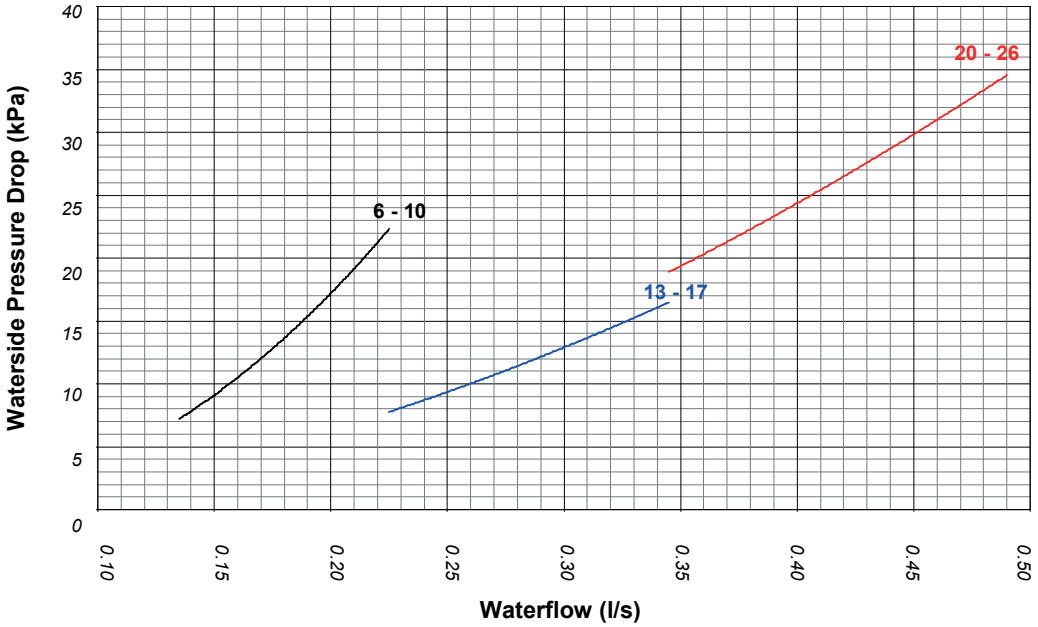
(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

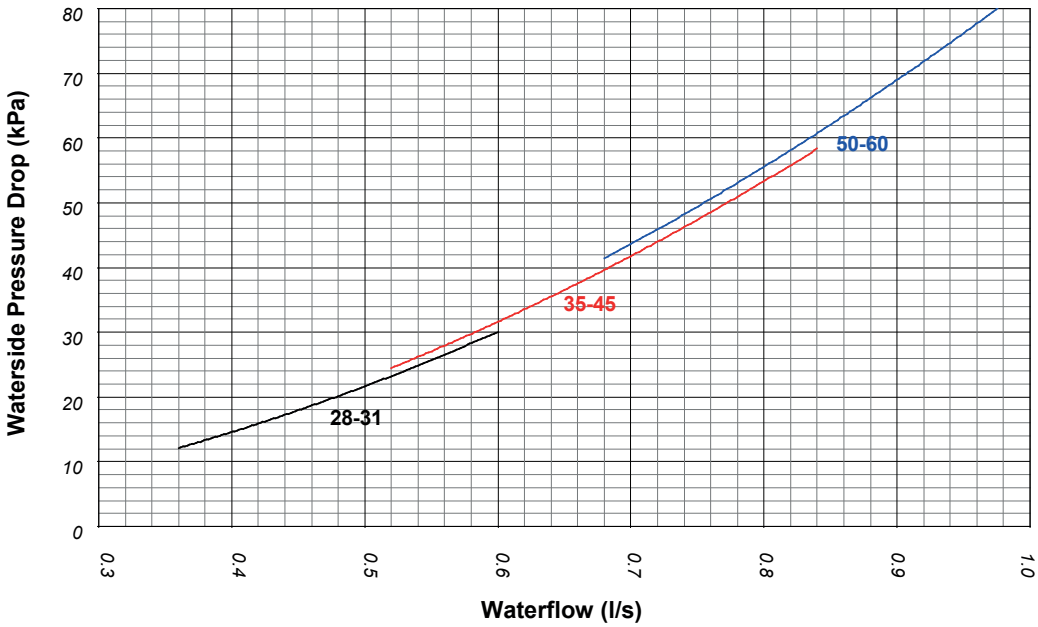
(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units X Type
Hydronic Data Low Pressure Hot Water

DF6 - DF26



DF28 - DF60



(1) Includes coil, 3 port valve and pipework.

(2) To calculate 3 port valve pressure drop

ΔP valve = $\left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and M = $\left(\frac{Kv}{36}\right)$

(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Notes

Technical Data Upflow Units X Type

Performance Data Standard Condenser

Cooling Capacity (1)		Ambient							
	Air On	25°C		30°C		35°C		40°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
V6X-EZRE CR012	22/50	6.2	6.1	6.2	6.1	6.2	6.1	5.8	5.8
	24/45	6.5	6.5	6.5	6.5	6.4	6.4	6.1	6.1
	26/40	6.8	6.8	6.8	6.8	6.7	6.7	6.4	6.4
V8X-EZRE CR016	22/50	7.9	7.9	7.9	7.9	7.7	7.7	7.3	7.3
	24/45	8.2	8.2	8.2	8.2	8.0	8.0	7.6	7.6
	26/40	8.6	8.6	8.6	8.6	8.4	8.4	8.1	8.1
V10X-EZRE CR016	22/50	10.3	10.3	10.3	10.3	9.8	9.8	9.3	9.3
	24/45	10.8	10.8	10.7	10.7	10.2	10.2	9.7	9.7
	26/40	11.2	11.2	11.2	11.2	10.7	10.7	10.2	10.2
V13X-EZRE CR022	22/50	13.4	12.4	13.4	12.4	13.2	12.3	12.5	11.8
	24/45	13.9	13.7	13.9	13.7	13.7	13.6	12.9	12.9
	26/40	14.4	14.4	14.4	14.4	14.1	14.1	13.4	13.4
V15X-EZRE CR022	22/50	15.2	14.5	15.2	14.5	14.8	14.3	14.0	13.7
	24/45	15.8	15.7	15.8	15.7	15.3	15.3	14.6	14.6
	26/40	16.2	16.2	16.2	16.2	15.9	15.9	14.9	14.9
V17X-EZRE CR030	22/50	17.5	16.6	17.5	16.6	16.9	16.2	15.9	15.5
	24/45	18.1	18.1	18.1	18.1	17.3	17.3	16.4	16.4
	26/40	18.6	18.6	18.6	18.6	17.8	17.8	16.9	16.9
V20X2-EZRE CR030	22/50	21.0	19.9	20.9	19.9	19.7	19.1	18.5	18.3
	24/45	21.8	21.8	21.7	21.7	20.5	20.5	19.3	19.3
	26/40	22.7	22.7	22.4	22.4	21.2	21.2	20.1	20.1
V22X2-EZRE CR050	22/50	21.6	21.3	21.6	21.3	21.6	21.3	20.7	20.7
	24/45	22.5	22.5	22.5	22.5	22.5	22.5	21.6	21.6
	26/40	23.5	23.5	23.5	23.5	23.5	23.5	22.6	22.6
V26X2-EZRE CR050	22/50	26.5	24.2	26.5	24.2	26.5	24.2	25.0	23.3
	24/45	27.5	26.5	27.5	26.5	27.4	26.4	25.9	25.4
	26/40	28.6	28.6	28.6	28.6	28.4	28.4	26.9	26.9
V28X-EZRE CR050	22/50	25.3	24.9	25.3	24.9	25.3	24.9	24.0	23.8
	24/45	26.5	26.5	26.5	26.5	26.5	26.5	25.2	25.2
	26/40	27.9	27.9	27.9	27.9	27.8	27.8	26.6	26.0
V28X2-EZRE CR050	22/50	25.2	24.8	25.2	24.8	25.2	24.8	23.9	23.7
	24/45	26.4	26.4	26.4	26.4	26.4	26.4	25.0	25.0
	26/40	27.7	27.7	27.7	27.7	27.6	27.6	26.4	25.7

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Outdoor Temperature	-20°C to +41°C

Technical Data Upflow Units X Type

Performance Data Standard Condensers

Cooling Capacity (1)		Ambient							
	Air On	25°C		30°C		35°C		40°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
V31X-EZRE CR050	22/50	28.7	28.7	28.7	28.7	28.5	28.5	27.0	27.0
	24/45	30.1	30.1	30.1	30.1	29.8	29.8	28.3	28.3
	26/40	31.7	31.5	31.7	31.5	31.3	30.8	30.0	28.3
V31X2-EZRE CR050	22/50	28.4	28.4	28.4	28.4	28.2	28.2	26.7	26.7
	24/45	29.8	29.8	29.8	29.8	29.5	29.5	28.1	28.1
	26/40	31.4	31.0	31.4	31.0	31.1	30.4	29.8	28.0
V35X-EZRE CR050	22/50	33.3	33.1	33.3	33.1	32.6	32.5	30.9	30.9
	24/45	35.0	35.0	35.0	35.0	34.1	34.1	32.5	32.5
	26/40	37.0	36.0	37.0	36.0	36.0	34.1	34.9	30.9
V35X2-EZRE CR050	22/50	32.9	32.8	32.9	32.8	32.1	32.0	30.1	30.1
	24/45	34.2	34.2	34.2	34.2	33.2	33.2	31.3	30.8
	26/40	34.0	34.0	34.0	34.0	33.0	33.0	31.3	31.3
V40X-EZRE CR065	22/50	37.2	37.2	37.2	37.2	36.2	36.2	34.3	34.3
	24/45	39.0	39.0	39.0	39.0	37.9	37.9	36.1	35.8
	26/40	41.2	40.4	41.2	40.4	40.0	37.9	38.9	34.5
V40X2-EZRE CR065	22/50	37.9	37.9	37.9	37.9	36.8	36.8	34.9	34.9
	24/45	39.7	39.7	39.7	39.7	38.5	38.5	36.7	36.6
	26/40	41.9	41.6	41.9	41.6	40.6	39.2	39.4	36.1
V45X2-EZRE CR080	22/50	41.2	39.7	41.2	39.7	41.2	39.7	39.1	38.2
	24/45	43.0	43.0	43.0	43.0	43.0	43.0	40.8	40.8
	26/40	45.0	45.0	45.0	45.0	44.8	44.8	42.7	42.7
V50X2-EZRE CR080	22/50	48.9	46.3	48.9	46.3	48.2	45.8	45.5	43.9
	24/45	50.9	50.4	50.9	50.4	50.1	49.8	47.4	47.4
	26/40	53.0	53.0	53.0	53.0	52.0	52.0	49.3	49.3
V55X2-EZRE CR080	22/50	55.2	50.2	55.2	50.2	53.7	49.2	50.6	47.2
	24/45	57.4	55.1	57.4	55.1	55.6	53.9	52.5	51.7
	26/40	59.5	59.5	59.5	59.5	57.5	57.5	54.4	54.4
V60X2-EZRE CR080	22/50	62.4	55.9	62.4	55.9	59.6	54.2	56.0	51.9
	24/45	64.7	61.3	64.7	61.3	61.6	59.3	58.0	56.7
	26/40	67.1	66.9	67.1	66.9	63.7	63.7	60.0	60.0

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Outdoor Temperature	-20°C to +41°C

Technical Data Upflow Units X Type

Performance Data Larger Condensers

Cooling Capacity (1)		Ambient									
	Air On	25°C		30°C		35°C		40°C		45°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
V6X-EZRE CR016	22/50	6.2	6.1	6.2	6.1	6.2	6.1	5.9	5.9	5.6	5.6
	24/45	6.5	6.5	6.5	6.5	6.5	6.5	6.1	6.1	5.8	5.8
	26/40	6.8	6.8	6.8	6.8	6.7	6.7	6.4	6.4	6.1	6.1
V8X-EZRE CR022	22/50	7.9	7.9	7.9	7.9	7.9	7.9	7.6	7.6	7.3	7.3
	24/45	8.2	8.2	8.2	8.2	8.2	8.2	8.0	8.0	7.6	7.6
	26/40	8.6	8.6	8.6	8.6	8.6	8.6	8.4	8.4	8.1	8.1
V10X-EZRE CR022	22/50	10.3	10.3	10.3	10.3	10.3	10.3	9.9	9.9	9.3	9.3
	24/45	10.8	10.8	10.8	10.8	10.8	10.8	10.3	10.3	9.8	9.8
	26/40	11.2	11.2	11.2	11.2	11.2	11.2	10.8	10.8	10.3	10.3
V13X-EZRE CR030	22/50	13.4	12.4	13.4	12.4	13.3	12.4	12.6	11.9	11.9	11.4
	24/45	13.9	13.7	13.9	13.7	13.8	13.6	13.0	13.0	12.3	12.3
	26/40	14.4	14.4	14.4	14.4	14.2	14.2	13.5	13.5	12.8	12.8
V15X-EZRE CR030	22/50	15.2	14.5	15.2	14.5	14.9	14.4	14.1	13.8	13.4	13.3
	24/45	15.8	15.7	15.8	15.7	15.5	15.5	14.7	14.7	13.9	13.9
	26/40	16.2	16.2	16.2	16.2	16.0	16.0	15.3	15.3	14.8	14.8
V17X-EZRE CR050	22/50	17.5	16.6	17.5	16.6	17.5	16.6	17.0	16.3	16.1	15.7
	24/45	18.1	18.1	18.1	18.1	18.1	18.1	17.5	17.5	16.6	16.6
	26/40	18.6	18.6	18.6	18.6	18.6	18.6	18.1	18.1	17.2	17.2
V20X2-EZRE CR050	22/50	21.0	19.9	21.0	19.9	21.0	19.9	20.2	19.4	19.1	18.7
	24/45	21.8	21.8	21.8	21.8	21.8	21.8	21.0	21.0	19.9	19.9
	26/40	22.7	22.7	22.7	22.7	22.7	22.7	21.8	21.8	20.8	20.8
V22X2-EZRE CR065	22/50	21.6	21.3	21.6	21.3	21.6	21.3	20.9	20.8	19.8	19.8
	24/45	22.5	22.5	22.5	22.5	22.5	22.5	21.8	21.8	20.7	20.7
	26/40	23.5	23.5	23.5	23.5	23.5	23.5	22.7	22.7	21.7	21.7
V26X2-EZRE CR065	22/50	26.5	24.2	26.5	24.2	26.5	24.2	25.2	23.4	23.8	22.5
	24/45	27.5	26.5	27.5	26.5	27.5	26.5	26.2	25.5	24.8	24.5
	26/40	28.6	28.6	28.6	28.6	28.6	28.6	27.1	27.1	25.8	25.8

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Outdoor Temperature	-20°C to +41°C

Technical Data Upflow Units X Type

Performance Data Larger Condensers

Cooling Capacity (1)		Ambient									
	Air On	25°C		30°C		35°C		40°C		45°C	
	(DB°C/%RH)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)	TC (kW)	SC (kW)
V28X-EZRE CR065	22/50	25.3	24.9	25.3	24.9	25.3	24.9	24.2	24.0	23.0	22.9
	24/45	26.5	26.5	26.5	26.5	26.5	26.5	25.4	25.4	24.2	24.2
	26/40	27.9	27.9	27.9	27.9	27.9	27.9	26.7	26.3	25.8	24.5
V28X2-EZRE CR065	22/50	25.2	24.8	25.2	24.8	25.2	24.8	24.1	23.9	22.8	22.7
	24/45	26.4	26.4	26.4	26.4	26.4	26.4	25.2	25.2	24.0	23.9
	26/40	27.7	27.7	27.7	27.7	27.7	27.7	26.6	26.0	25.5	24.0
V31X-EZRE CR065	22/50	28.7	28.7	28.7	28.7	28.7	28.7	27.2	27.2	25.8	25.8
	24/45	30.1	30.1	30.1	30.1	30.0	30.0	28.6	28.6	27.2	27.2
	26/40	31.7	31.5	31.7	31.5	31.5	31.1	30.2	28.7	29.0	26.2
V31X2-EZRE CR065	22/50	28.4	28.4	28.4	28.4	28.4	28.4	27.0	27.0	25.6	25.6
	24/45	29.8	29.8	29.8	29.8	29.7	29.7	28.3	28.3	27.0	27.0
	26/40	31.4	31.0	31.4	31.0	31.2	30.7	30.0	28.4	28.9	25.9
V35X-EZRE CR065	22/50	33.3	33.1	33.3	33.1	32.9	32.7	31.2	31.1	29.5	29.5
	24/45	35.0	35.0	35.0	35.0	34.4	34.4	32.8	32.8	31.3	30.8
	26/40	37.0	36.0	37.0	36.0	36.3	34.6	35.1	31.5	34.4	28.1
V35X2-EZRE CR065	22/50	32.9	32.8	32.9	32.8	32.4	32.3	30.4	30.4	28.6	28.5
	24/45	34.2	34.2	34.2	34.2	33.5	33.5	31.6	31.3	29.9	28.7
	26/40	34.0	34.0	34.0	34.0	33.3	33.3	31.6	31.6	30.1	30.1
V40X-EZRE CR080	22/50	37.2	37.2	37.2	37.2	37.2	37.2	35.6	35.6	33.9	33.9
	24/45	39.0	39.0	39.0	39.0	39.0	39.0	37.4	37.4	35.8	35.2
	26/40	41.2	40.4	41.2	40.4	41.2	40.4	39.8	37.3	38.8	33.9
V40X2-EZRE CR080	22/50	37.9	37.9	37.9	37.9	37.9	37.9	36.3	36.3	34.5	34.5
	24/45	39.7	39.7	39.7	39.7	39.7	39.7	38.1	38.1	36.4	36.2
	26/40	41.9	41.6	41.9	41.6	41.9	41.6	40.4	38.7	39.2	35.7
V45X2-EZRE CR105	22/50	41.2	39.7	41.2	39.7	41.2	39.7	39.3	38.3	37.3	36.7
	24/45	43.0	43.0	43.0	43.0	43.0	43.0	41.0	41.0	39.0	39.0
	26/40	45.0	45.0	45.0	45.0	45.0	45.0	42.9	42.9	41.0	41.0
V50X2-EZRE CR105	22/50	48.9	46.3	48.9	46.3	48.5	46.0	45.8	44.1	43.1	42.1
	24/45	50.9	50.4	50.9	50.4	50.4	50.0	47.7	47.7	44.9	44.9
	26/40	53.0	53.0	53.0	53.0	52.3	52.3	49.6	49.6	46.9	46.9
V55X2-EZRE CR105	22/50	55.2	50.2	55.2	50.2	54.1	49.5	51.0	47.5	47.8	45.3
	24/45	57.4	55.1	57.4	55.1	56.1	54.2	52.9	52.1	49.6	49.6
	26/40	59.5	59.5	59.5	59.5	58.0	58.0	54.8	54.8	51.4	51.4
V60X2-EZRE CR105	22/50	62.4	55.9	62.4	55.9	60.2	54.6	56.6	52.3	52.6	49.7
	24/45	64.7	61.3	64.7	61.3	62.2	59.6	58.6	57.2	54.5	54.2
	26/40	67.1	66.9	67.1	66.9	64.3	64.3	60.7	60.7	56.5	56.5

TC = Total Cooling
SC = Sensible Cooling

(1) All data quoted is gross

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Outdoor Temperature	-20°C to +41°C

Technical Data Upflow Units X Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
V6X	Discharge Air	Power	72	66	70	68	68	68	67	59	55
	Return Air	Power	58	63	67	58	53	54	48	41	36
	Case Breakout	Power	58	63	67	58	53	54	48	41	36
	Sound @ 3m	Pressure	43	48	51	43	38	40	33	27	21
V8X	Discharge Air	Power	78	71	75	74	73	73	72	65	60
	Return Air	Power	63	68	71	63	58	59	53	48	41
	Case Breakout	Power	63	68	71	63	58	59	53	48	41
	Sound @ 3m	Pressure	49	53	57	49	43	44	39	33	26
V10X	Discharge Air	Power	81	74	78	77	76	76	75	68	63
	Return Air	Power	66	71	74	66	61	62	56	50	43
	Case Breakout	Power	66	71	74	66	61	62	56	50	43
	Sound @ 3m	Pressure	51	56	61	52	46	47	41	36	29
V13X	Discharge Air	Power	78	72	75	73	73	73	72	65	60
	Return Air	Power	63	69	71	63	58	59	53	48	42
	Case Breakout	Power	63	69	71	63	58	59	53	48	42
	Sound @ 3m	Pressure	48	54	57	48	43	44	38	34	27
V15X	Discharge Air	Power	74	71	76	73	70	69	68	63	58
	Return Air	Power	62	68	72	63	56	56	49	48	42
	Case Breakout	Power	62	68	72	63	56	56	49	48	42
	Sound @ 3m	Pressure	47	53	57	48	41	42	35	34	27
V17X	Discharge Air	Power	78	75	79	77	74	73	71	67	62
	Return Air	Power	65	72	75	67	59	59	53	51	44
	Case Breakout	Power	65	72	75	67	59	59	53	51	44
	Sound @ 3m	Pressure	50	57	61	52	44	44	38	36	30
V20X2	Discharge Air	Power	82	75	79	78	77	78	76	69	64
	Return Air	Power	67	73	75	67	62	63	57	52	46
	Case Breakout	Power	67	73	75	67	62	63	57	52	46
	Sound @ 3m	Pressure	53	58	61	53	48	48	42	37	31
V22X2	Discharge Air	Power	86	80	84	82	81	82	80	73	68
	Return Air	Power	71	77	80	71	66	67	61	55	49
	Case Breakout	Power	71	77	80	71	66	67	61	55	49
	Sound @ 3m	Pressure	57	62	65	57	52	52	46	41	35
V26X2	Discharge Air	Power	86	80	84	82	81	82	80	73	68
	Return Air	Power	71	77	80	71	66	67	61	55	49
	Case Breakout	Power	71	77	80	71	66	67	61	55	49
	Sound @ 3m	Pressure	57	62	65	57	52	52	46	41	35
V28X	Discharge Air	Power	90	102	95	86	84	85	81	81	78
	Return Air	Power	79	89	80	79	76	75	68	63	57
	Case Breakout	Power	79	89	80	79	76	75	68	63	57
	Sound @ 3m	Pressure	64	75	65	65	62	60	53	49	42
V28X2	Discharge Air	Power	90	102	95	86	84	85	81	81	78
	Return Air	Power	79	87	80	79	76	74	67	63	57
	Case Breakout	Power	79	87	80	79	76	74	67	63	57
	Sound @ 3m	Pressure	64	73	65	65	61	60	53	49	42

(1) dB(A) is the overall sound level, measured on the A scale

(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Upflow Units X Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB							
				63	125	250	500	1000	2000	4000	8000
V28X	Discharge Air	Power	93	105	96	89	86	88	84	84	82
	Return Air	Power	81	92	80	82	78	77	70	66	60
	Case Breakout	Power	81	92	80	82	78	77	70	66	60
	Sound @ 3m	Pressure	66	77	66	67	64	62	56	51	45
V31X2	Discharge Air	Power	93	105	96	89	86	88	84	84	82
	Return Air	Power	81	91	80	82	77	77	70	66	60
	Case Breakout	Power	81	91	80	82	77	77	70	66	60
	Sound @ 3m	Pressure	66	76	66	67	63	62	55	51	46
V35X	Discharge Air	Power	92	111	98	90	87	82	82	83	80
	Return Air	Power	81	97	82	84	80	72	69	66	58
	Case Breakout	Power	81	97	82	84	80	72	69	66	58
	Sound @ 3m	Pressure	67	82	68	69	66	58	54	51	44
V35X2	Discharge Air	Power	92	111	98	90	87	82	82	83	80
	Return Air	Power	81	97	82	84	79	72	69	66	59
	Case Breakout	Power	81	97	82	84	79	72	69	66	59
	Sound @ 3m	Pressure	66	82	68	69	65	58	54	51	45
V40X	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	83	98	84	85	82	74	71	68	61
	Case Breakout	Power	83	98	84	85	82	74	71	68	61
	Sound @ 3m	Pressure	68	84	69	71	67	59	56	53	46
V40X2	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	82	98	84	85	81	74	71	68	62
	Case Breakout	Power	82	98	84	85	81	74	71	68	62
	Sound @ 3m	Pressure	68	85	69	71	66	59	56	53	47
V45X2	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	83	98	84	85	83	74	71	68	62
	Case Breakout	Power	83	98	84	85	83	74	71	68	62
	Sound @ 3m	Pressure	69	84	69	71	68	59	57	53	47
V50X2	Discharge Air	Power	97	115	109	95	92	84	86	84	80
	Return Air	Power	84	99	93	86	83	74	71	66	58
	Case Breakout	Power	84	99	93	86	83	74	71	66	58
	Sound @ 3m	Pressure	70	85	79	72	68	60	57	52	43
V55X2	Discharge Air	Power	97	115	109	95	92	84	86	84	80
	Return Air	Power	84	99	93	86	83	74	72	66	58
	Case Breakout	Power	84	99	93	86	83	74	72	66	58
	Sound @ 3m	Pressure	70	85	79	72	68	60	57	52	43
V60X2	Discharge Air	Power	98	116	110	97	93	86	87	86	82
	Return Air	Power	86	102	94	89	85	76	73	69	60
	Case Breakout	Power	86	102	94	89	85	76	73	69	60
	Sound @ 3m	Pressure	72	87	80	75	70	61	59	54	46

(1) dB(A) is the overall sound level, measured on the A scale

(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Upflow Units X Type V6X - V10X

Mechanical Data

			V6X-EZRE-0	V8X-EZRE-0	V10X-EZRE-0
Standard Condenser Match			**1 x CR012**	**1 x CR016**	**1 x CR016**
Capacity					
Nom Cooling (Gross)	(1)	kW	6.4	8.0	10.2
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.22	0.48	0.64
Dimensions - W x D x H		mm	670 x 670 x 1940	670 x 670 x 1940	670 x 670 x 1940
Weight - Machine	(3)	kg	174	173	177
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	369	303	378
Nominal Airflow		m³/s	0.55	0.75	0.95
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	0.70	0.70	1.20
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	3/8	3/8	3/8
Discharge (Sweat)		in	1/2	1/2	1/2
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			1	1	1
OPTIONAL EXTRAS					
Larger Condenser Match			**CR016**	**CR022**	**CR022**
Nom Cooling (Gross)	(1)	kW	6.5	8.2	10.8
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	4.2	4.9	5.5
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity		kW	1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1340 / 2215	1705 / 2215	2140 / 2215
Maximum ESP		Pa	350	220	45
Fan Power Input (Fan Gain)	(2)	kW	0.19	0.36	0.62
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	6.6	7.9	8.9
Water Flow (Nominal)		l/s	0.15	0.18	0.20
LPHW Connection Sizes		mm	22	22	22

Mechanical
(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Upflow Units X Type V6X - V10X

Electrical Data

Standard Condenser Match - X		V6X-EZRE-0 CR012	V8X-EZRE-0 CR016	V10X-EZRE-0 CR016
Unit Data Full Function - X				
Nominal Run Amps	A	19.23	20.23	21.23
Maximum Start Amps	A	41.63	50.63	58.63
Recommended Mains Fuse Size	A	25	25	25
Unit Data Cooling Only - X				
Nominal Run Amps	A	8.4	9.4	10.4
Maximum Start Amps	A	30.8	39.8	47.8
Recommended Mains Fuse Size	A	16	16	16
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 2	1 x 2.6	1 x 3.3
Nominal Run Amps	A	3.6	4.6	5.6
Locked Rotor Amps	A	26	35	43
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.29	0.29	0.29
Full Load Amps	A	1.37	1.37	1.37
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.94	0.94	0.94
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.7	0.7	0.7
Full Load Amps	A	3.1	3.1	3.1

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type V13X - V17X

Mechanical Data

			V13X-EZRE-0	V15X-EZRE-0	V17X-EZRE-0
Standard Condenser Match			**1 x CR022**	**1 x CR022**	**1 x CR030**
Capacity					
Nom Cooling (Gross)	(1)	kW	13.7	15.3	17.3
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.61	0.66	1.03
Dimensions - W x D x H		mm	990 x 670 x 1940	990 x 670 x 1940	990 x 670 x 1940
Weight - Machine	(3)	kg	211	235	236
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	448	331	253
Nominal Airflow		m³/s	1.00	1.20	1.40
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	1.20	1.66	1.89
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge - X	(5)		Inert Gas		
Connections					
Liquid (Sweat) - X		in	3/8	3/8	3/8
Discharge (Sweat) - X		in	5/8	5/8	5/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			2	2	2
OPTIONAL EXTRAS					
Larger Condenser Match			**CR030**	**CR030**	**CR050**
Nom Cooling (Gross)	(1)	kW	13.8	15.5	18.1
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	6.8	7.7	8.2
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1125 / 1560	1330 / 1560	1560 / 1560
Maximum ESP		Pa	275	165	25
Fan Power Input (Fan Gain)	(2)	kW	0.36	0.54	0.79
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	11.5	12.7	13.7
Water Flow (Nominal)		l/s	0.26	0.28	0.31
LPHW Connection Sizes		mm	22	22	22

Mechanical
(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Upflow Units X Type V13X - V17X

Electrical Data

Standard Condenser Match - X		V13X-EZRE-0 CR022	V15X-EZRE-0 CR022	V17X-EZRE-0 CR030
Unit Data Full Function - X				
Nominal Run Amps	A	22.73	26.23	27.43
Maximum Start Amps	A	79.63	85.03	92.03
Recommended Mains Fuse Size	A	32	32	32
Unit Data Cooling Only - X				
Nominal Run Amps	A	11.9	15.4	16.6
Maximum Start Amps	A	68.8	74.2	81.2
Recommended Mains Fuse Size	A	16	20	20
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.6	1.6
Full Load Amps	A	4.8	7.2	7.2
Locked Rotor Amps	A	4.8	7.2	7.2
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 4.2	1 x 5	1 x 5.6
Nominal Run Amps	A	7.1	8.2	9.4
Locked Rotor Amps	A	64	67	74
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.95	0.95	0.95
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type V20X2 - V26X2

Mechanical Data

			V20X2-EZRE-0	V22X2-EZRE-0	V26X2-EZRE-0
Standard Condenser Match			**1 x CR030**	**1 x CR050**	**1 x CR050**
Capacity					
Nom Cooling (Gross)	(1)	kW	20.5	22.5	27.4
Capacity Steps			2	2	2
Fan Power Input (Fan Gain)	(2)	kW	1.13	1.82	1.82
Dimensions - W x D x H		mm	1310 x 670 x 1940	1310 x 670 x 1940	1310 x 670 x 1940
Weight - Machine	(3)	kg	289	289	289
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			2/1	2/1	2/1
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	350	204	204
Nominal Airflow		m³/s	1.70	2.00	2.00
Compressor - Scroll			Tandem		
Quantity			2	2	2
Oil Charge Volume (Total)		l	2.40	2.40	2.40
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge	(5)		Inert Gas		
Connections					
Liquid (Sweat)		in	1/2	1/2	1/2
Discharge (Sweat)		in	7/8	7/8	7/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 50mm		
Quantity			3	3	3
OPTIONAL EXTRAS					
Larger Condenser Match			**CR050**	**CR065**	**CR065**
Nom Cooling (Gross)	(1)	kW	21.8	22.5	27.5
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	11.8	12.7	12.7
Electric Heating (Total)		kW	15.0	15.0	15.0
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1830 / 2165	2165 / 2165	2165 / 2165
Maximum ESP		Pa	285	25	25
Fan Power Input (Fan Gain)	(2)	kW	0.51	0.79	0.79
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	19.2	19.9	19.9
Water Flow (Nominal)		l/s	0.43	0.44	0.44
LPHW Connection Sizes		mm	22	22	22

Mechanical
(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Technical Data Upflow Units X Type V20X2 - V26X2

Electrical Data

Standard Condenser Match - X		V20X2-EZRE-0 CR030	V22X2-EZRE-0 CR050	V26X2-EZRE-0 CR050
Unit Data Full Function - X				
Nominal Run Amps	A	42.45	42.45	45.45
Maximum Start Amps	A	79.85	79.85	102.35
Recommended Mains Fuse Size	A	50	50	63
Unit Data Cooling Only - X				
Nominal Run Amps	A	20.8	20.8	23.8
Maximum Start Amps	A	58.2	58.2	80.7
Recommended Mains Fuse Size	A	25	25	32
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 3.3	2 x 3.3	2 x 4.2
Nominal Run Amps	A	5.6	5.6	7.1
Locked Rotor Amps	A	43	43	64
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		2	2	2
Number of Elements		6	6	6
Rating	kW	15	15	15
Current per Phase	A	21.65	21.65	21.65
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type V28X- V31X2

Mechanical Data

			V28X-EZRE-0	V28X2-EZRE-0	V31X-EZRE-0	V31X2-EZRE-0
Standard Condenser Match			**1 x CR050**	**1 x CR050**	**1 x CR050**	**1 x CR050**
Capacity						
Nom Cooling (Gross)	(1)	kW	26.5	26.4	29.8	29.5
Capacity Steps			1	2	1	2
Fan Power Input (Fan Gain)	(2)	kW	3.50	3.50	4.60	4.60
Dimensions - W x D x H		mm	1460 x 750 x 1940	1460 x 750 x 1940	1460 x 750 x 1940	1460 x 750 x 1940
Weight - Machine	(3)	kg	412	421	412	445
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)			
Material/Colour			Frame: Aluminium Frame with Aluminium Corners			
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins			
Cooling/Dehum Stages			1/1	2/1	1/1	2/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP			
Fan Transmission Type			Belt and Pulley			
Quantity			1	1	1	1
Motor Shaft Power	(4)	kW	3.0	3.0	4.0	4.0
Speed @ 25Pa / Maximum ESP		rpm	1420 / 1552	1420 / 1552	1600 / 1612	1600 / 1612
Maximum ESP		Pa	160	160	35	35
Nominal Airflow		m³/s	2.40	2.40	2.80	2.80
Compressor - Scroll			Single	Tandem	Single	Tandem
Quantity			1	2	1	2
Oil Charge Volume (Total)		l	3.30	2.48	3.30	3.32
Oil Type			Polyol Ester			
Refrigeration			Single Circuit			
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A			
Holding Charge	(5)		Inert Gas			
Connections						
Liquid (Sweat)		in	1/2	1/2	1/2	1/2
Discharge (Sweat)		in	7/8	7/8	7/8	7/8
Condensate Drain Hose		mm	19	19	19	19
Filtration			Disposable to ISO-C-75 - 75mm			
Quantity			3	3	3	3
OPTIONAL EXTRAS						
Larger Condenser Match			**CR065**	**CR065**	**CR065**	**CR065**
Nom Cooling (Gross)	(1)	kW	26.5	26.4	30.0	29.7
Hot Gas Reheat						
Nom Heating (Gross)	(6)	kW	12.8	12.8	13.7	13.7
Electric Heating (Total)		kW	22.5	22.5	22.5	22.5
Humidifier						
Capacity		kg/hr	1.6 - 8.0	1.6 - 8.0	1.6 - 8.0	1.6 - 8.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection			
Condensate Pump						
Head		m	10.8	10.8	10.8	10.8
Flow		l/m	5	5	5	5
Drain			10mm Stainless Steel Stub Connection			
Evaporator Fan Options:						
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP			
Fan Transmission Type			Belt & Pulley			
Quantity			1	1	N/A	N/A
Motor Shaft Power	(4)	kW	4.0	4.0	N/A	N/A
Speed @ Maximum ESP		rpm	1910	1910	N/A	N/A
Maximum ESP		Pa	470	470	N/A	N/A
Fan Power Input (Fan Gain)	(2)	kW	4.60	4.60	N/A	N/A
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP			
Fan Transmission Type			Direct Drive			
Quantity			2	2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1700 / 2165	1700 / 2165	1935 / 2165	1935 / 2165
Maximum ESP		Pa	440	440	225	225
Fan Power Input (Fan Gain)	(2)	kW	2.02	2.02	3.02	3.02
Low Pressure Hot Water			Copper Tube/Aluminium Fin			
Capacity Gross	(7)	kW	21.7	21.7	23.2	23.2
Water Flow (Nominal)		l/s	0.48	0.48	0.52	0.52
LPHW Connection Sizes		mm	22	22	22	22

Technical Data Upflow Units X Type V28X- V31X2

Electrical Data

Standard Condenser Match - X		V28X-EZRE-0 CR050	V28X2-EZRE-0 CR050	V31X-EZRE-0 CR050	V31X2-EZRE-0 CR050
Unit Data Full Function - X					
Nominal Run Amps	A	59.54	58.74	63.26	62.76
Maximum Start Amps	A	200.54	115.64	176.36	121.56
Recommended Mains Fuse Size	A	80	80	80	80
Unit Data Cooling Only - X					
Nominal Run Amps	A	27.06	26.26	30.78	30.28
Maximum Start Amps	A	168.06	83.16	143.88	89.08
Recommended Mains Fuse Size	A	32	32	40	40
Max Mains Incoming Cable Size	mm²	35	35	35	35
Mains Supply	V	400V / 3PH + N / 50HZ			
Control Circuit	VAC	24	24	24	24
Evaporator Fan - Motor Per Fan					
Electrical Input Power	kW	3.4	3.4	4.5	4.5
Full Load Amps	A	6.32	6.32	8.14	8.14
Locked Rotor Amps	A	45.5	45.5	57	57
Compressor - Per Compressor					
Quantity x Motor Size	kW	1 x 8.4	2 x 4.2	1 x 9.47	2 x 5
Nominal Run Amps	A	15	7.1	16.9	8.2
Locked Rotor Amps	A	156	64	130	67
Type of Start		Direct On Line			
Standard Condenser Match - AC Motor - Per Fan					
Electrical Input Power	kW	0.6	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62	2.62
OPTIONAL EXTRAS					
Electric Heating					
Stage of Reheat		3	3	3	3
Number of Elements		9	9	9	9
Rating	kW	22.5	22.5	22.5	22.5
Current per Phase	A	32.48	32.48	32.48	32.48
Humidifier					
Capacity	kg/hr	8	8	8	8
Rating	kW	6	6	6	6
Full Load Amps	A	8.66	8.66	8.66	8.66
Evaporator Fan Options					
Larger Fan Motor - AC Motor - Per Fan					
Electrical Input Power	kW	4.6	4.6	N/A	N/A
Full Load Amps	A	8.12	8.12	N/A	N/A
Locked Rotor Amps	A	60.9	60.9	N/A	N/A
Standard Size Motor - EC Motor - Per Fan					
Electrical Input Power	kW	3.4	3.4	3.4	3.4
Full Load Amps	A	5.2	5.2	5.2	5.2
Condenser Fan Options					
Standard Condenser Motor - EC Motor - Per Fan					
Electrical Input Power	kW	0.73	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type V35X - V45X2

Mechanical Data

			V35X-EZRE-0	V35X2-EZRE-0	V40X-EZRE-0	V40X2-EZRE-0	V45X2-EZRE-0
Standard Condenser Match			**1 x CR050**	**1 x CR050**	**1 x CR065**	**1 x CR065**	**1 x CR080**
Capacity							
Nom Cooling (Gross)	(1)	kW	34.1	33.2	37.9	38.5	43.0
Capacity Steps			1	2	1	2	2
Fan Power Input (Fan Gain)	(2)	kW	4.60	4.60	6.30	6.30	6.30
Dimensions - W x D x H		mm	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940
Weight - Machine	(3)	kg	474	516	497	525	531
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)				
Material/Colour			Frame: Aluminium Frame with Aluminium Corners				
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins				
Cooling/Dehum Stages			1/1	2/1	1/1	2/1	2/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP				
Fan Transmission Type			Belt and Pulley				
Quantity			1	1	1	1	1
Motor Shaft Power	(4)	kW	4.00	4.00	4.00	4.00	5.50
Speed @ 25Pa / Maximum ESP		rpm	1440 / 1468	1440 / 1468	1620 / 1622	1620 / 1622	1620 / 1622
Maximum ESP		Pa	35	35	25	25	25
Nominal Airflow		m³/s	3.30	3.30	3.70	3.70	3.70
Compressor - Scroll			Single	Tandem	Single	Tandem	Tandem
Quantity			1	2	1	2	2
Oil Charge Volume (Total)		l	3.30	3.32	3.30	3.78	3.44
Oil Type			Polyol Ester				
Refrigeration			Single Circuit				
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV) / R410A				
Holding Charge	(5)		Inert Gas				
Connections							
Liquid (Sweat)		in	1/2	1/2	5/8	5/8	5/8
Discharge (Sweat)		in	7/8	7/8	1 1/8	7/8	7/8
Condensate Drain Hose		mm	19	19	19	19	19
Filtration			Disposable to ISO-C-75 - 75mm				
Quantity			4	4	4	4	4
OPTIONAL EXTRAS							
Larger Condenser Match			**CR065**	**CR065**	**CR080**	**CR080**	**CR105**
Nom Cooling (Gross)	(1)	kW	34.4	33.5	39.0	39.7	43.0
Hot Gas Reheat							
Nom Heating (Gross)	(6)	kW	19.4	19.4	20.3	20.3	20.3
Electric Heating (Total)		kW	30.0	30.0	30.0	30.0	30.0
Humidifier							
Capacity		kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection				
Condensate Pump							
Head		m	10.8	10.8	10.8	10.8	10.8
Flow		l/m	5	5	5	5	5
Drain			10mm Stainless Steel Stub Connection				
Evaporator Fan Options:							
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP				
Fan Transmission Type			Belt and Pulley				
Quantity			1	1	N/A	N/A	N/A
Motor Shaft Power	(4)	kW	5.5	5.5	N/A	N/A	N/A
Speed @ Maximum ESP		rpm	1695	1695	N/A	N/A	N/A
Maximum ESP		Pa	240	240	N/A	N/A	N/A
Fan Power Input (Fan Gain)	(2)	kW	6.30	6.30	N/A	N/A	N/A
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP				
Fan Transmission Type			Direct Drive				
Quantity			2	2	2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1935 / 2165	1935 / 2165	2165 / 2165	2165 / 2165	2165 / 2165
Maximum ESP		Pa	260	260	25	25	25
Fan Power Input (Fan Gain)	(2)	kW	3.08	3.08	4.24	4.24	4.24
Low Pressure Hot Water			Copper Tube/Aluminium Fin				
Capacity Gross	(7)	kW	29.9	29.9	31.5	31.5	31.5
Water Flow (Nominal)		l/s	0.67	0.67	0.70	0.70	0.70
LPHW Connection Sizes		mm	22	22	22	22	22

Technical Data Upflow Units X Type V35X - V45X2

Electrical Data

		V35X-EZRE-0	V35X2-EZRE-0	V40X-EZRE-0	V40X2-EZRE-0	V45X2-EZRE-0
Standard Condenser Match - X		CR050	CR050	CR065	CR065	CR080
Unit Data Full Function - X						
Nominal Run Amps	A	76.58	75.98	80.84	83.54	87.2
Maximum Start Amps	A	220.18	140.58	218.14	172.84	169.9
Recommended Mains Fuse Size	A	100	100	100	100	100
Unit Data Cooling Only - X						
Nominal Run Amps	A	33.28	32.68	37.54	40.24	43.9
Maximum Start Amps	A	176.88	97.28	174.84	129.54	126.6
Recommended Mains Fuse Size	A	40	40	50	50	50
Max Mains Incoming Cable Size	mm²	35	35	35	35	35
Mains Supply	V	400V / 3PH + N / 50HZ				
Control Circuit	VAC	24	24	24	24	24
Evaporator Fan - Motor Per Fan						
Electrical Input Power	kW	4.5	4.5	6.1	6.1	6.3
Full Load Amps	A	8.14	8.14	11.1	11.1	10.9
Locked Rotor Amps	A	57	57	77.7	77.7	69.8
Compressor - Per Compressor						
Quantity x Motor Size	kW	1 x 10.85	2 x 5.6	1 x 12.15	2 x 6.4	2 x 6.8
Nominal Run Amps	A	19.4	9.4	20.7	11.7	12.3
Locked Rotor Amps	A	163	74	158	101	95
Type of Start		Direct On Line				
Standard Condenser Match - AC Motor - Per Fan						
Electrical Input Power	kW	0.6	0.6	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62	2.62	2.62
OPTIONAL EXTRAS						
Electric Heating						
Stage of Reheat		3	3	3	3	3
Number of Elements		12	12	12	12	12
Rating	kW	30	30	30	30	30
Current per Phase	A	43.30	43.30	43.30	43.30	43.3
Humidifier						
Capacity	kg/hr	15	15	15	15	15
Rating	kW	11.25	11.25	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24	16.24	16.24
Evaporator Fan Options						
Larger Fan Motor - AC Motor - Per Fan						
Electrical Input Power	kW	6.3	6.3	N/A	N/A	N/A
Full Load Amps	A	10.9	10.9	N/A	N/A	N/A
Locked Rotor Amps	A	69.8	69.8	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan						
Electrical Input Power	kW	3.4	3.4	3.4	3.4	2.55
Full Load Amps	A	5.2	5.2	5.2	5.2	3.9
Condenser Fan Options						
Standard Condenser Motor - EC Motor - Per Fan						
Electrical Input Power	kW	0.73	0.73	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type V50X2 - V60X2

Mechanical Data

			V50X2-EZRE-0	V55X2-EZRE-0	V60X2-EZRE-0
Standard Condenser Match			**1 x CR080**	**1 x CR080**	**1 x CR080**
Capacity					
Nom Cooling (Gross)	(1)	kW	50.1	55.6	61.6
Capacity Steps			2	2	2
Fan Power Input (Fan Gain)	(2)	kW	7.00	7.00	7.00
Dimensions - W x D x H		mm	2170 x 750 x 1940	2170 x 750 x 1940	2170 x 750 x 1940
Weight - Machine	(3)	kg	619	636	640
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			2/1	2/1	2/1
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt and Pulley		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	3.0	3.0	3.0
Speed @ 25Pa / Maximum ESP		rpm	1243 / 1447	1243 / 1447	1278 / 1324
Maximum ESP		Pa	255	255	35
Nominal Airflow		m³/s	4.20	4.20	4.60
Compressor - Scroll			Tandem	Tandem	Tandem
Quantity			2	2	2
Oil Charge Volume (Total)		l	6.60	6.60	6.60
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type	(5)		Thermostatic Expansion Valve (Optional EEV) / R410A		
Holding Charge			Inert Gas		
Connections					
Liquid (Sweat)		in	5/8	5/8	5/8
Discharge (Sweat)		in	1 3/8	1 3/8	1 3/8
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to ISO-C-75 - 75mm		
Quantity			5	5	5
OPTIONAL EXTRAS					
Larger Condenser Match			**CR105**	**CR105**	**CR105**
Nom Cooling (Gross)	(1)	kW	50.4	56.1	62.2
Hot Gas Reheat					
Nom Heating (Gross)	(6)	kW	25.7	25.7	26.7
Electric Heating (Total)		kW	30.0	30.0	30.0
Humidifier					
Capacity		kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	10.8	10.8	10.8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Evaporator Fan Options:					
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type			Belt & Pulley		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	4.0	4.0	4.0
Speed @ Maximum ESP		rpm	1495	1495	1499
Maximum ESP		Pa	305	305	230
Fan Power Input (Fan Gain)	(2)	kW	9.20	9.20	9.20
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1370 / 1510	1370 / 1510	1510 / 1510
Maximum ESP		Pa	165	165	25
Fan Power Input (Fan Gain)	(2)	kW	4.18	4.18	4.18
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	37.7	37.7	39.2
Water Flow (Nominal)		l/s	0.84	0.84	0.87
LPHW Connection Sizes		mm	22	22	22

Technical Data Upflow Units X Type V50X2 - V60X2

Electrical Data

Standard Condenser Match - X		V50X2-EZRE-0 CR080	V55X2-EZRE-0 CR080	V60X2-EZRE-0 CR080
Unit Data Full Function - X				
Nominal Run Amps	A	94.30	98.10	103.10
Maximum Start Amps	A	235.30	211.20	246.70
Recommended Mains Fuse Size	A	125	125	125
Unit Data Cooling Only - X				
Nominal Run Amps	A	51	54.8	59.8
Maximum Start Amps	A	192	167.9	203.4
Recommended Mains Fuse Size	A	63	63	80
Max Mains Incoming Cable Size	mm²	50	50	50
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	3.4	3.4	3.4
Full Load Amps	A	6.32	6.32	6.32
Locked Rotor Amps	A	45.5	45.5	45.5
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 8.4	2 x 9.47	2 x 10.85
Nominal Run Amps	A	15	16.9	19.4
Locked Rotor Amps	A	156	130	163
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		12	12	12
Rating	kW	30	30	30
Current per Phase	A	43.30	43.30	43.30
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	4.6	4.6	4.6
Full Load Amps	A	8.12	8.12	8.12
Locked Rotor Amps	A	60.9	60.9	60.9
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.1	3.1	3.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

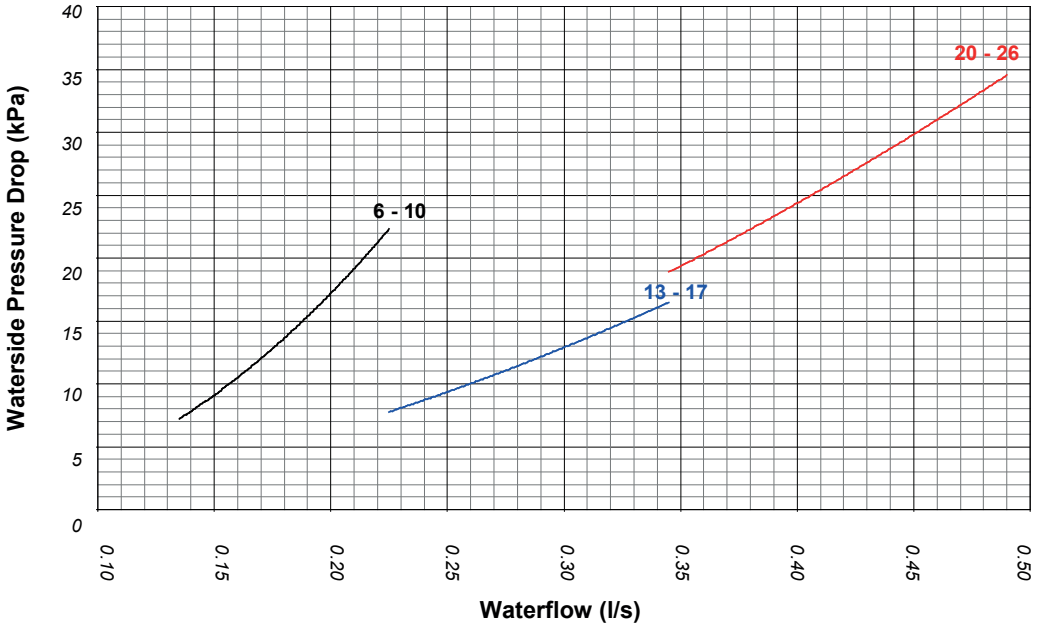
(1) Entering air 24°C/45% RH ambient 35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water***.

Electrical

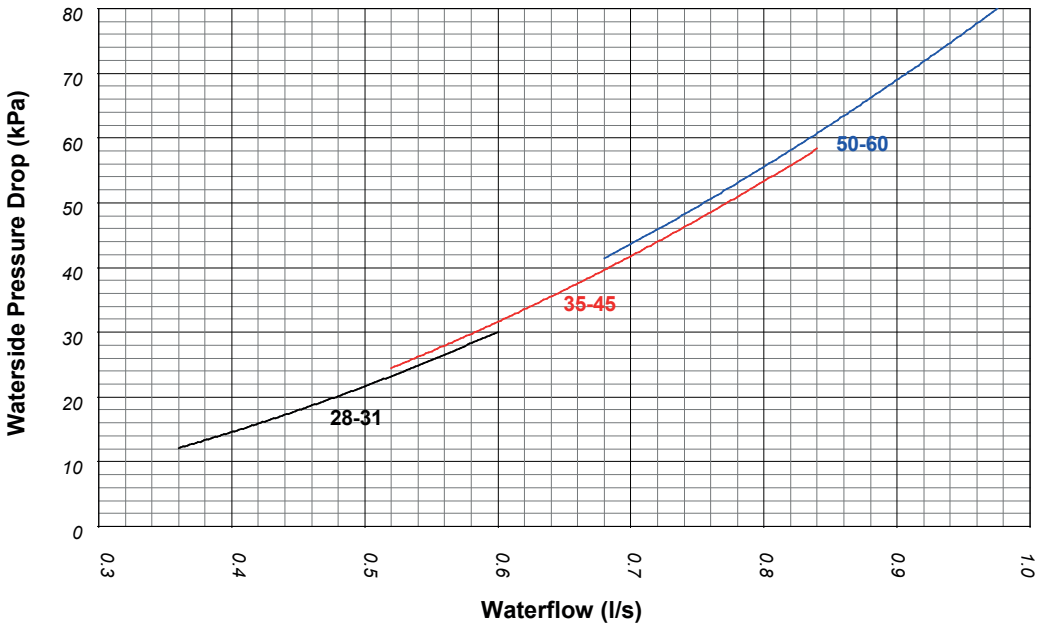
(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units X Type
Hydronic Data Low Pressure Hot Water

V6 - V26



V28 - V60



(1) Includes coil, 3 port valve and pipework.

(2) To calculate 3 port valve pressure drop

$\Delta P \text{ valve} = \left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and $M = \left(\frac{Kv}{36}\right)$

(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Notes

Technical Data Downflow Units WX Type

Performance Data

Cooling Capacity (1)		Condenser Entering/Leaving Temperature - Based on 5°C ΔT											
	Air On	25°C/30°C			30°C/35°C			35°C/40°C			40°C/45°C		
	(DB°C/%RH)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)
DF6WX-EZRE	22/50	6.5	6.2	8.4	6.5	6.2	8.4	6.3	6.1	8.4	6.0	5.9	8.3
	24/45	6.8	6.8	8.8	6.8	6.8	8.8	6.6	6.6	8.7	6.3	6.3	8.6
	26/40	7.1	7.1	9.1	7.1	7.1	9.1	7.0	7.0	9.0	6.7	6.7	8.9
DF8WX-EZRE	22/50	8.2	8.1	10.8	8.2	8.1	10.8	8.1	8.0	10.7	7.7	7.6	10.6
	24/45	8.6	8.6	11.2	8.6	8.6	11.2	8.5	8.5	11.1	8.1	8.1	11.0
	26/40	9.1	9.0	11.7	9.1	9.0	11.7	8.9	8.8	11.6	8.7	8.1	11.6
DF10WX-EZRE	22/50	10.8	10.7	14.2	10.8	10.7	14.2	10.6	10.5	14.1	10.0	10.0	13.9
	24/45	11.3	11.3	14.7	11.3	11.3	14.7	11.1	11.1	14.6	10.5	10.5	14.4
	26/40	11.8	11.8	15.2	11.8	11.8	15.2	11.6	11.6	15.1	11.2	11.2	15.0
DF13WX-EZRE	22/50	14.0	12.8	18.2	14.0	12.8	18.2	13.7	12.6	18.1	12.9	12.1	17.8
	24/45	14.6	14.1	18.8	14.6	14.1	18.8	14.2	13.9	18.6	13.5	13.3	18.3
	26/40	15.1	15.1	19.4	15.1	15.1	19.4	14.7	14.7	19.2	14.0	14.0	18.9
DF15WX-EZRE	22/50	15.9	14.9	20.8	15.9	14.9	20.8	15.6	14.8	20.7	14.9	14.2	20.3
	24/45	16.5	16.2	21.4	16.5	16.2	21.4	16.3	16.0	21.3	15.5	15.4	21.0
	26/40	17.1	17.1	22.0	17.1	17.1	22.0	16.9	16.9	22.0	16.2	16.2	21.7
DF17WX-EZRE	22/50	18.3	17.0	24.0	18.3	17.0	24.0	17.9	16.8	23.8	16.9	16.2	23.4
	24/45	18.9	18.6	24.6	18.9	18.6	24.6	18.5	18.3	24.4	17.5	17.5	24.0
	26/40	19.5	19.5	25.3	19.5	19.5	25.3	19.1	19.1	25.1	18.1	18.1	24.6
DF20WX2-EZRE	22/50	22.0	20.5	28.7	22.0	20.5	28.7	21.5	20.2	28.5	20.4	19.4	28.0
	24/45	22.9	22.5	29.7	22.9	22.5	29.7	22.4	22.2	29.4	21.3	21.3	29.0
	26/40	23.8	23.8	30.6	23.8	23.8	30.6	23.4	23.4	30.4	22.3	22.3	30.0
DF22WX2-EZRE	22/50	22.6	21.8	29.3	22.6	21.8	29.3	22.1	21.5	29.1	20.9	20.6	28.6
	24/45	23.6	23.6	30.4	23.6	23.6	30.4	23.1	23.1	30.2	22.0	22.0	29.7
	26/40	24.7	24.7	31.5	24.7	24.7	31.5	24.2	24.2	31.3	23.1	23.1	30.9
DF26WX2-EZRE	22/50	27.3	24.9	35.8	27.3	24.9	35.8	26.6	24.5	35.4	25.2	23.6	34.9
	24/45	28.3	27.3	36.8	28.3	27.3	36.8	27.6	26.8	36.5	26.2	25.7	36.0
	26/40	29.4	29.4	37.9	29.4	29.4	37.9	28.7	28.7	37.6	27.3	27.3	37.1
DF28WX-EZRE	22/50	25.7	25.1	34.5	25.7	25.1	34.5	25.4	24.8	34.3	24.1	23.8	33.8
	24/45	26.9	26.9	35.8	26.9	26.9	35.8	26.5	26.5	35.6	25.3	25.3	35.1
	26/40	28.2	28.2	37.2	28.2	28.2	37.2	27.9	27.9	37.1	26.7	26.7	36.6

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Condenser Minimum Entering Temperature °C	+25°C
Condenser Maximum Leaving Water Temperature °C	+45°C

TC = Total Cooling
SC = Sensible Cooling
THR = Total Heat Rejection

(1) All data quoted is gross
(2) Interpolate for water temperatures between those quoted, do not extrapolate
(3) Water flow rate (l/s) = THR/(4.19*ΔT) at 100% Water; for glycol use refer to Ethylene Glycol Correction Factors section

Technical Data Downflow Units WX Type

Performance Data

Cooling Capacity (1)		Condenser Entering/Leaving Temperature - Based on 5°C ΔT											
	Air On	25°C/30°C			30°C/35°C			35°C/40°C			40°C/45°C		
	(DB°C/%RH)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)
DF31WX-EZRE	22/50	29.2	29.1	39.2	29.2	29.1	39.2	28.8	28.7	39.0	27.4	27.4	38.3
	24/45	30.6	30.6	40.7	30.6	30.6	40.7	30.2	30.2	40.4	28.8	28.8	39.9
	26/40	32.2	32.2	42.3	32.2	32.2	42.3	31.7	31.7	42.1	30.4	29.8	41.6
DF35WX-EZRE	22/50	33.9	33.5	45.3	33.9	33.5	45.3	33.4	33.0	45.1	31.7	31.6	44.4
	24/45	35.5	35.5	47.1	35.5	35.5	47.1	35.0	35.0	46.8	33.4	33.4	46.2
	26/40	37.4	37.4	49.1	37.4	37.4	49.1	36.9	36.6	48.9	35.6	34.1	48.5
DF40WX-EZRE	22/50	37.8	37.7	50.5	37.8	37.7	50.5	37.2	37.2	50.2	35.3	35.3	49.4
	24/45	39.6	39.6	52.4	39.6	39.6	52.4	39.0	39.0	52.1	37.2	37.2	51.4
	26/40	41.7	41.7	54.6	41.7	41.7	54.6	41.1	41.0	54.3	39.6	38.3	54.0
DF45WX-EZRE	22/50	42.6	40.4	56.9	42.6	40.4	56.9	42.0	39.9	56.6	39.9	38.5	55.7
	24/45	44.5	44.2	58.8	44.5	44.2	58.8	43.8	43.7	58.5	41.7	41.7	57.7
	26/40	46.4	46.4	60.9	46.4	46.4	60.9	45.8	45.8	60.6	43.8	43.8	59.8
DF50WX2-EZRE	22/50	49.7	46.4	67.2	49.7	46.4	67.2	48.8	45.9	66.8	46.4	44.2	65.8
	24/45	51.7	50.7	69.4	51.7	50.7	69.4	50.9	50.1	69.0	48.4	48.1	67.9
	26/40	53.8	53.8	71.6	53.8	53.8	71.6	52.9	52.9	71.2	50.4	50.4	70.2
DF55WX2-EZRE	22/50	56.2	50.2	75.9	56.2	50.2	75.9	55.1	49.6	75.4	52.3	47.9	74.2
	24/45	58.3	55.3	78.2	58.3	55.3	78.2	57.3	54.6	77.7	54.4	52.7	76.5
	26/40	60.5	60.5	80.5	60.5	60.5	80.5	59.4	59.4	80.0	56.5	56.5	78.7
DF60WX2-EZRE	22/50	63.4	55.9	86.0	63.4	55.9	86.0	62.1	55.2	85.4	58.9	53.3	84.1
	24/45	65.7	61.4	88.5	65.7	61.4	88.5	64.4	60.6	87.9	61.2	58.5	86.5
	26/40	68.1	67.1	91.0	68.1	67.1	91.0	66.7	66.2	90.3	63.5	63.5	89.0

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Condenser Minimum Entering Temperature °C	+25°C
Condenser Maximum Leaving Water Temperature °C	+45°C

TC = Total Cooling
SC = Sensible Cooling
THR = Total Heat Rejection

(1) All data quoted is gross
(2) Interpolate for water temperatures between those quoted, do not extrapolate
(3) Water flow rate (l/s) = THR/(4.19*ΔT) at 100% Water; for glycol use refer to Ethylene Glycol Correction Factors section

Technical Data Downflow Units WX Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
DF6WX	Discharge Air	Power	71	65	69	67	67	67	66	58	54
	Return Air	Power	62	68	68	66	59	54	51	49	39
	Case Breakout	Power	58	64	66	58	55	52	47	44	38
	Sound @ 3m	Pressure	43	50	51	43	40	37	33	29	24
DF8WX	Discharge Air	Power	77	70	74	73	72	72	71	64	59
	Return Air	Power	68	73	74	72	65	59	56	54	44
	Case Breakout	Power	63	70	71	63	60	56	53	50	43
	Sound @ 3m	Pressure	48	55	57	49	45	42	38	36	29
DF10WX	Discharge Air	Power	80	73	77	76	75	75	74	67	62
	Return Air	Power	71	76	77	75	68	62	59	57	47
	Case Breakout	Power	66	73	74	66	63	59	55	53	47
	Sound @ 3m	Pressure	51	58	60	52	48	45	41	38	32
DF13WX	Discharge Air	Power	77	71	74	72	72	72	71	64	59
	Return Air	Power	67	73	74	72	65	59	56	54	44
	Case Breakout	Power	63	70	71	63	60	56	52	50	44
	Sound @ 3m	Pressure	48	56	57	49	45	42	38	36	30
DF15WX	Discharge Air	Power	73	70	75	72	69	68	67	62	57
	Return Air	Power	66	73	74	71	62	55	52	53	42
	Case Breakout	Power	62	70	72	63	57	54	49	51	44
	Sound @ 3m	Pressure	47	55	57	49	43	39	34	36	29
DF17WX	Discharge Air	Power	77	74	78	76	73	72	70	66	61
	Return Air	Power	70	77	78	75	66	59	55	56	46
	Case Breakout	Power	65	73	76	67	61	57	52	53	46
	Sound @ 3m	Pressure	50	59	61	52	46	43	38	39	31
DF20WX2	Discharge Air	Power	81	74	78	77	76	77	75	68	63
	Return Air	Power	72	77	78	76	69	63	60	59	48
	Case Breakout	Power	67	74	76	68	64	61	56	54	48
	Sound @ 3m	Pressure	52	59	61	53	49	46	42	40	34
DF22WX2	Discharge Air	Power	85	79	83	81	80	81	79	72	67
	Return Air	Power	76	81	82	80	73	67	64	63	52
	Case Breakout	Power	71	78	80	72	68	65	60	58	52
	Sound @ 3m	Pressure	56	64	65	57	54	50	46	43	37
DF26WX2	Discharge Air	Power	85	79	83	81	80	81	79	72	67
	Return Air	Power	76	81	82	80	73	67	64	63	52
	Case Breakout	Power	71	78	80	72	68	65	60	58	52
	Sound @ 3m	Pressure	56	64	65	57	54	50	46	43	37

(1) dB(A) is the overall sound level, measured on the A scale
(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Downflow Units WX Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
DF28WX	Discharge Air	Power	87	77	80	79	81	81	82	79	76
	Return Air	Power	68	77	71	63	66	63	58	56	47
	Case Breakout	Power	70	80	70	63	67	67	60	57	48
	Sound @ 3m	Pressure	55	65	56	49	53	52	45	42	34
DF31WX	Discharge Air	Power	91	78	84	83	85	84	85	83	80
	Return Air	Power	71	77	75	66	69	66	61	60	52
	Case Breakout	Power	73	80	74	67	70	69	63	60	52
	Sound @ 3m	Pressure	58	66	59	52	55	55	48	46	38
DF35WX	Discharge Air	Power	90	77	83	82	87	83	84	82	79
	Return Air	Power	71	76	74	65	71	65	60	59	51
	Case Breakout	Power	72	78	73	66	71	68	61	60	51
	Sound @ 3m	Pressure	58	65	58	51	57	53	47	45	37
DF40WX	Discharge Air	Power	92	80	86	85	89	86	86	85	81
	Return Air	Power	73	78	76	67	73	67	62	62	53
	Case Breakout	Power	75	80	75	68	74	70	64	62	54
	Sound @ 3m	Pressure	60	65	61	54	59	56	49	48	40
DF45WX	Discharge Air	Power	92	80	86	85	89	86	86	85	81
	Return Air	Power	73	78	76	67	73	67	62	62	54
	Case Breakout	Power	75	80	75	68	74	70	64	62	54
	Sound @ 3m	Pressure	60	65	61	54	59	56	49	48	40
DF50WX2	Discharge Air	Power	89	78	84	86	82	83	84	81	76
	Return Air	Power	69	76	75	69	66	64	59	58	48
	Case Breakout	Power	71	79	74	69	67	68	61	58	49
	Sound @ 3m	Pressure	56	64	59	55	52	53	47	43	34
DF55WX2	Discharge Air	Power	89	78	84	86	82	83	84	81	76
	Return Air	Power	70	77	75	69	67	64	60	58	48
	Case Breakout	Power	71	79	74	69	68	68	62	58	49
	Sound @ 3m	Pressure	57	64	59	55	53	53	47	44	35
DF60WX2	Discharge Air	Power	91	80	85	89	84	85	86	83	79
	Return Air	Power	71	79	76	72	69	66	62	60	51
	Case Breakout	Power	73	81	75	73	69	69	63	60	52
	Sound @ 3m	Pressure	58	66	60	58	55	54	49	46	37

(1) dB(A) is the overall sound level, measured on the A scale
(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Downflow Units WX Type DF6WX - DF10WX

Mechanical Data

		DF6WX-EZRE-0	DF8WX-EZRE-0	DF10WX-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	6.6	8.4	11.0
Total Heat of Rejection	(1) kW	8.5	10.9	14.3
Capacity Steps		1	1	1
Fan Power Input (Fan Gain)	(2) kW	0.25	0.54	0.77
Dimensions - W x D x H	mm	670 x 670 x 1940	670 x 670 x 1940	670 x 670 x 1940
Weight - Machine / Operating	(3) kg	210 / 212	215 / 216	218 / 219
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		1/1	1/1	1/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	1.1	1.4	1.4
Evaporator Fan Motor - EC Motor		Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		1	1	1
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Maximum ESP	Pa	328	233	274
Nominal Airflow	m³/s	0.55	0.75	0.95
Compressor - Scroll		Single		
Quantity		1	1	1
Oil Charge Volume (Total)	l	0.70	0.70	1.20
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	1.4 (2.9)	1.6 (3.3)	1.6 (3.3)
Connections				
Water Inlet / Outlet	mm	22	22	22
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity		1	1	1
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	7.5	7.5	7.5
Humidifier				
Capacity	kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	8	8	8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor		Centrifugal Backward Curved DD EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		1	1	1
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1335 / 2215	1705 / 2215	2145 / 2215
Maximum ESP	Pa	475	295	50
Fan Power Input (Fan Gain)	(2) kW	0.23	0.43	0.77
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	6.5	7.5	8.4
Water Flow (Nominal)	l/s	0.14	0.17	0.19
LPHW Connection Sizes	mm	22	22	22
Threaded Connection				
Brass Male Taper	in	3/4	3/4	3/4

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Downflow Units WX Type DF6WX - DF10WX

Electrical Data

		DF6WX-EZRE-0	DF8WX-EZRE-0	DF10WX-EZRE-0
Standard Condenser Match - X		CR12	CR16	CR16
Unit Data Full Function - WX				
Nominal Run Amps	A	19.23	20.23	21.23
Maximum Start Amps	A	41.63	50.63	58.63
Recommended Mains Fuse Size	A	25	25	25
Unit Data Cooling Only - WX				
Nominal Run Amps	A	8.4	9.4	10.4
Maximum Start Amps	A	30.8	39.8	47.8
Recommended Mains Fuse Size	A	16	16	16
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 2	1 x 2.6	1 x 3.3
Nominal Run Amps	A	3.6	4.6	5.6
Locked Rotor Amps	A	26	35	43
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.29	0.29	0.29
Full Load Amps	A	1.37	1.37	1.37
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.94	0.94	0.94
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.7	0.7	0.7
Full Load Amps	A	3.1	3.1	3.1

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type DF13WX - DF17WX

Mechanical Data

		DF13WX-EZRE-0	DF15WX-EZRE-0	DF17WX-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	14.1	16.0	18.3
Total Heat of Rejection	(1) kW	18.4	20.9	24.1
Capacity Steps		1	1	1
Fan Power Input (Fan Gain)	(2) kW	0.62	0.67	1.04
Dimensions - W x D x H	mm	990 x 670 x 1940	990 x 670 x 1940	990 x 670 x 1940
Weight - Machine / Operating	(3) kg	240 / 241	271 / 273	275 / 277
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		1/1	1/1	1/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	1.4	2.0	2.5
Evaporator Fan Motor - EC Motor		Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		1	1	1
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Maximum ESP	Pa	443	324	245
Nominal Airflow	m³/s	1.00	1.20	1.40
Compressor - Scroll		Single		
Quantity		1	1	1
Oil Charge Volume (Total)	l	1.20	1.66	1.89
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	2.1 (4.3)	2.6 (5.4)	2.6 (5.4)
Connections				
Water Inlet / Outlet	mm	22	22	28
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity		2	2	2
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	7.5	7.5	7.5
Humidifier				
Capacity	kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	8	8	8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		1	1	1
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1105 / 1560	1310 / 1560	1515 / 1560
Maximum ESP	Pa	310	195	45
Fan Power Input (Fan Gain)	(2) kW	0.37	0.56	0.82
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	11.5	12.5	13.3
Water Flow (Nominal)	l/s	0.26	0.28	0.30
LPHW Connection Sizes	mm	22	22	22
Threaded Connection				
Brass Male Taper	in	3/4	3/4	1

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Downflow Units WX Type DF13WX - DF17WX

Electrical Data

		DF13WX-EZRE-0	DF15WX-EZRE-0	DF17WX-EZRE-0
Standard Condenser Match - X		CR22	CR22	CR30
Unit Data Full Function - WX				
Nominal Run Amps	A	22.73	26.23	27.43
Maximum Start Amps	A	79.63	85.03	92.03
Recommended Mains Fuse Size	A	32	32	32
Unit Data Cooling Only - WX				
Nominal Run Amps	A	11.9	15.4	16.6
Maximum Start Amps	A	68.8	74.2	81.2
Recommended Mains Fuse Size	A	16	20	20
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.6	1.6
Full Load Amps	A	4.8	7.2	7.2
Locked Rotor Amps	A	4.8	7.2	7.2
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 4.2	1 x 5	1 x 5.6
Nominal Run Amps	A	7.1	8.2	9.4
Locked Rotor Amps	A	64	67	74
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.95	0.95	0.95
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type DF20WX2 - DF26WX2

Mechanical Data

		DF20WX2-EZRE-0	DF22WX2-EZRE-0	DF26WX2-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	22.2	22.9	27.5
Total Heat of Rejection	(1) kW	29.0	29.7	36.0
Capacity Steps		2	2	2
Fan Power Input (Fan Gain)	(2) kW	1.16	1.86	1.86
Dimensions - W x D x H	mm	1310 x 670 x 1940	1310 x 670 x 1940	1310 x 670 x 1940
Weight - Machine / Operating	(3) kg	334 / 336	334 / 336	333 / 336
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		2/1	2/1	2/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	2.5	2.5	2.5
Evaporator Fan Motor - EC Motor		Centrifugal Forward Curved EC		
Motor Fan Transmission Type		Direct Drive		
Quantity		2	2	2
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Maximum ESP	Pa	342	192	192
Nominal Airflow	m³/s	1.70	2.00	2.00
Compressor - Scroll		Tandem		
Quantity		2	2	2
Oil Charge Volume (Total)	l	2.40	2.40	2.40
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	3.2 (6.7)	3.2 (6.7)	3.2 (6.7)
Connections				
Water Inlet / Outlet	mm	28	28	28
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity		3	3	3
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	15.0	15.0	15.0
Humidifier				
Capacity	kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	8	8	8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor		Centrifugal Backward Curved DD EC - Designed to 25Pa ESP		
Motor Fan Transmission Type		Direct Drive		
Quantity		2	1	1
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1745 / 2165	2055 / 2165	2055 / 2165
Maximum ESP	Pa	450	145	145
Fan Power Input (Fan Gain)	(2) kW	0.52	0.82	1.53
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	16.1	16.6	16.6
Water Flow (Nominal)	l/s	0.36	0.37	0.37
LPHW Connection Sizes	mm	22	22	22
Threaded Connection				
Brass Male Taper	in	1	1	1

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Downflow Units WX Type DF20WX2 - DF26WX2

Electrical Data

Standard Condenser Match - X		DF20WX2-EZRE-0 CR30	DF22WX2-EZRE-0 CR50	DF26WX2-EZRE-0 CR50
Unit Data Full Function - WX				
Nominal Run Amps	A	42.45	42.45	45.45
Maximum Start Amps	A	79.85	79.85	102.35
Recommended Mains Fuse Size	A	50	50	63
Unit Data Cooling Only - WX				
Nominal Run Amps	A	20.8	20.8	23.8
Maximum Start Amps	A	58.2	58.2	80.7
Recommended Mains Fuse Size	A	25	25	32
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 3.3	2 x 3.3	2 x 4.2
Nominal Run Amps	A	5.6	5.6	7.1
Locked Rotor Amps	A	43	43	64
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		2	2	2
Number of Elements		6	6	6
Rating	kW	15	15	15
Current per Phase	A	21.65	21.65	21.65
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type DF28WX - DF31WX

Mechanical Data

		DF28WX-EZRE-0	DF31WX-EZRE-0
Capacity			
Nom Cooling (Gross)	(1) kW	26.1	29.7
Total Heat of Rejection	(1) kW	35.0	39.7
Capacity Steps		1	1
Fan Power Input (Fan Gain)	(2) kW	2.60	4.60
Dimensions - W x D x H	mm	1460 x 750 x 1940	1460 x 750 x 1940
Weight - Machine / Operating	(3) kg	470 / 476	475 / 481
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)	
Material/Colour		Frame: Aluminium Frame with Aluminium Corners	
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins	
Cooling/Dehum Stages		1/1	1/1
Condenser - WX		Stainless Steel Brazed Plate	
Water Volume	l	6.1	6.1
Evaporator Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP	
Motor Fan Transmission Type		Belt & Pulley	
Quantity		1	1
Motor Shaft Power	(4) kW	2.2	4.0
Speed @ 25Pa / Maximum ESP	rpm	871 / 909	1008 /1171
Maximum ESP	Pa	75	265
Nominal Airflow	m³/s	2.40	2.80
Compressor - Scroll		Single	
Quantity		1	1
Oil Charge Volume (Total)	l	3.30	3.30
Oil Type		Polyol Ester	
Refrigeration		Single Circuit	
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)	
Refrigerant Precharged		R410A (GWP 2088)	
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	5.3 (11.1)	5.3 (11.1)
Connections			
Water Inlet / Outlet	mm	35	35
Condensate Drain Hose	mm	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 75mm	
Quantity		3	3
OPTIONAL EXTRAS			
Electric Heating (Total)	kW	20.0	20.0
Humidifier			
Capacity	kg/hr	1.6 - 8.0	1.6 - 8.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection	
Condensate Pump			
Head	m	10.8	10.8
Flow	l/m	5	5
Drain		10mm Stainless Steel Stub Connection	
Evaporator Fan Options:			
Larger Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP	
Fan Transmission Type		Belt & Pulley	
Quantity		1	N/A
Motor Shaft Power	(4) kW	3.0 / 4.0	N/A
Speed @ Maximum ESP	rpm	1144 / 1439	N/A
Maximum ESP	Pa	362 / 722	N/A
Fan Power Input (Fan Gain)	(2) kW	3.00 / 4.00	N/A
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP	
Motor Fan Transmission Type		Direct Drive	
Quantity	kW	2	2
Motor Shaft Power	(4) kW	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1570 / 2165	1775 / 2165
Maximum ESP	Pa	595	390
Fan Power Input (Fan Gain)	(2) kW	1.70	2.50
Low Pressure Hot Water		Copper Tube/Aluminium Fin	
Capacity Gross	(7) kW	21.3	22.7
Water Flow (Nominal)	l/s	0.48	0.51
LPHW Connection Sizes	mm	22	22
Threaded Connection			
Brass Male Taper	in	1 1/4	1 1/4

Technical Data Downflow Units WX Type DF28WX - DF31WX

Electrical Data

Standard Condenser Match - X		DF28WX-EZRE-0 CR50	DF31WX-EZRE-0 CR50
Unit Data Full Function - WX			
Nominal Run Amps	A	52.66	58.02
Maximum Start Amps	A	193.66	171.12
Recommended Mains Fuse Size	A	63	80
Unit Data Cooling Only - WX			
Nominal Run Amps	A	20.18	25.54
Maximum Start Amps	A	161.18	138.64
Recommended Mains Fuse Size	A	25	32
Max Mains Incoming Cable Size	mm²	35	35
Mains Supply	V	400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24
Evaporator Fan - Motor Per Fan			
Electrical Input Power	kW	2.5	4.5
Full Load Amps	A	4.68	8.14
Locked Rotor Amps	A	32.8	57
Compressor - Per Compressor			
Quantity x Motor Size	kW	1 x 8.4	1 x 9.47
Nominal Run Amps	A	15	16.9
Locked Rotor Amps	A	156	130
Type of Start		Direct On Line	
Standard Condenser Match - AC Motor - Per Fan			
Electrical Input Power	kW	0.6	0.6
Full Load Amps	A	2.62	2.62
OPTIONAL EXTRAS			
Electric Heating			
Stage of Reheat		3	3
Number of Elements		8	8
Rating	kW	20	20
Current per Phase	A	32.48	32.48
Humidifier			
Capacity	kg/hr	8	8
Rating	kW	6	6
Full Load Amps	A	8.66	8.66
Evaporator Fan Options			
Larger Fan Motor - AC Motor - Per Fan			
Electrical Input Power	kW	3.5	N/A
Full Load Amps	A	6.18	N/A
Locked Rotor Amps	A	43.3	N/A
Standard Size Motor - EC Motor - Per Fan			
Electrical Input Power	kW	3.4	3.4
Full Load Amps	A	5.2	5.2
Condenser Fan Options			
Standard Condenser Motor - EC Motor - Per Fan			
Electrical Input Power	kW	0.73	0.73
Full Load Amps	A	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type DF35WX - DF45WX

Mechanical Data

		DF35WX-EZRE-0	DF40WX-EZRE-0	DF45WX-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	34.5	38.5	43.2
Total Heat of Rejection	(1) kW	46.0	51.2	57.4
Capacity Steps		1	1	1
Fan Power Input (Fan Gain)	(2) kW	4.60	6.30	6.30
Dimensions - W x D x H	mm	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940
Weight - Machine / Operating	(3) kg	537 / 543	565 / 571	640 / 650
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		1/1	1/1	1/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	6.1	6.1	9.9
Evaporator Fan Motor - AC Motor		Centrifugal Forward CurvedAC - Designed to 25Pa ESP		
Fan Transmission Type		Belt and Pulley		
Quantity		1	1	1
Motor Shaft Power	(4) kW	4.00	5.50	5.50
Speed @ 25Pa / Maximum ESP	rpm	980 /1078	1094 / 1186	1094 / 1186
Maximum ESP	Pa	165	175	175
Nominal Airflow	m³/s	3.30	3.70	3.70
Compressor - Scroll		Single		
Quantity		1	1	1
Oil Charge Volume (Total)	l	3.30	3.30	6.70
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	6 (12.5)	6 (12.5)	8.7 (18.2)
Connections				
Water Inlet / Outlet	mm	35	35	42
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 75mm		
Quantity		3	3	3
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	20.0	20.0	20.0
Humidifier				
Capacity	kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	10.8	10.8	10.8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Evaporator Fan Options:				
Larger Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type		Belt and Pulley		
Quantity		1	N/A	N/A
Motor Shaft Power	(4) kW	5.50	N/A	N/A
Speed @ Maximum ESP	rpm	1196	N/A	N/A
Maximum ESP	Pa	322	N/A	N/A
Fan Power Input (Fan Gain)	(2) kW	6.30	N/A	N/A
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		2	2	2
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1895 / 2165	2135 / 2165	2135 / 2165
Maximum ESP	Pa	285	70	70
Fan Power Input (Fan Gain)	(2) rpm	5.26	5.26	5.26
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	30.0	31.5	31.5
Water Flow (Nominal)	l/s	0.67	0.70	0.70
LPHW Connection Sizes	mm	22	22	22
Threaded Connection				
Brass Male Taper	in	1 1/4	1 1/4	1 1/2

Technical Data Downflow Units WX Type DF35WX - DF45WX

Electrical Data		DF35WX-EZRE-0	DF40WX-EZRE-0	DF45WX-EZRE-0
Standard Condenser Match - X		CR50	CR65	CR80
Unit Data Full Function - WX				
Nominal Run Amps	A	60.52	64.78	71.08
Maximum Start Amps	A	204.12	202.08	224.08
Recommended Mains Fuse Size	A	80	80	80
Unit Data Cooling Only - WX				
Nominal Run Amps	A	28.04	32.3	38.6
Maximum Start Amps	A	171.64	169.6	191.6
Recommended Mains Fuse Size	A	40	40	50
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	4.5	6.1	6.1
Full Load Amps	A	8.14	11.1	11.1
Locked Rotor Amps	A	57	77.7	77.7
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 10.85	1 x 12.15	1 x 13.73
Nominal Run Amps	A	19.4	20.7	27
Locked Rotor Amps	A	163	158	180
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		8	8	8
Rating	kW	20	20	20
Current per Phase	A	32.48	32.48	32.48
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	6.3	N/A	N/A
Full Load Amps	A	10.9	N/A	N/A
Locked Rotor Amps	A	69.8	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.4	3.4	3.4
Full Load Amps	A	5.2	5.2	5.2
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type DF50WX2 - DF60WX2

Mechanical Data

		DF50WX2-EZRE-0	DF55WX2-EZRE-0	DF60WX2-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	50.2	56.6	63.8
Total Heat of Rejection	(1) kW	67.8	76.5	86.5
Capacity Steps		2	2	2
Fan Power Input (Fan Gain)	(2) kW	5.20	5.20	7.00
Dimensions - W x D x H	mm	2170 x 750 x 1940	2170 x 750 x 1940	2170 x 750 x 1940
Weight - Machine / Operating	(3) kg	712 / 722	731 / 741	731 / 741
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		2/1	2/1	2/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	9.9	9.9	9.9
Evaporator Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type		Belt and Pulley		
Quantity		2	2	2
Motor Shaft Power	(4) kW	2.20	2.20	3
Speed @ 25Pa / Maximum ESP	rpm	1167 / 1170	1167 / 1170	1307 / 1311
Maximum ESP	Pa	35	35	75.00
Nominal Airflow	m³/s	4.20	4.20	4.6
Compressor - Scroll		Tandem		
Quantity		2	2	2
Oil Charge Volume (Total)	l	6.60	6.60	6.6
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	9 (18.8)	9.7 (20.3)	9.8 (20.5)
Connections				
Water Inlet / Outlet	mm	42	42	42
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 75mm		
Quantity		4	4	4
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	30.0	30.0	**30.0**
Humidifier				
Capacity	kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	10.8	10.8	10.8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Evaporator Fan Options:				
Larger Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type		Belt and Pulley		
Quantity		2	2	2
Motor Shaft Power	(4) kW	3.0 / 4.0	3.0 / 4.0	4
Speed @ Maximum ESP	rpm	1448 / 1498	1448 / 1498	1497
Maximum ESP	Pa	310 / 360	310 / 360	275
Fan Power Input (Fan Gain)	(2) kW	7.0 / 9.2	7.0 / 9.2	9.2
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		2	2	2
Motor Shaft Power	(4) kW	3.10	3.10	3.1
Speed @ 25Pa / Maximum ESP	rpm	1265 / 1510	1265 / 1510	1390 / 1510
Maximum ESP	Pa	320	320	185
Fan Power Input (Fan Gain)	(2) kW	3.78	3.78	4.92
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	38.30	38.30	39.8
Water Flow (Nominal)	l/s	0.85	0.85	0.89
LPHW Connection Sizes	mm	22	22	**22**
Threaded Connection				
Brass Male Taper	in	1 1/2	1 1/2	1 1/2

Technical Data Downflow Units WX Type DF50WX2 - DF60WX2

Electrical Data		DF50WX2-EZRE-0 CR80	DF55WX2-EZRE-0 CR80	DF60WX2-EZRE-0 CR80
Standard Condenser Match - X				
Unit Data Full Function - WX				
Nominal Run Amps	A	83.16	86.96	95.24
Maximum Start Amps	A	224.16	200.06	238.84
Recommended Mains Fuse Size	A	100	100	125
Unit Data Cooling Only - WX				
Nominal Run Amps	A	39.86	43.66	51.94
Maximum Start Amps	A	180.86	156.76	195.54
Recommended Mains Fuse Size	A	50	50	63
Max Mains Incoming Cable Size	mm²	35	35	50
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	2.5	2.5	3.4
Full Load Amps	A	4.68	4.68	6.32
Locked Rotor Amps	A	32.8	32.8	45.5
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 8.4	2 x 9.47	2 x 10.85
Nominal Run Amps	A	15	16.9	19.4
Locked Rotor Amps	A	156	130	163
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		12	12	12
Rating	kW	30	30	30
Current per Phase	A	43.30	43.30	43.30
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	3.5	3.5	4.6
Full Load Amps	A	6.18	6.18	8.12
Locked Rotor Amps	A	43.3	43.3	60.9
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.1	3.1	3.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

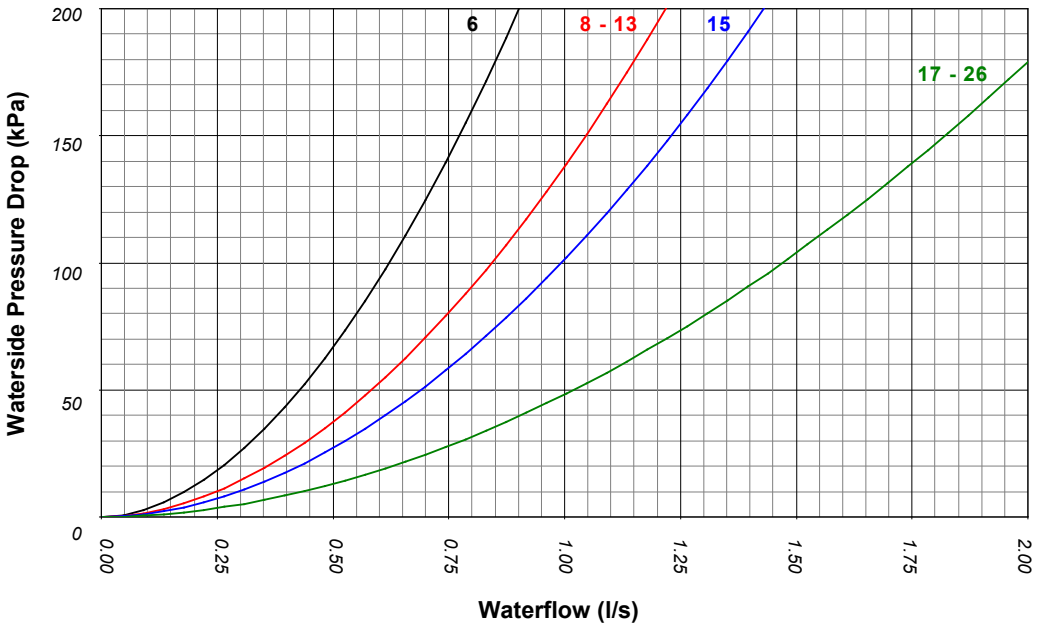
(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

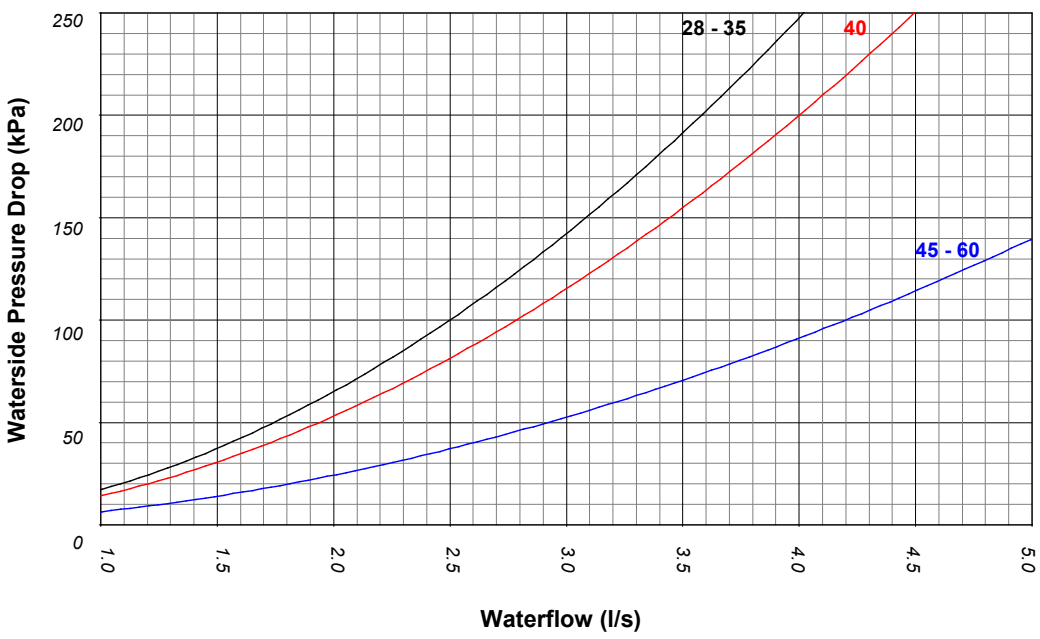
(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Downflow Units WX Type
Hydronic Data Condenser Waterside Pressure Drop

DF6 - DF26



DF28 - DF60



(1) Includes coil, 3 port valve and pipework.

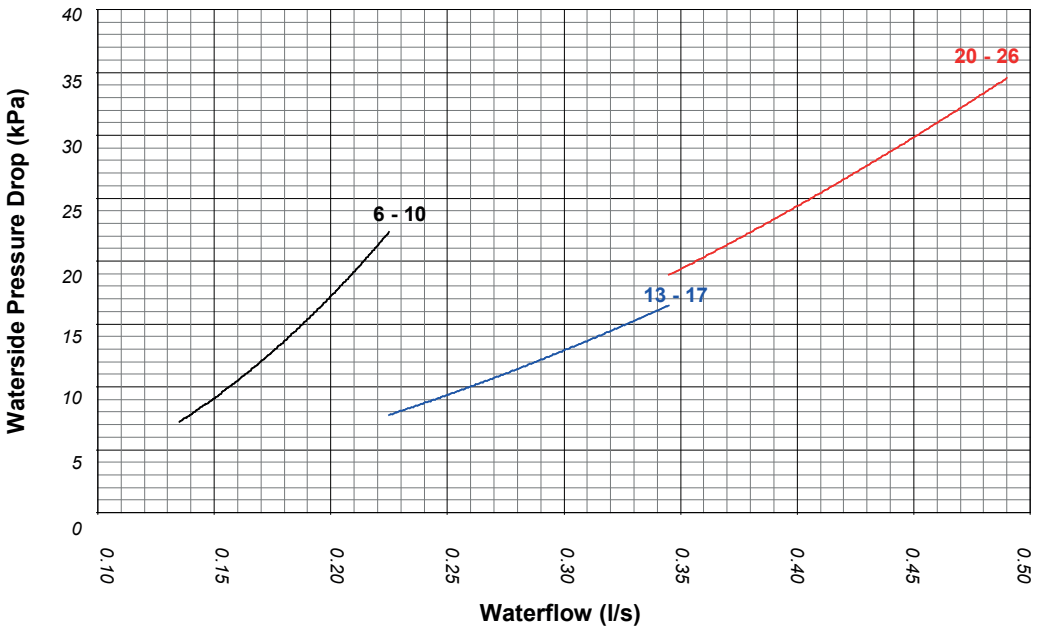
(2) To calculate 3 port valve pressure drop

ΔP valve = $\left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and M = $\left(\frac{Kv}{36}\right)$

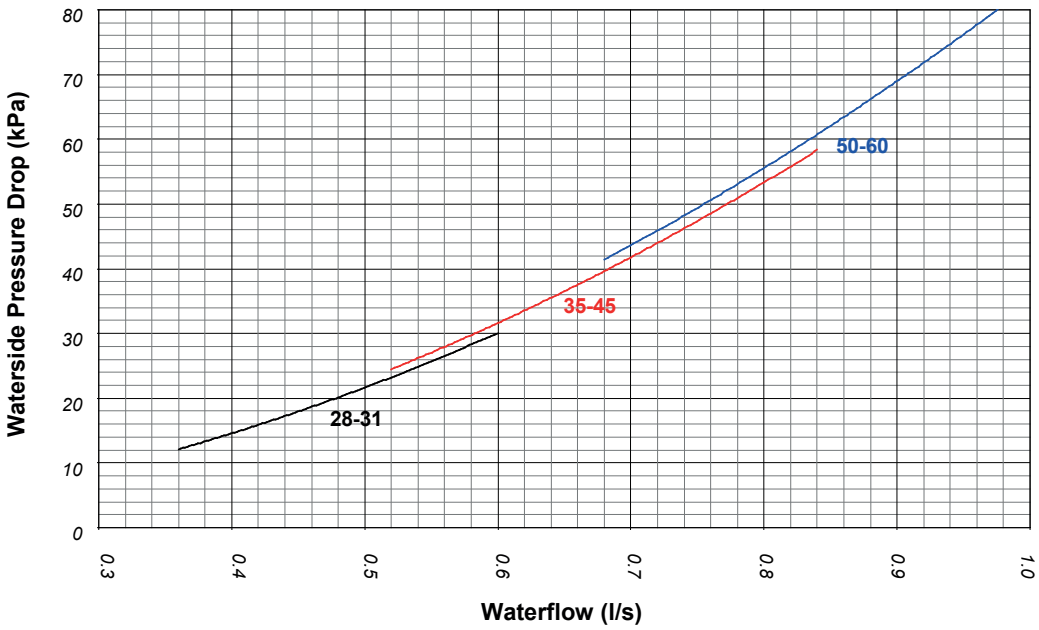
(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Technical Data Downflow Units WX Type
Hydronic Data Low Pressure Hot Water

DF6 - DF26



DF28 - DF60



(1) Includes coil, 3 port valve and pipework.

(2) To calculate 3 port valve pressure drop

ΔP valve = $\left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and M = $\left(\frac{Kv}{36}\right)$

(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Technical Data Upflow Units WX Type

Performance Data

Cooling Capacity (1)	Air On	Condenser Entering/Leaving Temperature - Based on 5°C ΔT											
		25°C/30°C			30°C/35°C			35°C/40°C			40°C/45°C		
	(DB°C/%RH)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)
V6WX-EZRE	22/50	6.4	6.3	8.3	6.4	6.3	8.3	6.2	6.2	8.3	5.9	5.9	8.2
	24/45	6.7	6.7	8.6	6.7	6.7	8.6	6.5	6.5	8.6	6.2	6.2	8.5
	26/40	7.0	7.0	8.9	7.0	7.0	8.9	6.8	6.8	8.9	6.5	6.5	8.8
V8WX-EZRE	22/50	8.1	8.1	10.7	8.1	8.1	10.7	8.0	8.0	10.6	7.5	7.5	10.5
	24/45	8.4	8.4	11.0	8.4	8.4	11.0	8.3	8.3	11.0	7.9	7.9	10.9
	26/40	8.9	8.9	11.5	8.9	8.9	11.5	8.7	8.7	11.4	8.4	8.4	11.4
V10WX-EZRE	22/50	10.6	10.6	14.0	10.6	10.6	14.0	10.4	10.4	13.9	9.9	9.9	13.7
	24/45	11.1	11.1	14.4	11.1	11.1	14.4	10.9	10.9	14.3	10.3	10.3	14.2
	26/40	11.6	11.6	15.0	11.6	11.6	15.0	11.4	11.4	14.9	10.9	10.9	14.7
V13WX-EZRE	22/50	13.8	12.8	18.0	13.8	12.8	18.0	13.5	12.6	17.9	12.7	12.1	17.6
	24/45	14.3	14.1	18.6	14.3	14.1	18.6	14.0	13.9	18.4	13.2	13.2	18.1
	26/40	14.8	14.8	19.1	14.8	14.8	19.1	14.5	14.5	18.9	13.8	13.8	18.7
V15WX-EZRE	22/50	15.6	15.0	20.5	15.6	15.0	20.5	15.4	14.8	20.4	14.6	14.3	20.1
	24/45	16.2	16.2	21.2	16.2	16.2	21.2	16.0	16.0	21.0	15.2	15.2	20.7
	26/40	16.7	16.7	21.6	16.7	16.7	21.6	16.6	16.6	21.7	15.9	15.9	21.4
V17WX-EZRE	22/50	18.0	17.1	23.7	18.0	17.1	23.7	17.5	16.8	23.4	16.7	16.2	23.1
	24/45	18.6	18.6	24.3	18.6	18.6	24.3	18.2	18.2	24.2	17.3	17.3	23.7
	26/40	19.2	19.2	25.0	19.2	19.2	25.0	18.8	18.8	24.8	17.8	17.8	24.3
V20WX2-EZRE	22/50	21.6	20.5	28.3	21.6	20.5	28.3	21.2	20.2	28.1	20.0	19.5	27.7
	24/45	22.5	22.5	29.2	22.5	22.5	29.2	22.0	22.0	29.0	20.9	20.9	28.6
	26/40	23.4	23.4	30.2	23.4	23.4	30.2	22.9	22.9	29.9	21.8	21.8	29.5
V22WX2-EZRE	22/50	22.2	21.9	29.0	22.2	21.9	29.0	21.8	21.6	28.7	20.6	20.6	28.3
	24/45	23.2	23.2	30.0	23.2	23.2	30.0	22.7	22.7	29.7	21.6	21.6	29.3
	26/40	24.2	24.2	31.0	24.2	24.2	31.0	23.8	23.8	30.8	22.6	22.6	30.4
V26WX2-EZRE	22/50	27.3	24.9	35.8	27.3	24.9	35.8	26.6	24.5	35.4	25.2	23.6	34.9
	24/45	28.3	27.3	36.8	28.3	27.3	36.8	27.6	26.8	36.5	26.2	25.7	36.0
	26/40	29.4	29.4	37.9	29.4	29.4	37.9	28.7	28.7	37.6	27.3	27.3	37.1
V28WX-EZRE	22/50	26.0	25.6	34.9	26.0	25.6	34.9	25.7	25.3	34.7	24.4	24.2	34.1
	24/45	27.3	27.3	36.2	27.3	27.3	36.2	26.9	26.9	36.0	25.7	25.7	35.5
	26/40	28.7	28.7	37.7	28.7	28.7	37.7	28.4	28.4	37.6	27.2	26.5	37.2
V28WX2-EZRE	22/50	25.9	25.5	34.2	25.9	25.5	34.2	25.6	25.2	34.1	24.2	24.1	33.6
	24/45	27.1	27.1	35.5	27.1	27.1	35.5	26.8	26.8	35.3	25.4	25.4	34.9
	26/40	28.5	28.5	36.9	28.5	28.5	36.9	28.2	28.1	36.8	27.0	26.1	36.5

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Condenser Minimum Entering Temperature °C	+25°C
Condenser Maximum Leaving Water Temperature °C	+45°C

TC = Total Cooling
SC = Sensible Cooling
THR = Total Heat Rejection

(1) All data quoted is gross
(2) Interpolate for water temperatures between those quoted, do not extrapolate
(3) Water flow rate (l/s) = THR/(4.19*ΔT) at 100% Water; for glycol use refer to Ethylene Glycol Correction Factors section

Technical Data Upflow Units WX Type

Performance Data

Cooling Capacity (1)	Air On	Condenser Entering/Leaving Temperature - Based on 5°C ΔT											
		25°C/30°C			30°C/35°C			35°C/40°C			40°C/45°C		
	(DB°C/%RH)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)	TC (kW)	SC (kW)	THR (kW)
V31WX-EZRE	22/50	29.6	29.6	39.6	29.6	29.6	39.6	29.2	29.2	39.4	27.7	27.7	38.7
	24/45	31.0	31.0	41.1	31.0	31.0	41.1	30.6	30.6	40.9	29.2	29.2	40.3
	26/40	32.7	32.5	42.9	32.7	32.5	42.9	32.3	31.8	42.7	31.0	29.4	42.2
V31WX2-EZRE	22/50	29.2	29.2	38.9	29.2	29.2	38.9	28.8	28.8	38.7	27.4	27.4	38.2
	24/45	30.7	30.7	40.3	30.7	30.7	40.3	30.3	30.3	40.2	28.9	28.9	39.7
	26/40	32.4	32.0	42.0	32.4	32.0	42.0	32.0	31.3	41.9	30.8	29.0	41.5
V35WX-EZRE	22/50	34.3	34.1	45.8	34.3	34.1	45.8	33.8	33.7	45.5	32.1	32.1	44.8
	24/45	36.0	36.0	47.6	36.0	36.0	47.6	35.5	35.5	47.4	33.9	33.9	46.7
	26/40	38.1	37.1	49.8	38.1	37.1	49.8	37.6	36.2	49.6	36.4	33.2	49.4
V35WX2-EZRE	22/50	33.9	33.7	45.2	33.9	33.7	45.2	33.3	33.2	44.9	31.3	31.3	44.1
	24/45	35.2	35.2	46.6	35.2	35.2	46.6	34.6	34.6	46.3	32.6	32.4	45.5
	26/40	36.4	33.2	47.9	36.4	33.2	47.9	35.9	31.6	47.7	35.2	26.4	48.1
V40WX-EZRE	22/50	38.3	38.3	51.0	38.3	38.3	51.0	37.7	37.7	50.7	35.8	35.8	49.9
	24/45	40.2	40.2	53.0	40.2	40.2	53.0	39.6	39.6	52.7	37.8	37.7	52.1
	26/40	42.4	41.6	55.4	42.4	41.6	55.4	41.9	40.5	55.2	40.6	37.3	55.0
V40WX2-EZRE	22/50	39.0	39.0	52.2	39.0	39.0	52.2	38.4	38.4	51.9	36.5	36.5	51.3
	24/45	40.9	40.9	54.2	40.9	40.9	54.2	40.3	40.3	54.0	38.5	38.5	53.5
	26/40	43.1	42.8	56.6	43.1	42.8	56.6	42.6	41.9	56.4	41.2	39.0	56.4
V45WX2-EZRE	22/50	42.5	40.9	56.5	42.5	40.9	56.5	41.8	40.4	56.3	39.7	38.9	55.4
	24/45	44.3	44.3	58.5	44.3	44.3	58.5	43.6	43.6	58.2	41.6	41.6	57.3
	26/40	46.3	46.3	60.6	46.3	46.3	60.6	45.7	45.7	60.3	43.7	43.7	59.6
V50WX2-EZRE	22/50	50.3	47.7	67.9	50.3	47.7	67.9	49.5	47.1	67.5	46.9	45.3	66.4
	24/45	52.5	51.9	70.2	52.5	51.9	70.2	51.6	51.2	69.7	49.0	49.0	68.6
	26/40	54.6	54.6	72.5	54.6	54.6	72.5	53.7	53.7	72.0	51.2	51.2	71.0
V55WX2-EZRE	22/50	56.9	51.7	76.7	56.9	51.7	76.7	55.8	51.0	76.2	53.0	49.2	74.9
	24/45	59.1	56.8	79.1	59.1	56.8	79.1	58.0	56.0	78.5	55.1	54.0	77.3
	26/40	61.3	61.3	81.4	61.3	61.3	81.4	60.2	60.2	80.9	57.3	57.3	79.6
V60WX2-EZRE	22/50	64.2	57.6	86.9	64.2	57.6	86.9	62.9	56.8	86.2	59.7	54.8	84.9
	24/45	66.6	63.1	89.4	66.6	63.1	89.4	65.3	62.2	88.8	62.0	60.0	87.4
	26/40	69.1	68.9	92.0	69.1	68.9	92.0	67.7	67.7	91.4	64.4	64.4	90.0

Operating Limits

Indoor Air Temperature	+18°C to +28°C
Indoor RH%	+40% to +55%
Condenser Minimum Entering Temperature °C	+25°C
Condenser Maximum Leaving Water Temperature °C	+45°C

TC = Total Cooling
SC = Sensible Cooling
THR = Total Heat Rejection

(1) All data quoted is gross
(2) Interpolate for water temperatures between those quoted, do not extrapolate
(3) Water flow rate (l/s) = THR/(4.19*ΔT) at 100% Water; for glycol use refer to Ethylene Glycol Correction Factors section

Technical Data Upflow Units WX Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
V6WX	Discharge Air	Power	72	66	70	68	68	68	67	59	55
	Return Air	Power	58	63	67	58	53	54	48	41	36
	Case Breakout	Power	58	63	67	58	53	54	48	41	36
	Sound @ 3m	Pressure	43	48	51	43	38	40	33	27	21
V8WX	Discharge Air	Power	78	71	75	74	73	73	72	65	60
	Return Air	Power	63	68	71	63	58	59	53	48	41
	Case Breakout	Power	63	68	71	63	58	59	53	48	41
	Sound @ 3m	Pressure	49	53	57	49	43	44	39	33	26
V10WX	Discharge Air	Power	81	74	78	77	76	76	75	68	63
	Return Air	Power	66	71	74	66	61	62	56	50	43
	Case Breakout	Power	66	71	74	66	61	62	56	50	43
	Sound @ 3m	Pressure	51	56	61	52	46	47	41	36	29
V13WX	Discharge Air	Power	78	72	75	73	73	73	72	65	60
	Return Air	Power	63	69	71	63	58	59	53	48	42
	Case Breakout	Power	63	69	71	63	58	59	53	48	42
	Sound @ 3m	Pressure	48	54	57	48	43	44	38	34	27
V15WX	Discharge Air	Power	74	71	76	73	70	69	68	63	58
	Return Air	Power	62	68	72	63	56	56	49	48	42
	Case Breakout	Power	62	68	72	63	56	56	49	48	42
	Sound @ 3m	Pressure	47	53	57	48	41	42	35	34	27
V17WX	Discharge Air	Power	78	75	79	77	74	73	71	67	62
	Return Air	Power	65	72	75	67	59	59	53	51	44
	Case Breakout	Power	65	72	75	67	59	59	53	51	44
	Sound @ 3m	Pressure	50	57	61	52	44	44	38	36	30
V20WX2	Discharge Air	Power	82	75	79	78	77	78	76	69	64
	Return Air	Power	67	73	75	67	62	63	57	52	46
	Case Breakout	Power	67	73	75	67	62	63	57	52	46
	Sound @ 3m	Pressure	53	58	61	53	48	48	42	37	31
V22WX2	Discharge Air	Power	86	80	84	82	81	82	80	73	68
	Return Air	Power	71	77	80	71	66	67	61	55	49
	Case Breakout	Power	71	77	80	71	66	67	61	55	49
	Sound @ 3m	Pressure	57	62	65	57	52	52	46	41	35
V26WX2	Discharge Air	Power	86	80	84	82	81	82	80	73	68
	Return Air	Power	71	77	80	71	66	67	61	55	49
	Case Breakout	Power	71	77	80	71	66	67	61	55	49
	Sound @ 3m	Pressure	57	62	65	57	52	52	46	41	35
V28WX	Discharge Air	Power	90	102	95	86	84	85	81	81	78
	Return Air	Power	79	89	80	79	76	75	68	63	57
	Case Breakout	Power	79	89	80	79	76	75	68	63	57
	Sound @ 3m	Pressure	64	75	65	65	62	60	53	49	42
V28WX2	Discharge Air	Power	90	102	95	86	84	85	81	81	78
	Return Air	Power	79	87	80	79	76	74	67	63	57
	Case Breakout	Power	79	87	80	79	76	74	67	63	57
	Sound @ 3m	Pressure	64	73	65	65	61	60	53	49	42

(1) dB(A) is the overall sound level, measured on the A scale

(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Upflow Units WX Type

Noise Data

Sound Measurement			Overall dB(A)	Frequency (Hz) dB 63	125	250	500	1000	2000	4000	8000
V31WX	Discharge Air	Power	93	105	96	89	86	88	84	84	82
	Return Air	Power	81	92	80	82	78	77	70	66	60
	Case Breakout	Power	81	92	80	82	78	77	70	66	60
	Sound @ 3m	Pressure	66	77	66	67	64	62	56	51	45
V31WX2	Discharge Air	Power	93	105	96	89	86	88	84	84	82
	Return Air	Power	81	91	80	82	77	77	70	66	60
	Case Breakout	Power	81	91	80	82	77	77	70	66	60
	Sound @ 3m	Pressure	66	76	66	67	63	62	55	51	46
V35WX	Discharge Air	Power	92	111	98	90	87	82	82	83	80
	Return Air	Power	81	97	82	84	80	72	69	66	58
	Case Breakout	Power	81	97	82	84	80	72	69	66	58
	Sound @ 3m	Pressure	67	82	68	69	66	58	54	51	44
V35WX2	Discharge Air	Power	92	111	98	90	87	82	82	83	80
	Return Air	Power	81	97	82	84	79	72	69	66	59
	Case Breakout	Power	81	97	82	84	79	72	69	66	59
	Sound @ 3m	Pressure	66	82	68	69	65	58	54	51	45
V40WX	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	83	98	84	85	82	74	71	68	61
	Case Breakout	Power	83	98	84	85	82	74	71	68	61
	Sound @ 3m	Pressure	68	84	69	71	67	59	56	53	46
V40WX2	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	82	98	84	85	81	74	71	68	62
	Case Breakout	Power	82	98	84	85	81	74	71	68	62
	Sound @ 3m	Pressure	68	85	69	71	66	59	56	53	47
V45WX2	Discharge Air	Power	94	113	99	92	89	84	85	85	83
	Return Air	Power	83	98	84	85	83	74	71	68	62
	Case Breakout	Power	83	98	84	85	83	74	71	68	62
	Sound @ 3m	Pressure	69	84	69	71	68	59	57	53	47
V50WX2	Discharge Air	Power	97	115	109	95	92	84	86	84	80
	Return Air	Power	84	99	93	86	83	74	71	66	58
	Case Breakout	Power	84	99	93	86	83	74	71	66	58
	Sound @ 3m	Pressure	70	85	79	72	68	60	57	52	43
V55WX2	Discharge Air	Power	97	115	109	95	92	84	86	84	80
	Return Air	Power	84	99	93	86	83	74	72	66	58
	Case Breakout	Power	84	99	93	86	83	74	72	66	58
	Sound @ 3m	Pressure	70	85	79	72	68	60	57	52	43
V60WX2	Discharge Air	Power	98	116	110	97	93	86	87	86	82
	Return Air	Power	86	102	94	89	85	76	73	69	60
	Case Breakout	Power	86	102	94	89	85	76	73	69	60
	Sound @ 3m	Pressure	72	87	80	75	70	61	59	54	46

(1) dB(A) is the overall sound level, measured on the A scale

(2) All sound data measured at nominal conditions, Discharge Air, Return air and case breakout is sound power.

Technical Data Upflow Units WX Type V6WX - V10WX

Mechanical Data

			V6WX-EZRE-0	V8WX-EZRE-0	V10WX-EZRE-0
Capacity					
Nom Cooling (Gross)	(1)	kW	6.5	8.2	10.8
Total Heat of Rejection	(1)	kW	8.4	10.8	14.1
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.22	0.48	0.64
Dimensions - W x D x H		mm	670 x 670 x 1940	670 x 670 x 1940	670 x 670 x 1940
Weight - Machine / Operating	(3)	kg	189 / 191	193 / 194	196 / 197
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Condenser			Stainless Steel Brazed Plate		
Water Volume		l	1.1	1.4	1.4
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity		kW	1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	369	303	378
Nominal Airflow		m³/s	0.55	0.75	0.95
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	0.70	0.70	1.20
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged			R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5)	kg	1.4 (2.9)	1.6 (3.3)	1.6 (3.3)
Connections					
Water Inlet / Outlet		mm	22	22	22
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity			1	1	1
OPTIONAL EXTRAS					
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1340 / 2215	1705 / 2215	2140 / 2215
Maximum ESP		Pa	350	220	45
Fan Power Input (Fan Gain)	(2)	kW	0.19	0.36	0.62
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	6.6	7.9	8.9
Water Flow (Nominal)		l/s	0.15	0.18	0.20
LPHW Connection Sizes		mm	22	22	22
Threaded Connection					
Brass Male Taper		in	3/4	3/4	3/4

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Upflow Units WX Type V6WX - V10WX

Electrical Data

Standard Condenser Match - X		V6WX-EZRE-0 CR12	V6WX-EZRE-0 CR16	V10WX-EZRE-0 CR16
Unit Data Full Function - WX				
Nominal Run Amps	A	19.23	19.23	21.23
Maximum Start Amps	A	41.63	41.63	58.63
Recommended Mains Fuse Size	A	25	25	25
Unit Data Cooling Only - WX				
Nominal Run Amps	A	8.4	8.4	10.4
Maximum Start Amps	A	30.8	30.8	47.8
Recommended Mains Fuse Size	A	16	16	16
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 2	1 x 2.6	1 x 3.3
Nominal Run Amps	A	3.6	4.6	5.6
Locked Rotor Amps	A	26	35	43
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.29	0.29	0.29
Full Load Amps	A	1.37	1.37	1.37
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options				
Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.94	0.94	0.94
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options				
Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.7	0.7	0.7
Full Load Amps	A	3.1	3.1	3.1

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type V13WX - V17WX

Mechanical Data

			V13WX-EZRE-0	V15WX-EZRE-0	V17WX-EZRE-0
Capacity					
Nom Cooling (Gross)	(1)	kW	13.9	15.8	18.1
Total Heat of Rejection	(1)	kW	18.1	20.7	23.8
Capacity Steps			1	1	1
Fan Power Input (Fan Gain)	(2)	kW	0.61	0.66	1.03
Dimensions - W x D x H		mm	990 x 670 x 1940	990 x 670 x 1940	990 x 670 x 1940
Weight - Machine / Operating	(3)	kg	234 / 235	265 / 267	268 / 270
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			1/1	1/1	1/1
Condenser			Stainless Steel Brazed Plate		
Water Volume		l	1.4	2.0	2.5
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	448	331	253
Nominal Airflow		m³/s	1.00	1.20	1.40
Compressor - Scroll			Single		
Quantity			1	1	1
Oil Charge Volume (Total)		l	1.20	1.66	1.89
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged			R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5)	kg	2.1 (4.4)	2.6 (5.4)	2.6 (5.4)
Connections					
Water Inlet / Outlet		mm	22	22	28
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity			2	2	2
OPTIONAL EXTRAS					
Electric Heating (Total)		kW	7.5	7.5	7.5
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			1	1	1
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1125 / 1560	1330 / 1560	1560 / 1560
Maximum ESP		Pa	275	165	25
Fan Power Input (Fan Gain)	(2)	kW	0.36	0.54	0.79
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	11.5	12.7	13.7
Water Flow (Nominal)		l/s	0.26	0.28	0.31
LPHW Connection Sizes		mm	22	22	22
Threaded Connection					
Brass Male Taper		in	3/4	3/4	1

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Upflow Units WX Type V13WX - V17WX

Electrical Data

Standard Condenser Match - X		V13WX-EZRE-0 CR22	V15WX-EZRE-0 CR22	V17WX-EZRE-0 CR30
Unit Data Full Function - WX				
Nominal Run Amps	A	22.73	26.23	27.43
Maximum Start Amps	A	79.63	85.03	92.03
Recommended Mains Fuse Size	A	32	32	32
Unit Data Cooling Only - WX				
Nominal Run Amps	A	11.9	15.4	16.6
Maximum Start Amps	A	68.8	74.2	81.2
Recommended Mains Fuse Size	A	16	20	20
Max Mains Incoming Cable Size	mm²	6	6	6
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.6	1.6
Full Load Amps	A	4.8	7.2	7.2
Locked Rotor Amps	A	4.8	7.2	7.2
Compressor - Per Compressor				
Quantity x Motor Size	kW	1 x 4.2	1 x 5	1 x 5.6
Nominal Run Amps	A	7.1	8.2	9.4
Locked Rotor Amps	A	64	67	74
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		1	1	1
Number of Elements		3	3	3
Rating	kW	7.5	7.5	7.5
Current per Phase	A	10.83	10.83	10.83
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.95	0.95	0.95
Full Load Amps	A	1.5	1.5	1.5
Condenser Fan Options Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type V20WX2 - V26WX2

Mechanical Data

			V20WX2-EZRE-0	V22WX2-EZRE-0	V26WX2-EZRE-0
Capacity					
Nom Cooling (Gross)	(1)	kW	21.8	22.5	27.5
Total Heat of Rejection	(1)	kW	28.6	29.3	36.0
Capacity Steps			2	2	2
Fan Power Input (Fan Gain)	(2)	kW	1.13	1.82	1.82
Dimensions - W x D x H		mm	1310 x 670 x 1940	1310 x 670 x 1940	1310 x 670 x 1940
Weight - Machine / Operating	(3)	kg	326 / 328	326 / 328	325 / 328
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour			Frame: Aluminium Frame with Aluminium Corners		
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages			2/1	2/1	2/1
Condenser			Stainless Steel Brazed Plate		
Water Volume		l	2.5	2.5	2.5
Evaporator Fan Motor - EC Motor			Centrifugal Forward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Maximum ESP		Pa	350	204	204
Nominal Airflow		m³/s	1.70	2.00	2.00
Compressor - Scroll			Tandem		
Quantity			2	2	2
Oil Charge Volume (Total)		l	2.40	2.40	2.40
Oil Type			Polyol Ester		
Refrigeration			Single Circuit		
Refrigeration Control & Type			Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged			R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5)	kg	3.2 (6.7)	3.2 (6.7)	3.2 (6.7)
Connections					
Water Inlet / Outlet		mm	28	28	28
Condensate Drain Hose		mm	19	19	19
Filtration			Disposable to EN16890:2016 - ISO-C-75 - 50mm		
Quantity			3	3	3
OPTIONAL EXTRAS					
Electric Heating (Total)		kW	15.0	15.0	15.0
Humidifier					
Capacity		kg/hr	0.6 - 3.0	0.6 - 3.0	0.6 - 3.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump					
Head		m	8	8	8
Flow		l/m	5	5	5
Drain			10mm Stainless Steel Stub Connection		
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type			Direct Drive		
Quantity			2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1830 / 2165	2165 / 2165	2165 / 2165
Maximum ESP		Pa	285	25	25
Fan Power Input (Fan Gain)	(2)	kW	1.02	1.58	1.58
Low Pressure Hot Water			Copper Tube/Aluminium Fin		
Capacity Gross	(7)	kW	19.2	19.9	19.9
Water Flow (Nominal)		l/s	0.43	0.44	0.44
LPHW Connection Sizes		mm	22	22	22
Threaded Connection					
Brass Male Taper		in	1	1	1

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Technical Data Upflow Units WX Type V20WX2 - V26WX2

Electrical Data

Standard Condenser Match - X		V20WX2-EZRE-0 CR30	V22WX2-EZRE-0 CR50	V26WX2-EZRE-0 CR50
Unit Data Full Function - WX				
Nominal Run Amps	A	42.45	42.45	45.45
Maximum Start Amps	A	79.85	79.85	102.35
Recommended Mains Fuse Size	A	50	50	63
Unit Data Cooling Only - WX				
Nominal Run Amps	A	20.8	20.8	23.8
Maximum Start Amps	A	58.2	58.2	80.7
Recommended Mains Fuse Size	A	25	25	32
Max Mains Incoming Cable Size	mm²	35	35	35
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Locked Rotor Amps	A	4.8	4.8	4.8
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 3.3	2 x 3.3	2 x 4.2
Nominal Run Amps	A	5.6	5.6	7.1
Locked Rotor Amps	A	43	43	64
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		2	2	2
Number of Elements		6	6	6
Rating	kW	15	15	15
Current per Phase	A	21.65	21.65	21.65
Humidifier				
Capacity	kg/hr	3	3	3
Rating	kW	2.25	2.25	2.25
Full Load Amps	A	3.25	3.25	3.25
Evaporator Fan Options Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	N/A	N/A	N/A
Full Load Amps	A	N/A	N/A	N/A
Locked Rotor Amps	A	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	1.1	1.1	1.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.

(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.

(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type V28WX - V31WX2

Mechanical Data

		V28WX-EZRE-0	V28WX2-EZRE-0	V31WX-EZRE-0	V31WX2-EZRE-0
Capacity					
Nom Cooling (Gross)	(1) kW	26.5	26.4	30.1	29.8
Total Heat of Rejection	(1) kW	35.4	34.7	40.2	39.4
Capacity Steps		1	2	1	2
Fan Power Input (Fan Gain)	(2) kW	3.50	3.50	4.60	4.60
Dimensions - W x D x H	mm	1460 x 750 x 1940	1460 x 750 x 1940	1460 x 750 x 1940	1460 x 750 x 1940
Weight - Machine / Operating	(3) kg	468 / 474	477 / 483	468 / 474	500 / 506
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)			
Material/Colour		Frame: Aluminium Frame with Aluminium Corners			
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins			
Cooling/Dehum Stages		1/1	2/1	1/1	2/1
Condenser		Stainless Steel Brazed Plate			
Water Volume	l	6.1	6.1	6.1	6.1
Evaporator Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP			
Fan Transmission Type		Belt and Pulley			
Quantity		1	1	1	1
Motor Shaft Power	(4) kW	3.00	3.00	4	4
Speed @ 25Pa / Maximum ESP	rpm	1420 / 1552	1420 / 1552	1600 / 1612	1600 / 1612
Maximum ESP	Pa	160	160	35.00	35.00
Nominal Airflow	m³/s	2.40	2.40	2.8	2.8
Compressor - Scroll		Single	Tandem	Single	Tandem
Quantity		1	2	1	2
Oil Charge Volume (Total)	l	3.30	2.48	3.3	3.32
Oil Type		Polyol Ester			
Refrigeration		Single Circuit			
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)			
Refrigerant Precharged		R410A (GWP 2088)			
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	5.3 (11.1)	5.2 (10.8)	5.3 (11.1)	5.2 (10.8)
Connections					
Water Inlet / Outlet	mm	35	35	35	35
Condensate Drain Hose	mm	19	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 75mm			
Quantity		3	3	3	3
OPTIONAL EXTRAS					
Electric Heating (Total)	kW	22.5	22.5	**22.5**	22.5
Humidifier					
Capacity	kg/hr	1.6 - 8.0	1.6 - 8.0	1.6 - 8.0	1.6 - 8.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection			
Condensate Pump					
Head	m	10.8	10.8	10.8	10.8
Flow	l/m	5	5	5	5
Drain		10mm Stainless Steel Stub Connection			
Evaporator Fan Options:					
Larger Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP			
Fan Transmission Type		Belt and Pulley			
Quantity		1	1	N/A	N/A
Motor Shaft Power	(4) kW	4	4	N/A	N/A
Speed @ Maximum ESP	rpm	1910	1910	N/A	N/A
Maximum ESP	Pa	470	470	N/A	N/A
Fan Power Input (Fan Gain)	(2) kW	4.60	4.60	N/A	N/A
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP			
Fan Transmission Type		Direct Drive			
Quantity	kW	2	2	2	2
Motor Shaft Power	(4)	N/A	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1700 / 2165	1700 / 2165	1935 / 2165	1935 / 2165
Maximum ESP	Pa	440.00	440.00	225	225
Fan Power Input (Fan Gain)	(2) kW	2.02	2.02	3.02	3.02
Low Pressure Hot Water		Copper Tube/Aluminium Fin			
Capacity Gross	(7) kW	21.70	21.70	23.2	23.2
Water Flow (Nominal)	l/s	0.48	0.48	0.52	0.52
LPHW Connection Sizes	mm	22	22	**22**	22
Threaded Connection					
Brass Male Taper	in	1 1/4	1 1/4	1 1/4	1 1/4

Technical Data Upflow Units WX Type V28WX - V31WX2

Electrical Data

Standard Condenser Match - X		V28WX-EZRE-0 CR50	V28WX2-EZRE-0 CR50	V31WX-EZRE-0 CR50	V31WX2-EZRE-0 CR50
Unit Data Full Function - WX					
Nominal Run Amps	A	54.30	53.50	58.02	57.52
Maximum Start Amps	A	195.30	110.40	171.12	116.32
Recommended Mains Fuse Size	A	63	63	80	80
Unit Data Cooling Only - WX					
Nominal Run Amps	A	21.82	21.02	25.54	25.04
Maximum Start Amps	A	162.82	77.92	138.64	83.84
Recommended Mains Fuse Size	A	32	25	32	32
Max Mains Incoming Cable Size	mm²	35	35	35	35
Mains Supply	V	400V / 3PH + N / 50HZ			
Control Circuit	VAC	24	24	24	24
Evaporator Fan - Motor Per Fan					
Electrical Input Power	kW	3.4	3.4	4.5	4.5
Full Load Amps	A	6.32	6.32	8.14	8.14
Locked Rotor Amps	A	45.5	45.5	57	57
Compressor - Per Compressor					
Quantity x Motor Size	kW	1 x 8.4	2 x 4.2	1 x 9.47	2 x 5
Nominal Run Amps	A	15	7.1	16.9	8.2
Locked Rotor Amps	A	156	64	130	67
Type of Start		Direct On Line			
Standard Condenser Match - AC Motor - Per Fan					
Electrical Input Power	kW	0.6	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62	2.62
OPTIONAL EXTRAS					
Electric Heating					
Stage of Reheat		3	3	3	3
Number of Elements		9	9	9	9
Rating	kW	22.5	22.5	22.5	22.5
Current per Phase	A	32.48	32.48	32.48	32.48
Humidifier					
Capacity	kg/hr	8	8	8	8
Rating	kW	6	6	6	6
Full Load Amps	A	8.66	8.66	8.66	8.66
Evaporator Fan Options Larger Fan Motor - AC Motor - Per Fan					
Electrical Input Power	kW	4.6	4.6	N/A	N/A
Full Load Amps	A	8.12	8.12	N/A	N/A
Locked Rotor Amps	A	60.9	60.9	N/A	N/A
Standard Size Motor - EC Motor - Per Fan					
Electrical Input Power	kW	3.4	3.4	3.4	3.4
Full Load Amps	A	5.2	5.2	5.2	5.2
Condenser Fan Options Standard Condenser Motor - EC Motor - Per Fan					
Electrical Input Power	kW	0.73	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type V35WX - V45WX

Mechanical Data

			V35WX-EZRE-0	V35WX2-EZRE-0	V40WX-EZRE-0	V40WX2-EZRE-0	V45WX2-EZRE-0
Capacity							
Nom Cooling (Gross)	(1)	kW	35.0	34.2	39	39.7	43
Total Heat of Rejection	(1)	kW	46.5	45.5	51.8	52.9	57.1
Capacity Steps			1	2	1	2	2
Fan Power Input (Fan Gain)	(2)	kW	4.60	4.60	6.30	6.30	6.30
Dimensions - W x D x H		mm	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940	1835 x 750 x 1940
Weight - Machine / Operating	(3)	kg	534 / 540	576 / 582	562 / 568	589 / 595	620 / 630
Construction			Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)				
Material/Colour			Frame: Aluminium Frame with Aluminium Corners				
Evaporator			Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins				
Cooling/Dehum Stages			1/1	2/1	1/1	2/1	2/1
Condenser			Stainless Steel Brazed Plate				
Water Volume		l	6.1	6.1	6.1	6.1	9.9
Evaporator Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP				
Fan Transmission Type			Belt and Pulley				
Quantity			1	1	1	1	1
Motor Shaft Power	(4)	kW	4.00	4.00	5.5	5.5	5.5
Speed @ 25Pa / Maximum ESP		rpm	1440 / 1468	1440 / 1468	1620 / 1622	1620 / 1622	1620 / 1622
Maximum ESP		Pa	35	35	25.00	25.00	25.00
Nominal Airflow		m³/s	3.30	3.30	3.7	3.7	3.7
Compressor - Scroll			Single	Tandem	Single	Tandem	Tandem
Quantity			1	2	1	2	2
Oil Charge Volume (Total)		l	3.30	3.32	3.3	3.78	3.44
Oil Type			Polyol Ester				
Refrigeration			Single Circuit				
Refrigeration Control & Type	(5)		Thermostatic Expansion Valve (Optional EEV)				
Refrigerant Precharged			R410A (GWP 2088)				
Charge (Total) / (Equivalent C02 Tonnes)	(5)	kg	6 (12.5)	5.9 (12.3)	6 (12.5)	6.1 (12.7)	8.7 (18.2)
Connections							
Water Inlet / Outlet		mm	35	35	35	35	42
Condensate Drain Hose		mm	19	19	19	19	19
Filtration			Disposable to EN16890:2016 - ISO-C-75 - 75mm				
Quantity			4	4	4	4	4
OPTIONAL EXTRAS							
Electric Heating (Total)		kW	30.0	30.0	30.0	30.0	30.0
Humidifier							
Capacity		kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain			3/4" BSPF Braided Flexible Hose / 19mm Hose Connection				
Condensate Pump							
Head		m	10.8	10.8	10.8	10.8	10.8
Flow		l/m	5	5	5	5	5
Drain			10mm Stainless Steel Stub Connection				
Evaporator Fan Options:							
Larger Fan Motor - AC Motor			Centrifugal Forward Curved AC - Designed to 25Pa ESP				
Fan Transmission Type			Belt and Pulley				
Quantity							
Motor Shaft Power	(4)	kW	6	6	N/A	N/A	N/A
Speed @ Maximum ESP		rpm	1695	1695	N/A	N/A	N/A
Maximum ESP		Pa	240	240	N/A	N/A	N/A
Fan Power Input (Fan Gain)	(2)	kW	6.30	6.30	N/A	N/A	N/A
Optional Fan - EC Motor			Centrifugal Backward Curved EC - Designed to 25Pa ESP				
Fan Transmission Type			Direct Drive				
Quantity			2	2	2	2	2
Motor Shaft Power	(4)	kW	N/A	N/A	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP		rpm	1935 / 2165	1935 / 2165	2165 / 2165	2165 / 2165	2165 / 2165
Maximum ESP		Pa	260	260	25	25	25
Fan Power Input (Fan Gain)	(2)	kW	3.08	3.08	4.24	4.24	4.24
Low Pressure Hot Water			Copper Tube/Aluminium Fin				
Capacity Gross	(7)	kW	29.90	29.90	31.5	31.5	31.5
Water Flow (Nominal)		l/s	0.67	0.67	0.70	0.70	0.70
LPHW Connection Sizes		mm	22	22	22	22	22
Threaded Connection							
Brass Male Taper		in	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4

Technical Data Upflow Units WX Type V35WX - V45WX2

Electrical Data

		V35WX-EZRE-0	V35WX2-EZRE-0	V40WX-EZRE-0	V40WX2-EZRE-0	V45WX2-EZRE-0
Standard Condenser Match - X		CR50	CR50	CR65	CR65	CR80
Unit Data Full Function - WX						
Nominal Run Amps	A	71.34	70.74	75.60	78.30	79.3
Maximum Start Amps	A	214.94	135.34	212.90	167.60	162
Recommended Mains Fuse Size	A	80	80	100	100	100
Unit Data Cooling Only - WX						
Nominal Run Amps	A	28.04	27.44	32.3	35	36
Maximum Start Amps	A	171.64	92.04	169.6	124.3	118.7
Recommended Mains Fuse Size	A	40	32	40	40	40
Max Mains Incoming Cable Size	mm²	35	35	35	35	35
Mains Supply	V	400V / 3PH + N / 50HZ				
Control Circuit	VAC	24	24	24	24	24
Evaporator Fan - Motor Per Fan						
Electrical Input Power	kW	4.5	4.5	6.1	6.1	6.3
Full Load Amps	A	8.14	8.14	11.1	11.1	10.9
Locked Rotor Amps	A	57	57	77.7	77.7	69.8
Compressor - Per Compressor						
Quantity x Motor Size	kW	1 x 10.85	2 x 5.6	1 x 12.15	2 x 6.4	2 x 6.8
Nominal Run Amps	A	19.4	9.4	20.7	11.7	12.3
Locked Rotor Amps	A	163	74	158	101	95
Type of Start		Direct On Line				
Standard Condenser Match - AC Motor - Per Fan						
Electrical Input Power	kW	0.6	0.6	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62	2.62	2.62
OPTIONAL EXTRAS						
Electric Heating						
Stage of Reheat		3	3	3	3	3
Number of Elements		12	12	12	12	12
Rating	kW	30	30	30	30	30
Current per Phase	A	43.30	43.30	43.30	43.30	43.3
Humidifier						
Capacity	kg/hr	15	15	15	15	15
Rating	kW	11.25	11.25	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24	16.24	16.24
Evaporator Fan Options						
Larger Fan Motor - AC Motor - Per Fan						
Electrical Input Power	kW	6.3	6.3	N/A	N/A	N/A
Full Load Amps	A	10.9	10.9	N/A	N/A	N/A
Locked Rotor Amps	A	69.8	69.8	N/A	N/A	N/A
Standard Size Motor - EC Motor - Per Fan						
Electrical Input Power	kW	3.4	3.4	3.4	3.4	2.55
Full Load Amps	A	5.2	5.2	5.2	5.2	3.9
Condenser Fan Options						
Standard Condenser Motor - EC Motor - Per Fan						
Electrical Input Power	kW	0.73	0.73	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3	3.3	3.3

Mechanical

(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type V50WX2 - V60WX2

Mechanical Data

		V50WX2-EZRE-0	V55WX2-EZRE-0	V60WX2-EZRE-0
Capacity				
Nom Cooling (Gross)	(1) kW	50.9	57.4	64.7
Total Heat of Rejection	(1) kW	68.5	77.3	87.4
Capacity Steps		2	2	2
Fan Power Input (Fan Gain)	(2) kW	7.0	7.0	7.0
Dimensions - W x D x H	mm	2170 x 750 x 1940	2170 x 750 x 1940	2170 x 750 x 1940
Weight - Machine / Operating	(3) kg	709 / 719	729 / 739	733 / 743
Construction		Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint - Black, (RAL7021)		
Material/Colour		Frame: Aluminium Frame with Aluminium Corners		
Evaporator		Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins		
Cooling/Dehum Stages		2/1	2/1	2/1
Condenser		Stainless Steel Brazed Plate		
Water Volume	l	9.9	9.9	9.9
Evaporator Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type		Belt and Pulley		
Quantity		2	2	2
Motor Shaft Power	(4) kW	3	3	3
Speed @ 25Pa / Maximum ESP	rpm	1243 / 1447	1243 / 1447	1278 / 1324
Maximum ESP	Pa	255	255	35.0
Nominal Airflow	m³/s	4.2	4.2	4.6
Compressor - Scroll		Tandem		
Quantity		2	2	2
Oil Charge Volume (Total)	l	6.6	6.6	6.6
Oil Type		Polyol Ester		
Refrigeration		Single Circuit		
Refrigeration Control & Type		Thermostatic Expansion Valve (Optional EEV)		
Refrigerant Precharged		R410A (GWP 2088)		
Charge (Total) / (Equivalent C02 Tonnes)	(5) kg	8.9 (18.6)	9.7 (20.3)	9.8 (20.5)
Connections				
Water Inlet / Outlet	mm	42	42	42
Condensate Drain Hose	mm	19	19	19
Filtration		Disposable to EN16890:2016 - ISO-C-75 - 75mm		
Quantity		5	5	5
OPTIONAL EXTRAS				
Electric Heating (Total)	kW	30.0	30.0	30.0
Humidifier				
Capacity	kg/hr	3.0 - 15.0	3.0 - 15.0	3.0 - 15.0
Feed/Drain		3/4" BSPF Braided Flexible Hose / 19mm Hose Connection		
Condensate Pump				
Head	m	10.8	10.8	10.8
Flow	l/m	5	5	5
Drain		10mm Stainless Steel Stub Connection		
Evaporator Fan Options:				
Larger Fan Motor - AC Motor		Centrifugal Forward Curved AC - Designed to 25Pa ESP		
Fan Transmission Type		Belt & Pulley		
Quantity		2	2	2
Motor Shaft Power	(4) kW	4	4	4
Speed @ Maximum ESP	rpm	1495	1495	1499
Maximum ESP	Pa	305	305	230
Fan Power Input (Fan Gain)	(2) kW	9.2	9.2	9.2
Optional Fan - EC Motor		Centrifugal Backward Curved EC - Designed to 25Pa ESP		
Fan Transmission Type		Direct Drive		
Quantity		2	2	2
Motor Shaft Power	(4) kW	N/A	N/A	N/A
Speed @ 25Pa / Maximum ESP	rpm	1370 / 1510	1370 / 1510	1510 / 1510
Maximum ESP	Pa	165	165	25
Fan Power Input (Fan Gain)	(2) kW	4.2	4..18	4.2
Low Pressure Hot Water		Copper Tube/Aluminium Fin		
Capacity Gross	(7) kW	37.7	37.7	39.2
Water Flow (Nominal)	l/s	0.84	0.84	0.87
LPHW Connection Sizes	mm	22	22	22
Threaded Connection				
Brass Male Taper	in	1 1/2	1 1/2	1 1/2

Technical Data Upflow Units WX Type V50WX2 - V60WX2

Electrical Data

Standard Condenser Match - X		V50WX2-EZRE-0 CR80	V55WX2-EZRE-0 CR80	V60WX2-EZRE-0 CR80
Unit Data Full Function - WX				
Nominal Run Amps	A	86.44	90.24	95.24
Maximum Start Amps	A	227.44	203.34	238.84
Recommended Mains Fuse Size	A	100	100	125
Unit Data Cooling Only - WX				
Nominal Run Amps	A	43.14	46.94	51.94
Maximum Start Amps	A	184.14	160.04	195.54
Recommended Mains Fuse Size	A	50	63	63
Max Mains Incoming Cable Size	mm²	35	50	50
Mains Supply	V		400V / 3PH + N / 50HZ	
Control Circuit	VAC	24	24	24
Evaporator Fan - Motor Per Fan				
Electrical Input Power	kW	3.4	3.4	3.4
Full Load Amps	A	6.32	6.32	6.32
Locked Rotor Amps	A	45.5	45.5	45.5
Compressor - Per Compressor				
Quantity x Motor Size	kW	2 x 8.4	2 x 9.47	2 x 10.85
Nominal Run Amps	A	15	16.9	19.4
Locked Rotor Amps	A	156	130	163
Type of Start			Direct On Line	
Standard Condenser Match - AC Motor - Per Fan				
Electrical Input Power	kW	0.6	0.6	0.6
Full Load Amps	A	2.62	2.62	2.62
OPTIONAL EXTRAS				
Electric Heating				
Stage of Reheat		3	3	3
Number of Elements		12	12	12
Rating	kW	30	30	30
Current per Phase	A	43.30	43.30	43.30
Humidifier				
Capacity	kg/hr	15	15	15
Rating	kW	11.25	11.25	11.25
Full Load Amps	A	16.24	16.24	16.24
Evaporator Fan Options Larger Fan Motor - AC Motor - Per Fan				
Electrical Input Power	kW	4.6	4.6	4.6
Full Load Amps	A	8.12	8.12	8.12
Locked Rotor Amps	A	60.9	60.9	60.9
Standard Size Motor - EC Motor - Per Fan				
Electrical Input Power	kW	3.1	3.1	3.1
Full Load Amps	A	4.8	4.8	4.8
Condenser Fan Options Standard Condenser Motor - EC Motor - Per Fan				
Electrical Input Power	kW	0.73	0.73	0.73
Full Load Amps	A	3.3	3.3	3.3

Mechanical

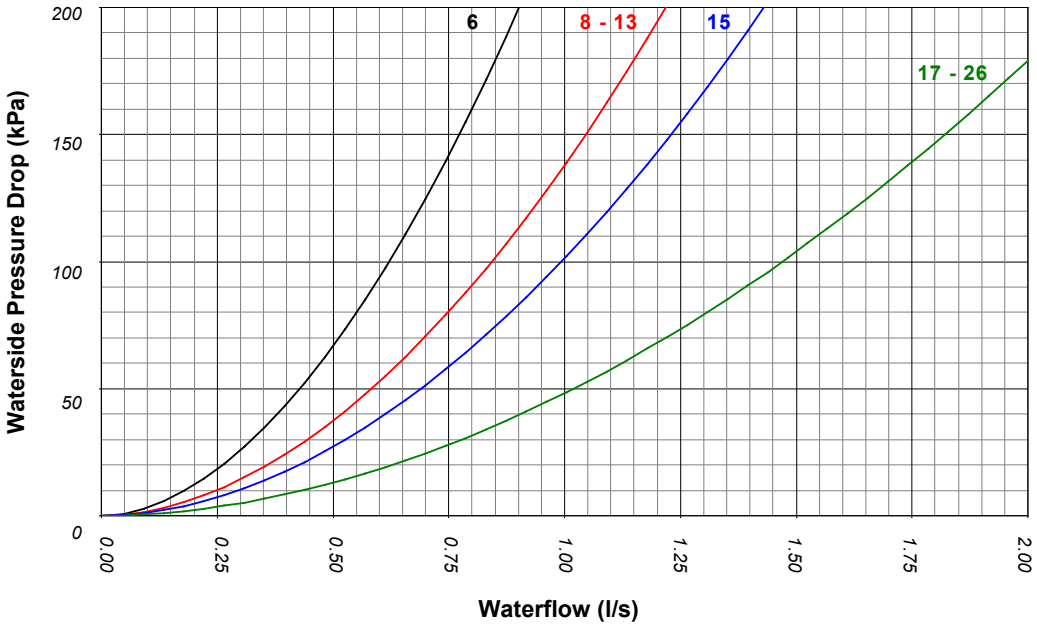
(1) Entering air 24°C/45% RH condenser water in / out: 30°C/35°C.
(2) Fan Gain / Fan power input based upon fan operating with design airflow at 25Pa ESP, these values may change with different ESP.
(3) With Standard forward curved fan motors; Machine weight includes a refrigerant charge /Operating weight includes calculated water volume.
(4) Backward curved EC fan options quote electrical power. All other options quote shaft power.
(5) For refrigerant charges, refer to ***Unit Refrigerant Charge (kg/Circuit)***.
(6) Based on air temperature of 15.5°C leaving the evaporator coil.
(7) Based upon low pressure hot water 82°C inlet / 71°C outlet. Air on 20°C. Refer to ***Low Pressure Hot Water (Optional Extra) - X & WX Models***.

Electrical

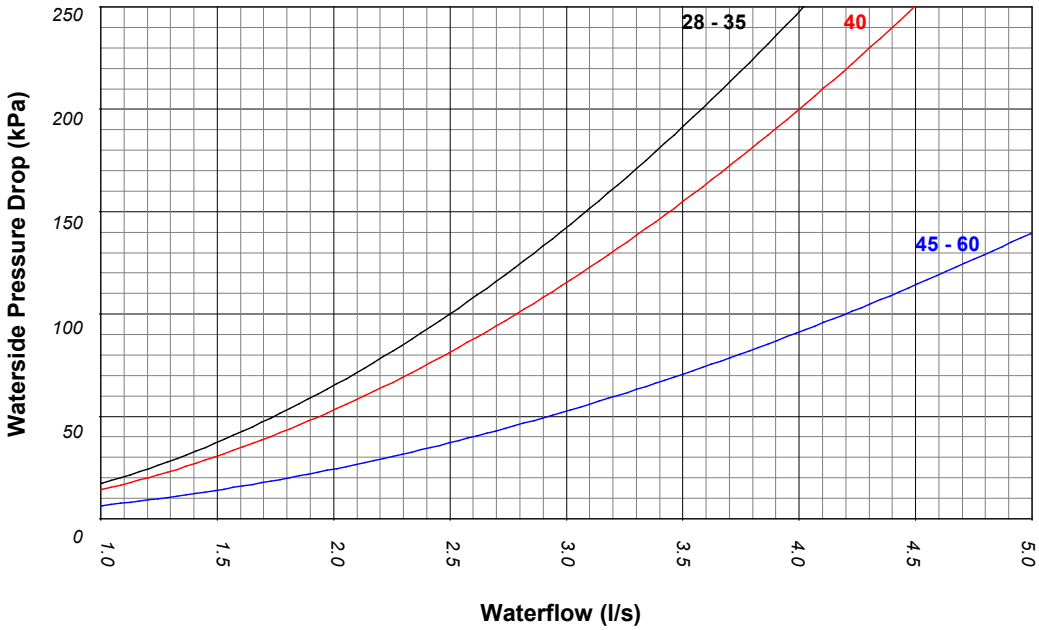
(1) Values given for full function units (incl. electric heating, humidification and matched condenser) at 7°C evaporating and 54.4°C condensing with standard forward curved fan motors, for optional data, please contact Airedale.
(2) Values given for Cooling only units (incl. Compressor, evaporator fan and matched condenser) at 7°C evaporating and 54.4°C condensing, for optional data, please contact Airedale.
(3) Electrical input power relates to the maximum absorbed electrical power. Actual operating fan power input is shown in the mechanical data tables.

Technical Data Upflow Units WX Type
Hydronic Data Condenser Waterside Pressure Drop

V6 - V26



V28 - V60



(1) Includes coil, 3 port valve and pipework.

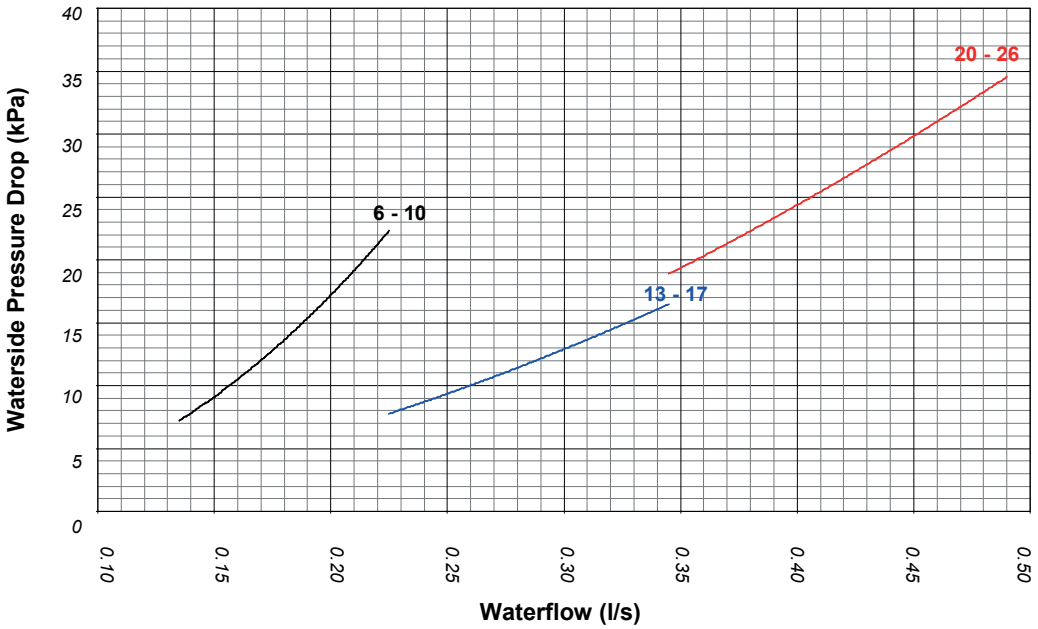
(2) To calculate 3 port valve pressure drop

$\Delta P \text{ valve} = \left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and $M = \left(\frac{Kv}{36}\right)$

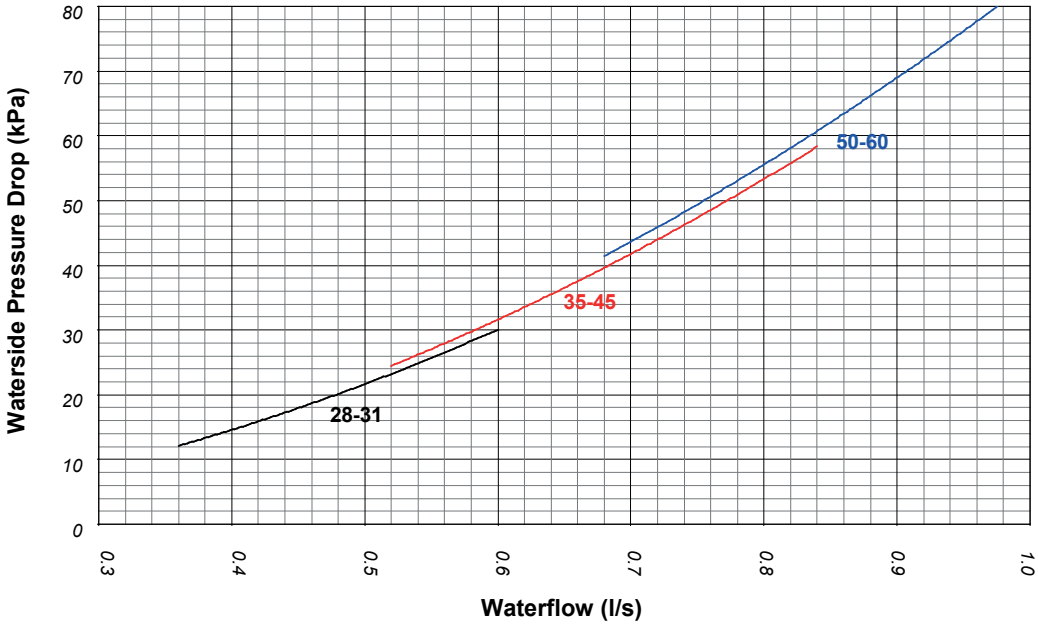
(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Technical Data Upflow Units WX Type
Hydronic Data Low Pressure Hot Water

V6 - V26



V28 - V60



(1) Includes coil, 3 port valve and pipework.

(2) To calculate 3 port valve pressure drop

ΔP valve = $\left(\frac{Q}{M}\right)^2$ where ΔP = Pressure Drop in kPa, Q = Water Flow Rate in l/s and M = $\left(\frac{Kv}{36}\right)$

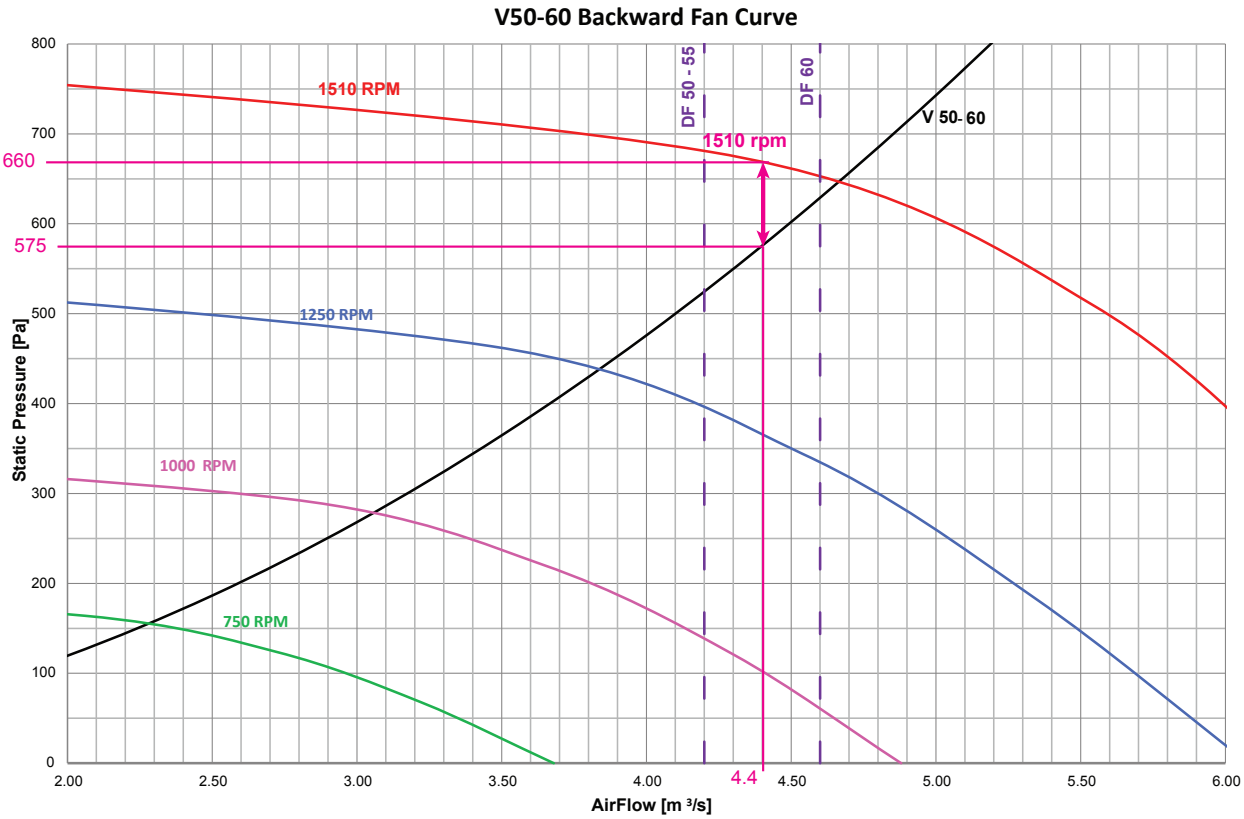
(3) Fluid 100% water, for glycol use, refer to ***Ethylene Glycol Correction Factors***.

Fan Data

Calculating Total Static Pressure

Example
Indoor Unit Model Ref = V50-CW-EZRE-2
Design Air Volume = 4.4m³/s
Design External Static Pressure (ESP) = 85Pa

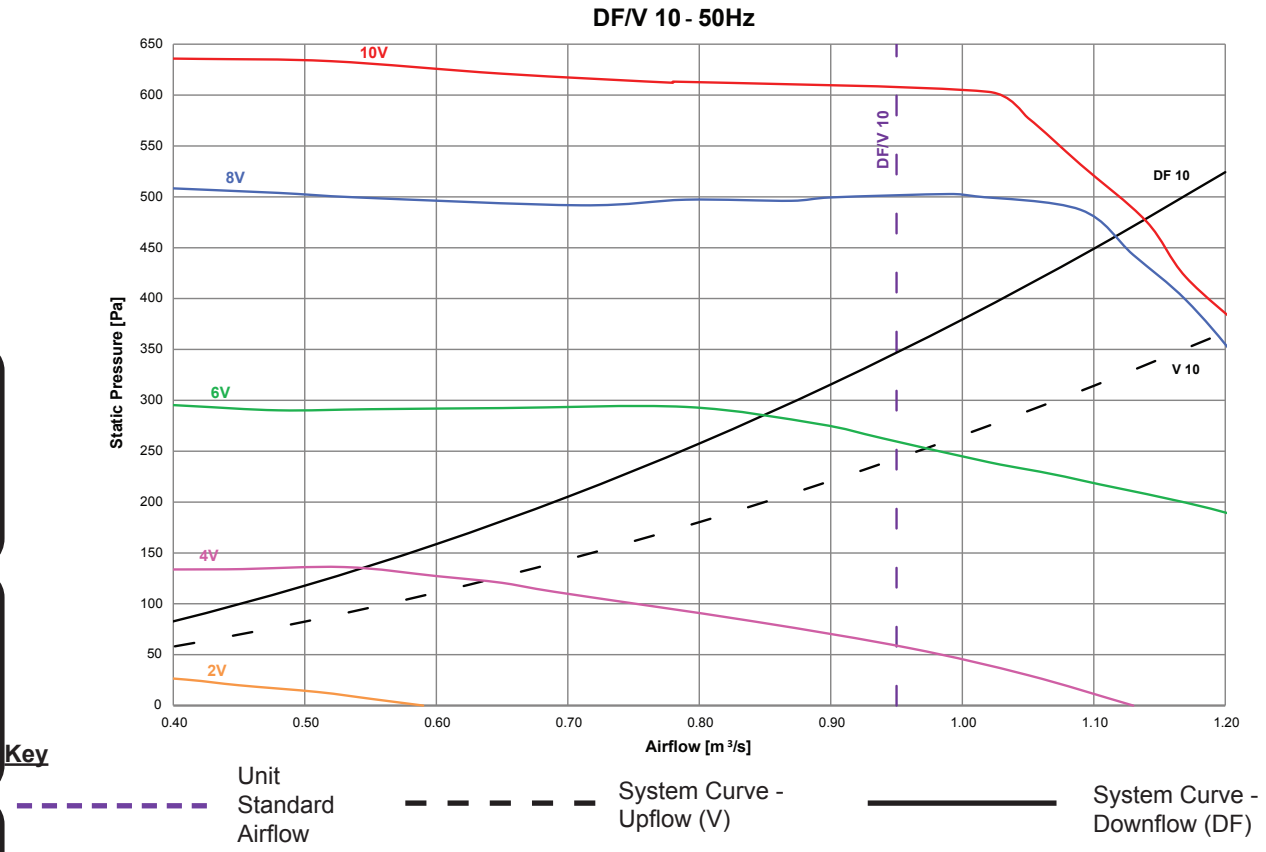
- Plot the Design Air Volume from the X Axis vertically.
- Where the X Axis and the System Curve intersect, plot a line to the Y Axis, to establish the Internal Static Pressure (ISP)
- Calculate the Total Static Pressure (TSP) of the system thus: **ISP + ESP = TSP**
- Using the TSP, plot a line from the Y Axis to intersect with the Design Air Volume line. Where the line intersects, an approximate Input Voltage can be estimated between those noted on the graphs.

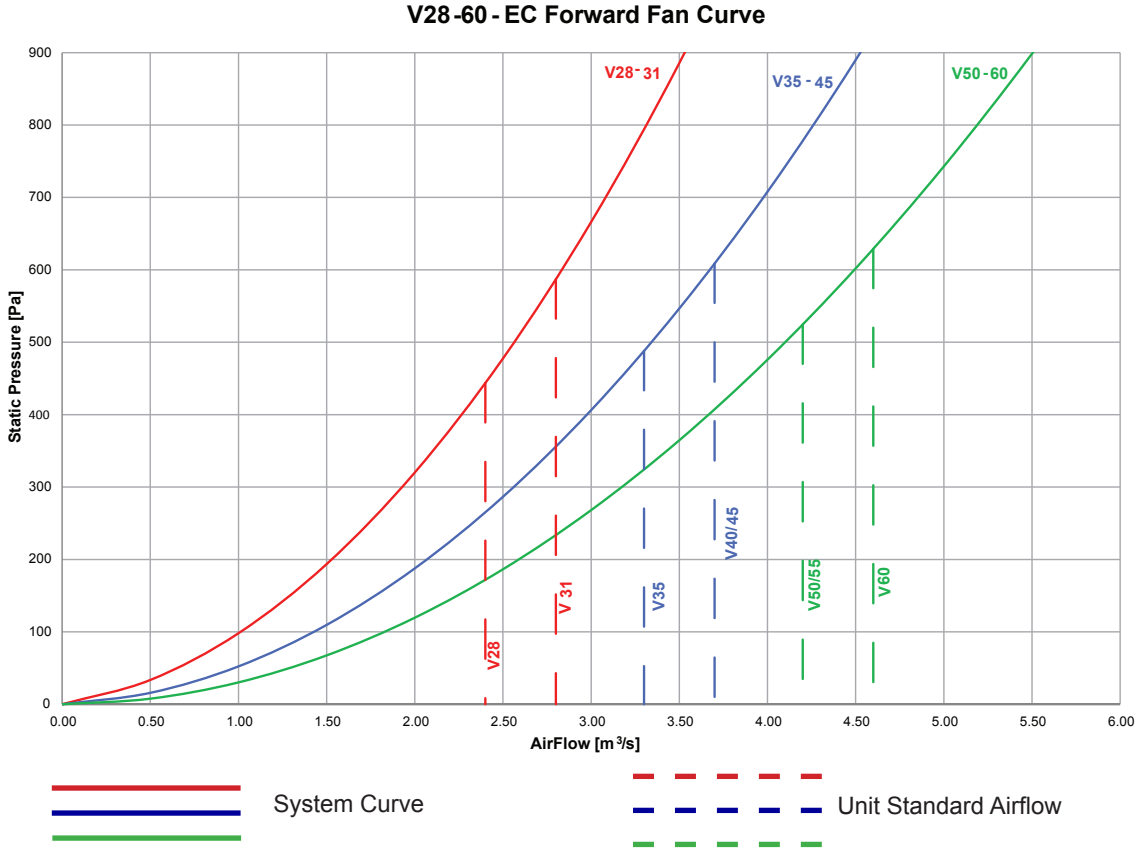


Internal Static Pressure + External Static Pressure = Total Static Pressure

e.g. 575+85 = 660

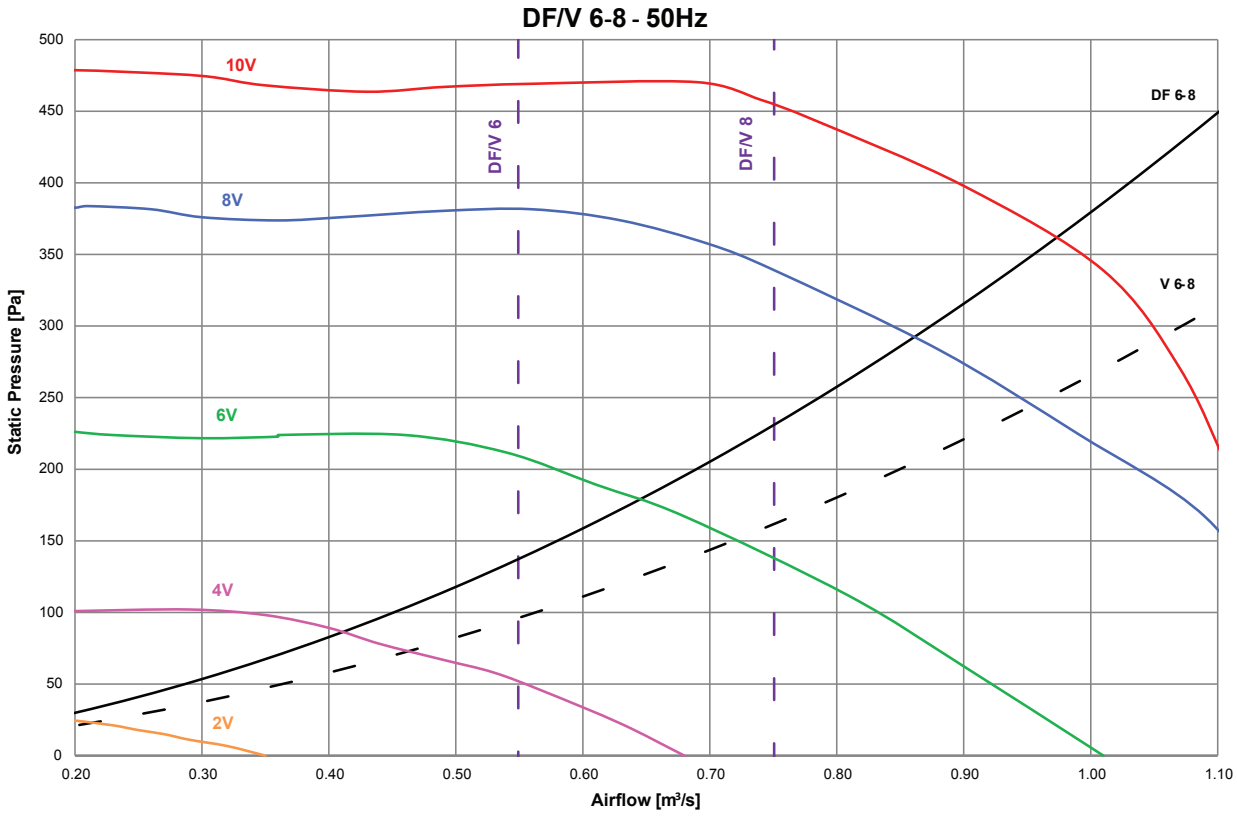
Fan Speed Data



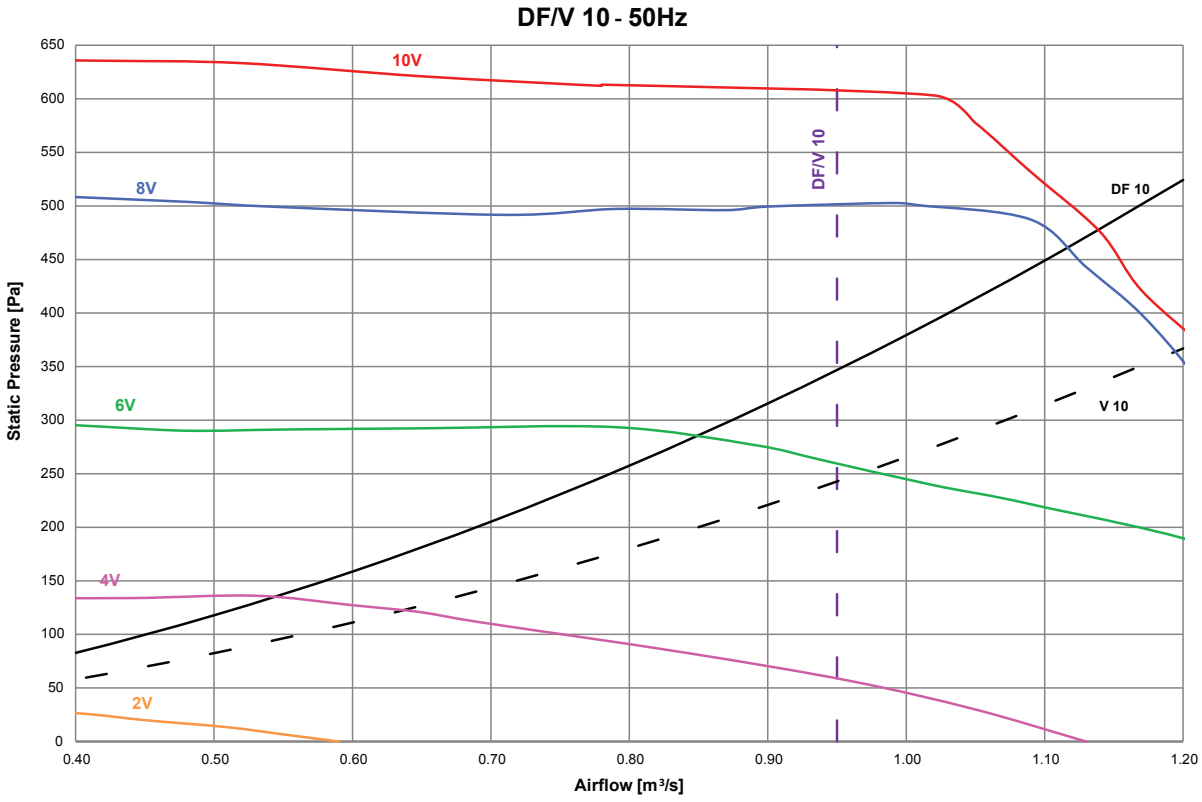


EZRE Direct Expansion 400V 50Hz (-0)

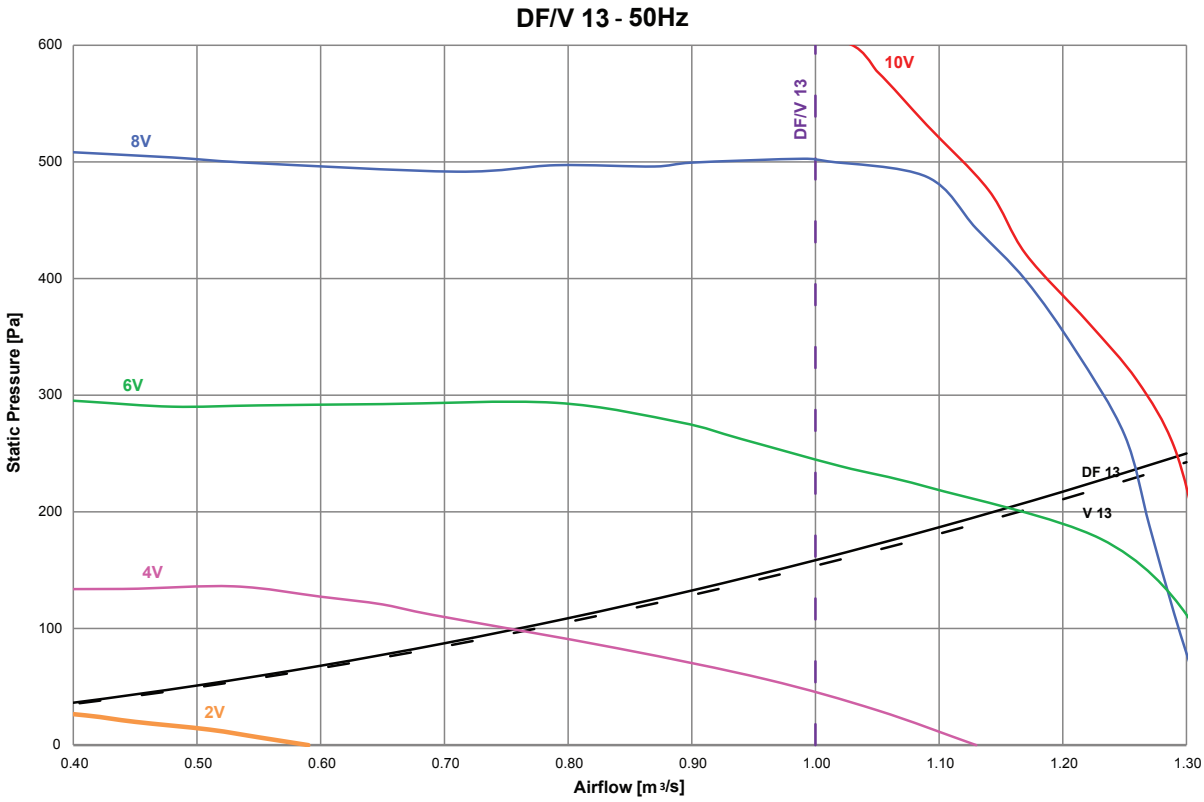
DF/V6 - 8 - 50Hz



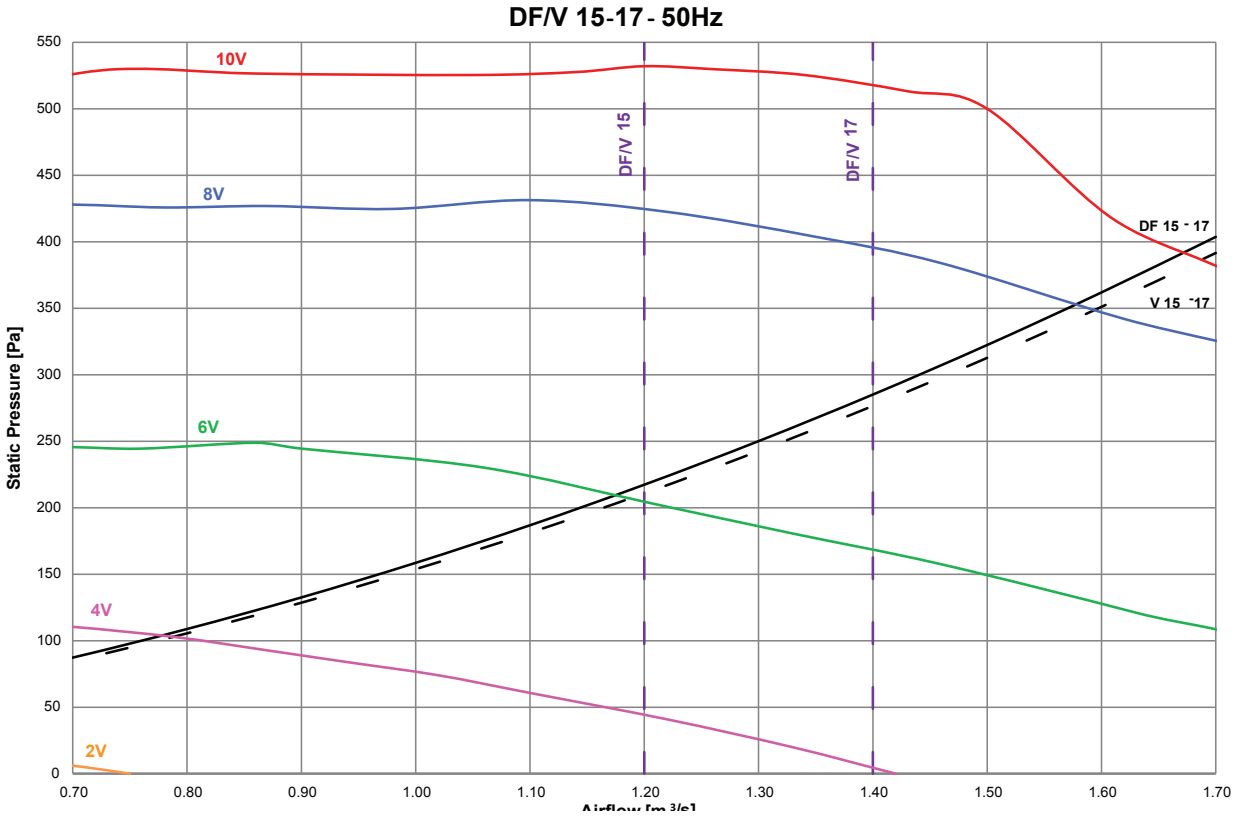
DF/V10 - 50Hz



EZRE Direct Expansion 400V 50Hz (-0)
DF/V13 - 50Hz

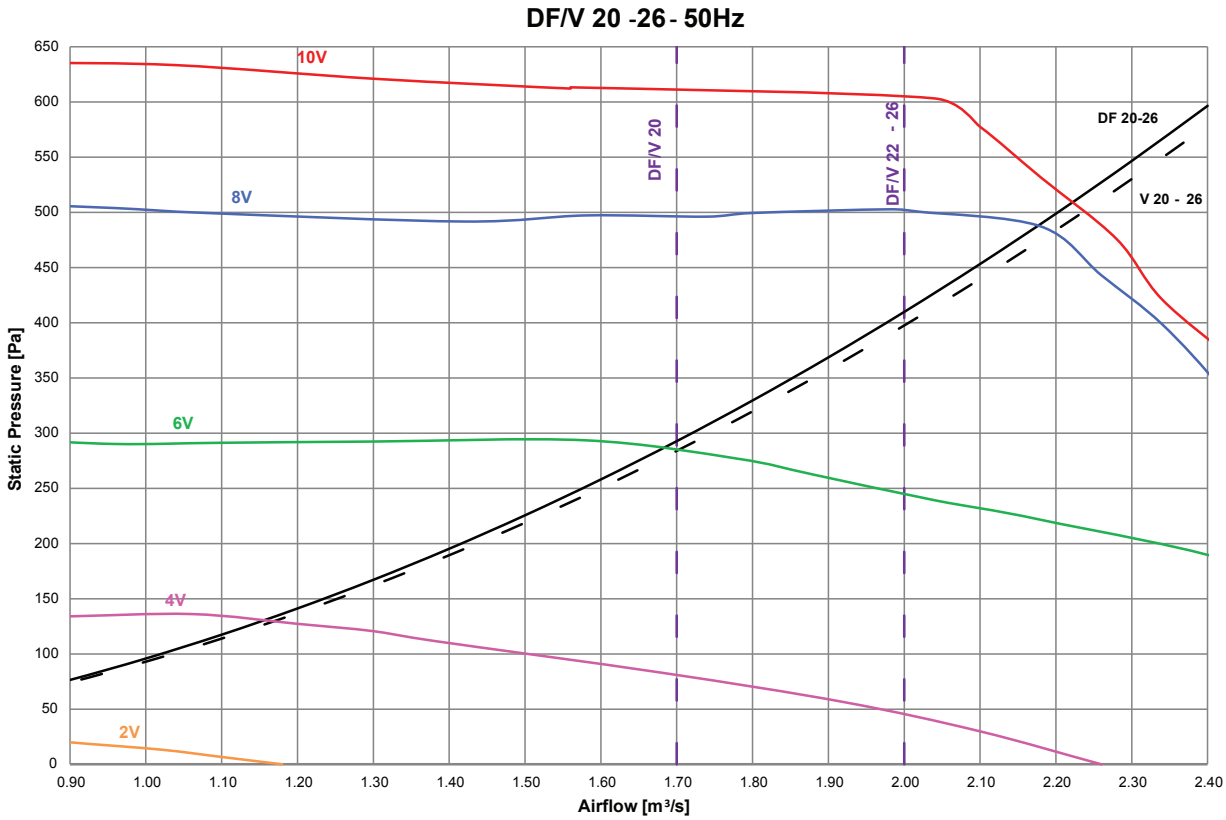


DF/V15 - 17 - 50Hz

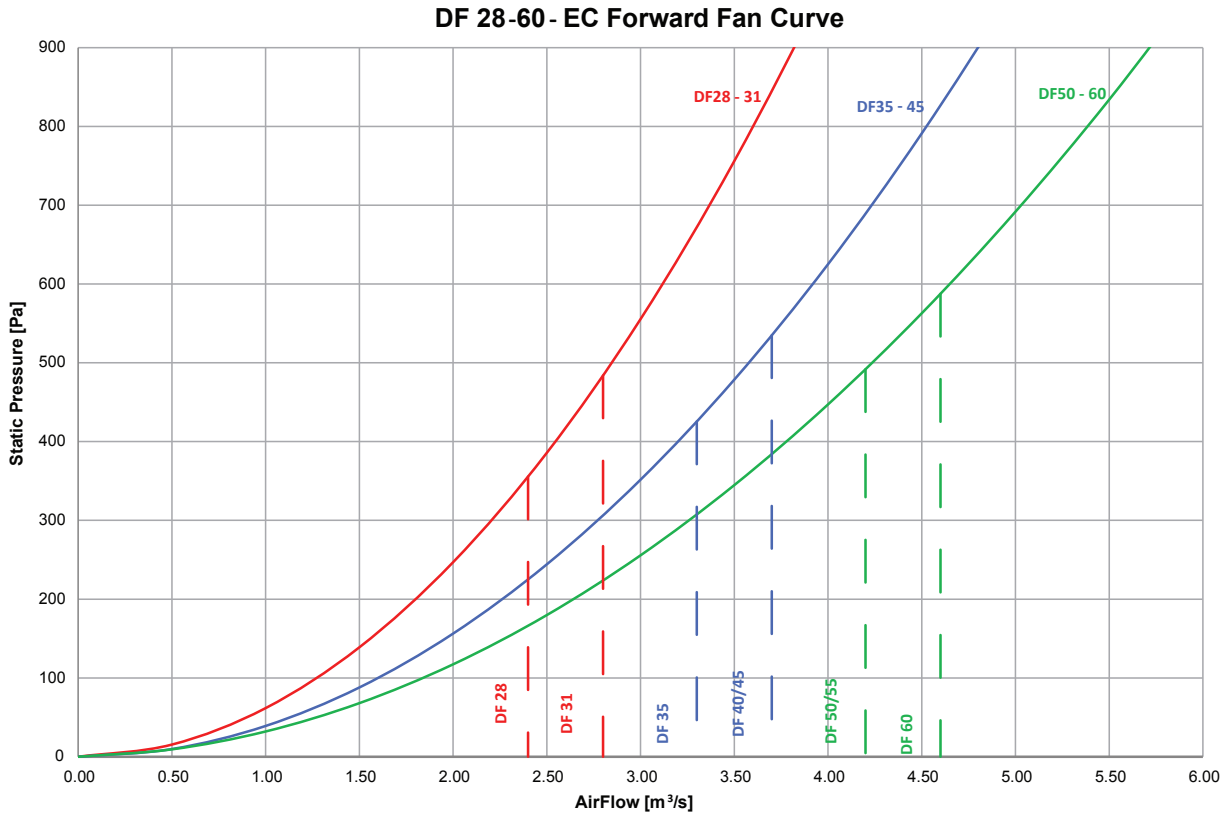


EZRE Direct Expansion 400V 50Hz (-0)

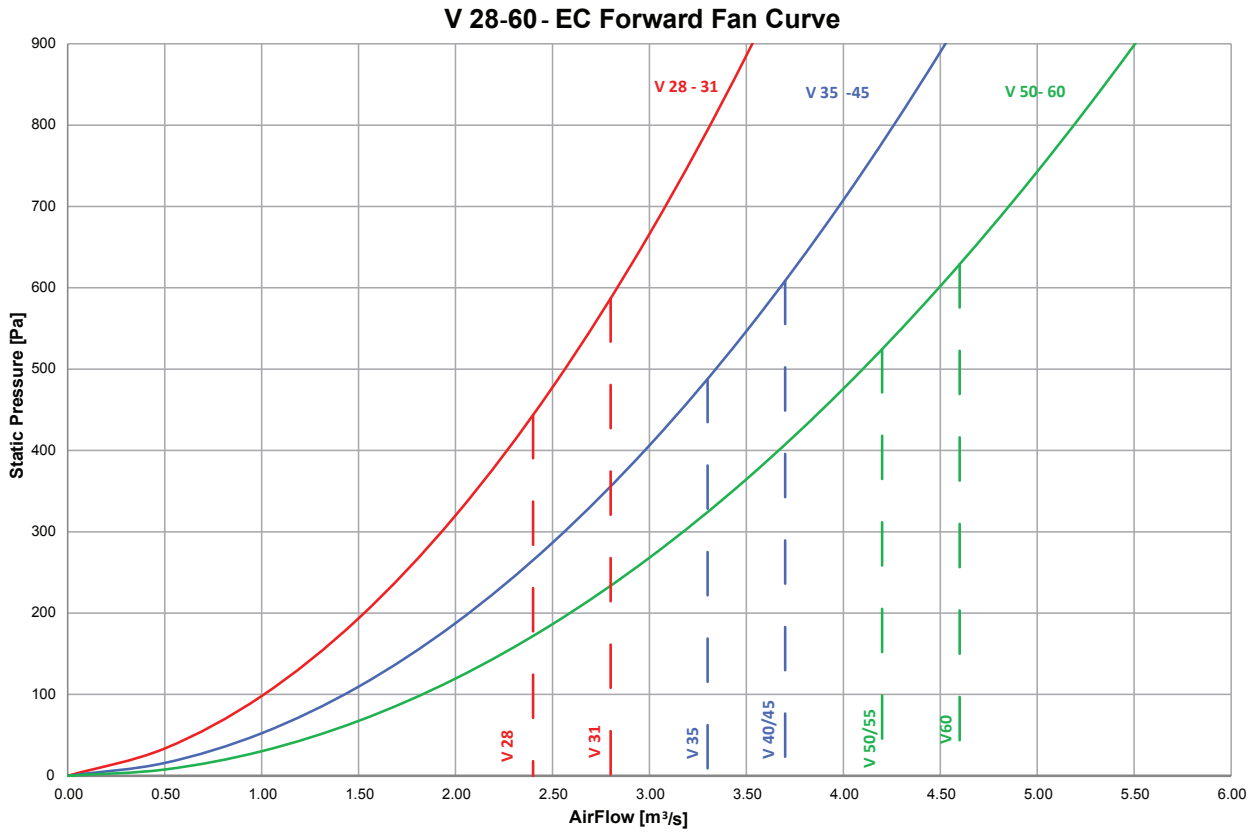
DF/V20 -26 - 50Hz



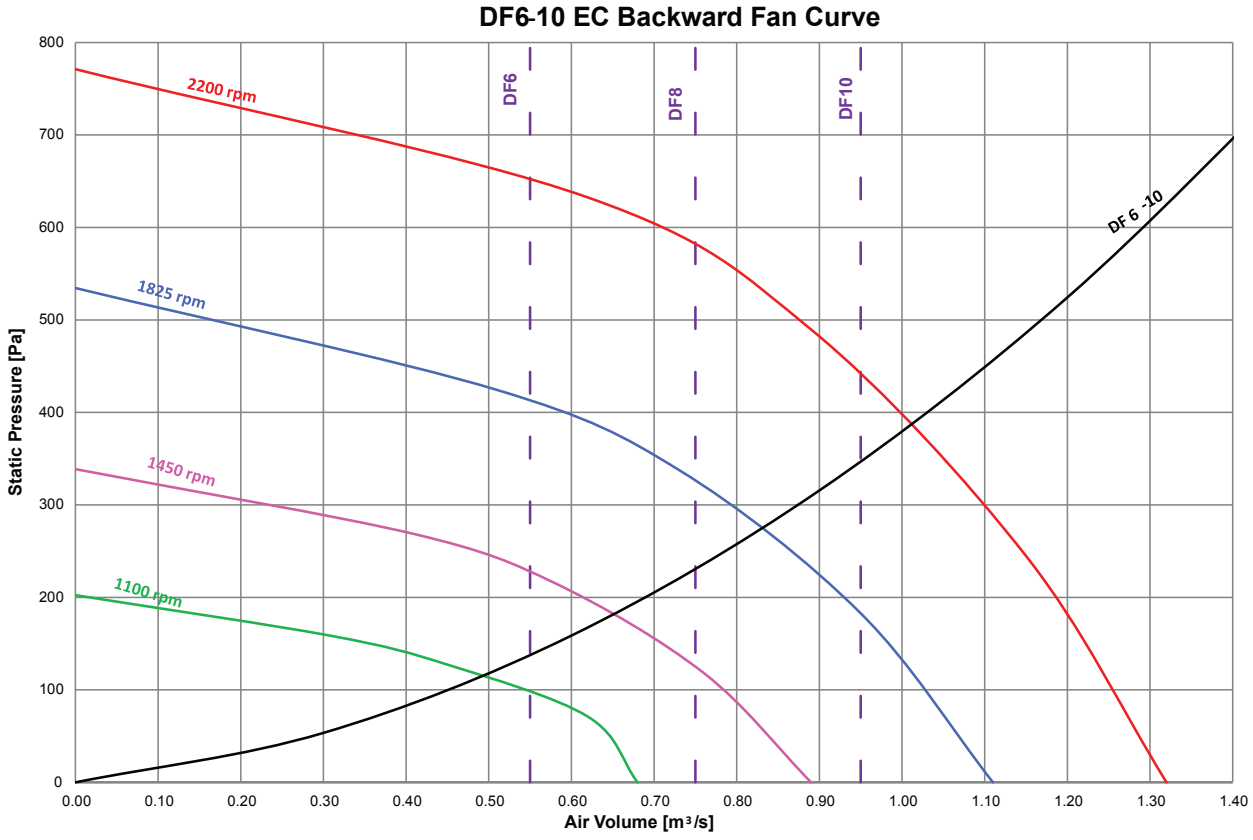
DF28 - 60 - EC Forward Fan Curve



EZRE Direct Expansion 400V 50Hz (-0)
V28 - 60 - EC Forward Fan Curve

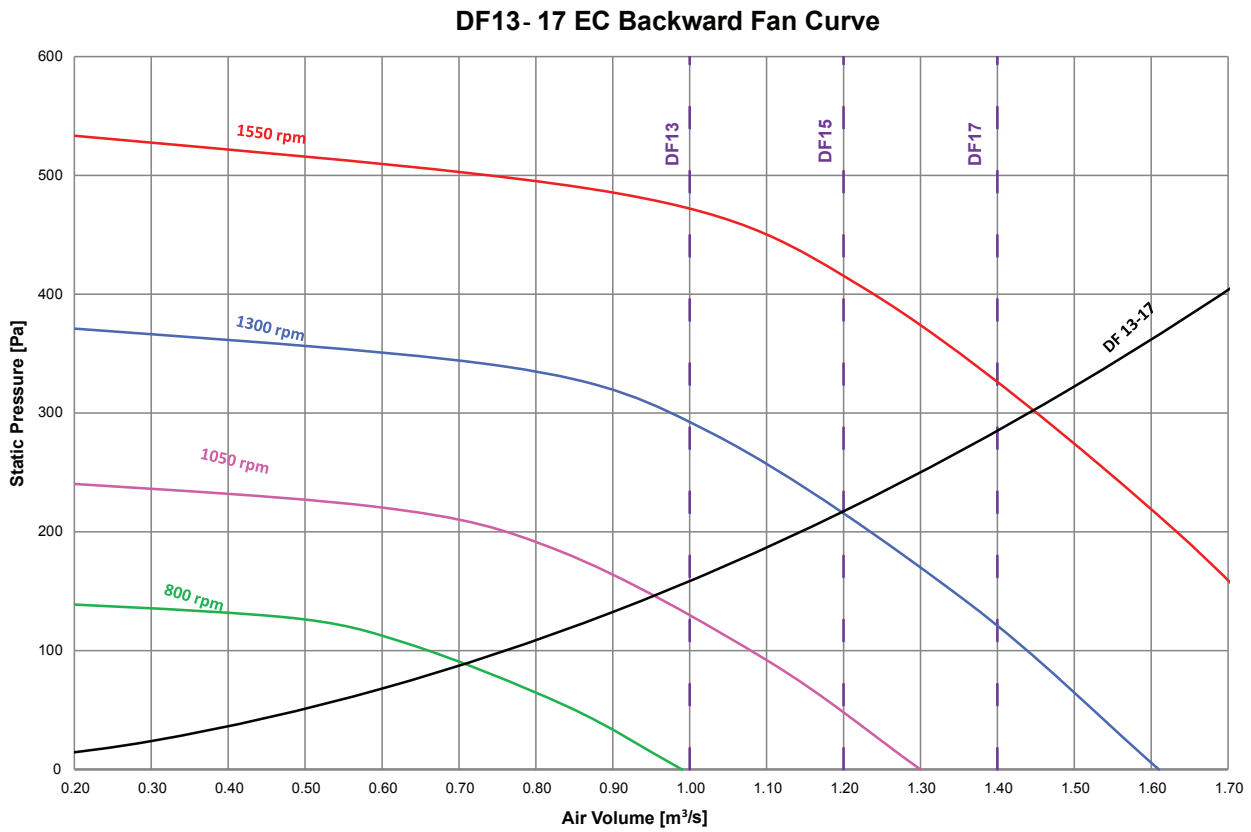


DF6 - 10 - EC Backward Fan Curve

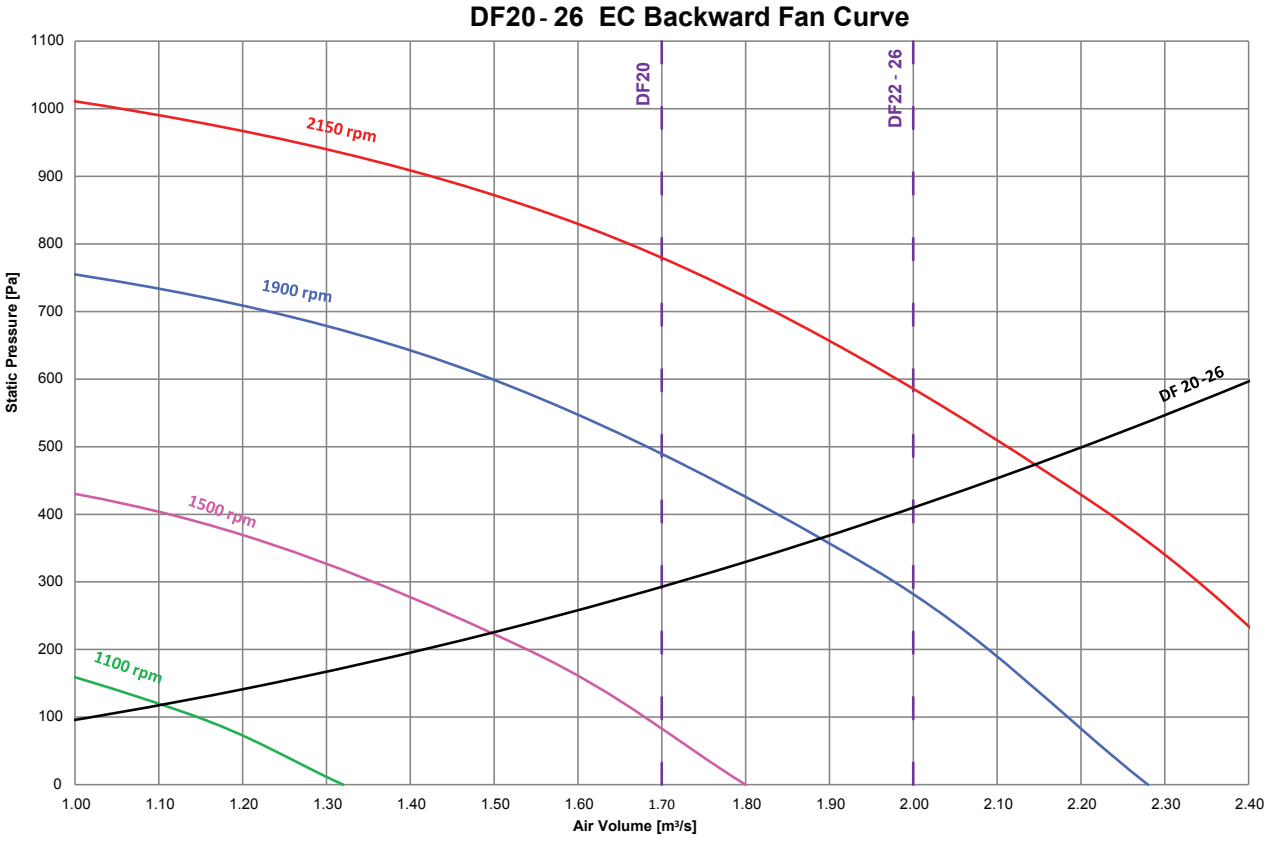


EZRE Direct Expansion 400V 50Hz (-0)

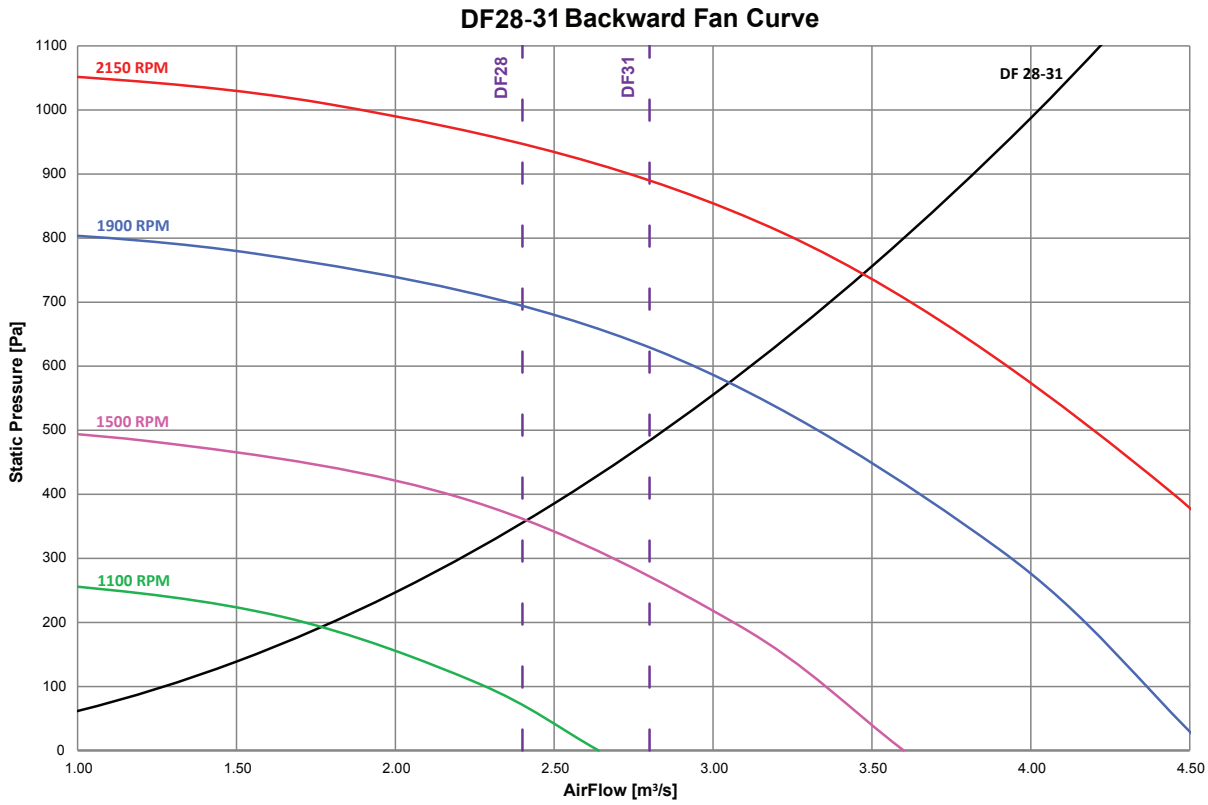
DF13 - 17 - EC Backward Fan Curve



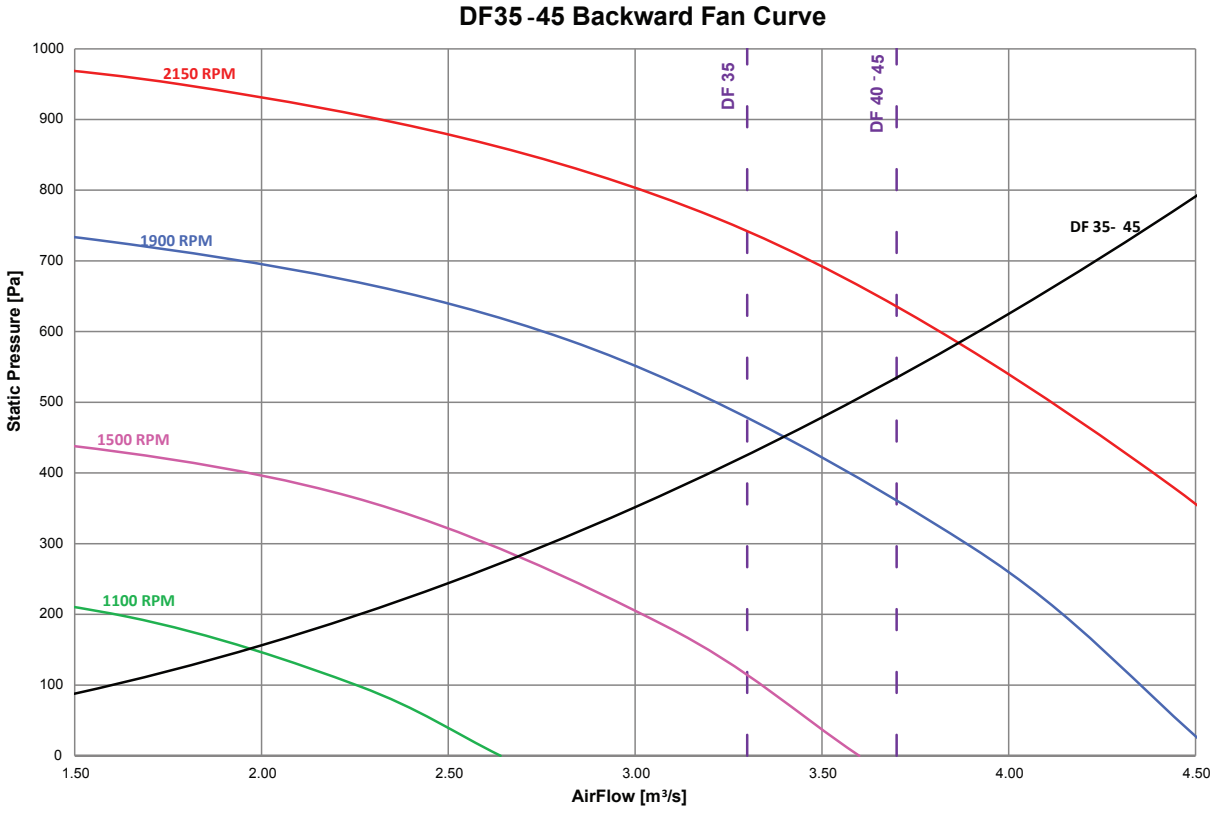
DF20 - 26 - EC Backward Fan Curve



EZRE Direct Expansion 400V 50Hz (-0)
DF28 - 31 - Backward Fan Curve

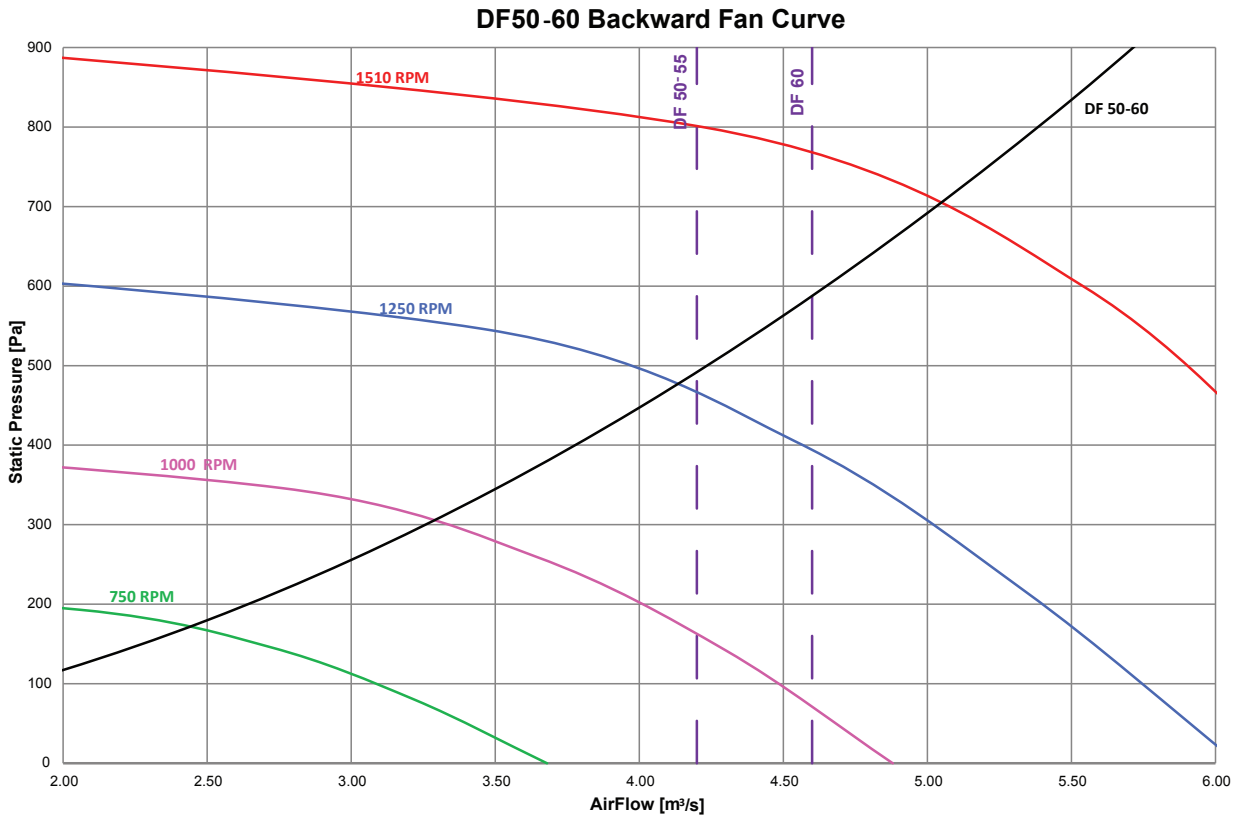


DF35 - 45 - Backward Fan Curve



EZRE Direct Expansion 400V 50Hz (-0)

DF50 - 60 - Backward Fan Curve



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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