

60 - 180kW



> **SmartCool**

Next generation precision air conditioning

Typical applications

- > Data centres and computer rooms
- > Telecommunications and ISP facilities
- > Clean rooms
- > Switching stations
- > Laboratories

www.airedale.com

Higher capacities
for same footprint
NEW!

SmartCool

SmartCool is a next generation, precision air conditioning solution that can achieve up to 88% saving in power consumption and increased uptime. Within its sleek, compact exterior lies a synergy of advanced technology and cutting-edge components, creating a sophisticated and highly flexible system. In IT and other critical environments, SmartCool delivers efficient and intelligent cooling of fluctuating heat loads to maintain precise control. Optional high capacity chilled water models offer more duty for the same footprint and are ideal for large data centre applications.

Maximising energy efficiency and uptime

A choice of seven system types is available in DX (air/water cooled) or chilled water. A raft of state-of-the-art options maximise efficiency and control allowing the most optimum, flexible and energy efficient solution to be selected.

SmartCool's control logic, integrated with optional dual cool and dual power supply, is designed to meet the n+1 and 2n redundancy requirements of critical data centre applications. The free-cooling variant of dual cool uses 46% less energy than a standard air cooled DX system. At a nominal £0.11/kWhour this equates to a saving of approximately £8,000/year or 31,000kg of CO₂.

Modular design and control logic allow easy, future-proof expansion of the system when room load increases. Multiple units of different size and capacity can be looped together, with the potential for even greater savings in energy costs when linked with Airedale's free-cooling chillers.

Key technical data

- > Designed and optimised for R410A
- > DX air/water cooled (60 - 130kW), chilled water (60 - 180kW) and free-cooling models; single and dual circuits
- > Downflow configuration (upflow to follow soon)
- > Dual cool redundancy options; efficient free-cooling variant
- > Advanced AireTronix controls and ACIS
- > Up to 6 stages of tandem scroll compressor DX cooling
- > Modulating 30 - 90Hz inverter driven compressors (option)
- > Direct drive, speed controllable AC fans (indoor and outdoor)
- > EC fans (indoor and outdoor) for up to 70% more efficiency (option)
- > Automatic adjustment of air volume (option)
- > Hot gas re-heat for up to 88% saving in power input (option)
- > High efficiency de-humidification (option)
- > Electronic expansion valves for 30% increase in efficiency (option)
- > Thyristor-controlled electric heating for precise control (option)
- > Suction throttle valve technology for variable capacity (option)
- > Dual power supply for redundancy and flexibility (option)
- > Variable air flow (option and dependant on application)



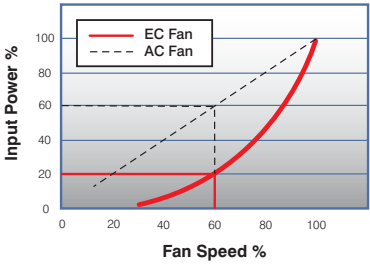
Compact footprint

SmartCool typically offers 13% more cooling kW/m² than our previous generation precision air conditioning systems. The diagram shown above represents kW/m² for a given case size.

Typical applications



SmartCool at a glance: Advanced precision air conditioning technology



The graph shows Input Power % on the y-axis (0 to 100) and Fan Speed % on the x-axis (0 to 100). A solid red line represents the EC Fan, and a dashed black line represents the AC Fan. The EC Fan curve is significantly lower than the AC Fan curve, indicating higher efficiency.

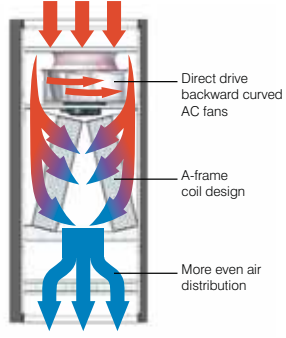
- > Indoor and outdoor
- > Ultimate fan efficiency
- > Up to 70% more efficient than an AC fan at part load

EC fan motors*



- > 10% more efficient than forward curved impellar
- > Speed controllable
- > Efficient backward curved design

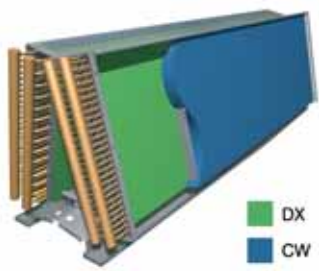
Direct drive AC fans (indoor)



The diagram shows air flow (red arrows) entering from the top, passing through a coil (A-frame coil design), and exiting from the bottom (blue arrows). Labels include: Direct drive backward curved AC fans, A-frame coil design, and More even air distribution.

- > Even discharge air distribution
- > Minimises sound emission

'Blow through' design (60-150kW)



The diagram shows a cross-section of a coil with DX (green) and CW (blue) sections. A legend indicates DX is green and CW is blue.

- > Redundancy and flexibility
- > Free-cooling variant
- > 'A' coils optimise heat exchange

Dual cool* (60-150kW)

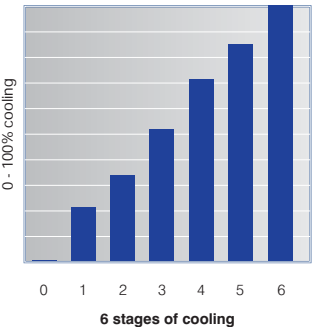



- > Large, high-tech display
- > Touch screen technology (available soon)

Door-mounted display*

Tandem scroll compressors

- > High levels of control
- > 5% increase in part load efficiency



The bar chart shows the percentage of cooling (0-100%) on the y-axis and the number of stages of cooling (0 to 6) on the x-axis. The bars show an increasing trend in cooling percentage as the number of stages increases.

30-90Hz Inverter compressor*

- > Higher levels of precision
- > Starting current is 10% that of a fixed speed scroll compressor
- > Optimised system operating efficiency



Variable humidity control*

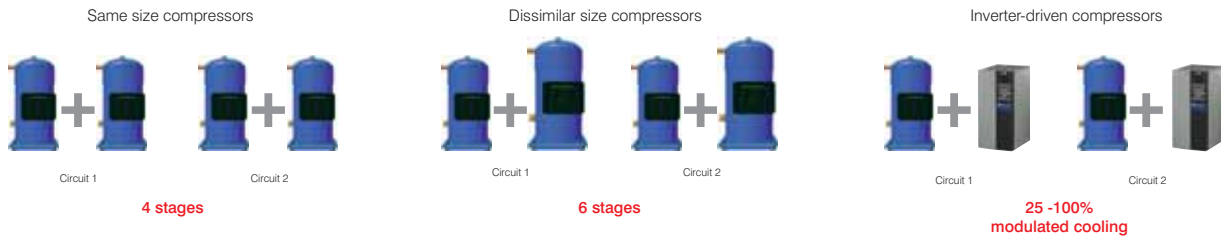
- > Precise humidity control
- > Adjustable from display



* Available as options

Key feature: Tandem scroll compressors – up to six stages of cooling

Tandem compressors across dual refrigeration circuits offer two stages of cooling per circuit, with up to six stages of cooling achieved using dissimilar size compressors. Staged cooling continually utilises the maximum coil area within the space and increases part load efficiency by 5% compared with our previous generation precision air conditioning units, enabling capacity to more precisely match application. Power input can be reduced resulting in a substantial drop in energy costs. Sensible heat ratio control with minimum re-heat ensures 80% less power is absorbed during the de-humidification cycle.

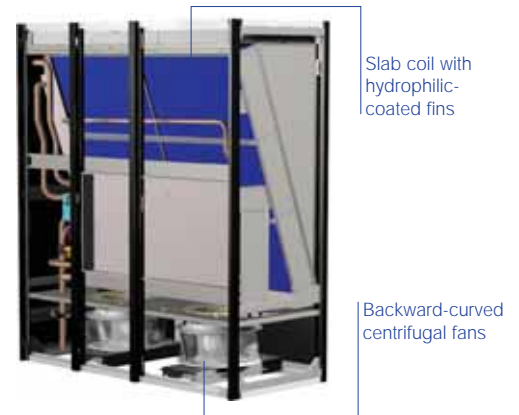


Key feature: High capacity chilled water models offering more duty for same footprint

Ideal for large data centre applications, optional high capacity chilled water models of the downflow configured SmartCool offer more duty for the same footprint.

A 'draw through' design combined with large slab coil with hydrophilic coated fins and efficient backward curved fans located in the base of the unit give a very even air distribution on the coil and in the floor void. The slab coil can consist of two circuits contributing to reduced downtime in a redundancy situation.

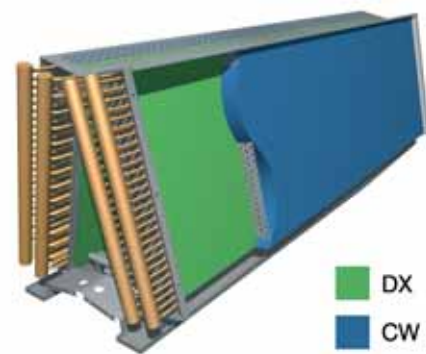
'Draw-through' configuration of high capacity SmartCool



Key option: Dual cool for redundancy and flexibility

For optimum cooling management and for built-in 2N redundancy, SmartCool's versatile dual cool options include two totally independent cooling mediums, DX and chilled water, within the same case. Where chilled water is used as the primary medium for its efficiency in cooling, DX may be chosen as the secondary medium to provide back-up or additional cooling load.

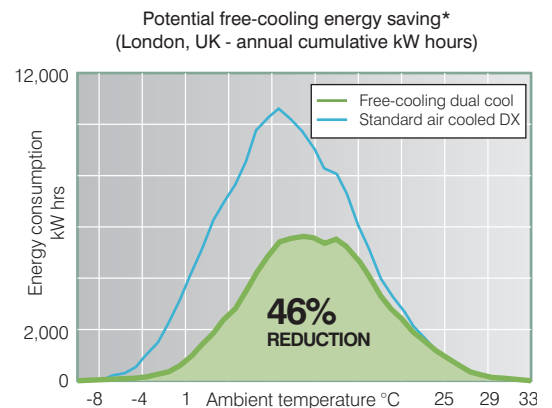
Dual cool options feature automatic change over and duty share whilst the efficient 'A' frame coil design also serves to maximise the heat exchange area.



Key option: Dual cool with free-cooling variant

The free-cooling variant of the optional dual cool system (W2F0) uses 46%* less energy than a standard air cooled DX system (see graph right).

Continuous system operation and the high temperatures of a server environment increase the potential for SmartCool free-cooling, which operates with as little as 2°C differential between ambient and return fluid temperatures. In London, ambient temperatures of 22°C or less exist for 97%* of the year, so a typical return air setpoint of 24°C means significant energy savings will be achieved. The large surface area coils also lengthen the periods of free-cooling.



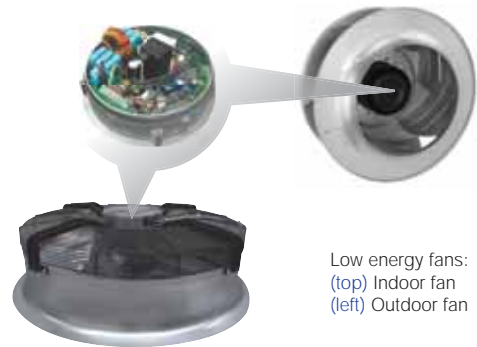
* Based on a constant 50kW load and Met Office average ambient figures for London, UK at 24°C/45% RH

* Based on Met Office average ambient figures for London, UK at 24°C/45%RH

Key option: EC (electronically commutated) fans

As an option for ultimate fan efficiency in both indoor and outdoor units, at full and part load, standard direct drive AC fans use latest EC motor technology. By applying intelligent control logic to EC fan technology, the backward curved EC fan in SmartCool is 15% more efficient than our previous generation precision air conditioning systems and up to 70% more efficient than an equivalent AC fan under part load conditions. Besides improving room air distribution and air management, the EC fan also features a quiet motor, particularly at reduced speed.

Speed controllable, direct drive AC fans are featured as standard on all units, with backward curved, centrifugal configuration on indoor fans and axial on outdoor fans.

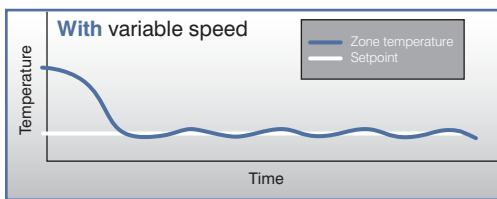


Low energy fans:
(top) Indoor fan
(left) Outdoor fan

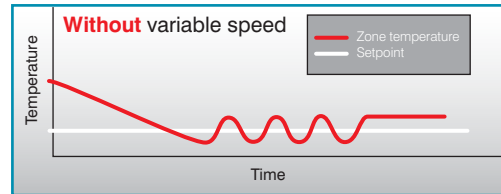
Key option: Inverter driven 30 - 90Hz compressors

The latest technology 30-90Hz inverter driven scroll compressor allows fully modulated cooling performance from 17 – 100%. It enables the SmartCool to react to system load fluctuations and exactly match the cooling demand, saving substantial amounts of energy when operating at part load. Smart controls pinpoint the optimised operating point for the system so that the compressor, in conjunction with varying fan speed, is always running at the most efficient point for the load in the room. The inverter driven scroll compressor operates quietly and has a starting current equivalent to 10% that of a traditional fixed speed scroll compressor, thus removing power-hungry transient starting 'spikes'.

Inverter driven compressors: Control with and without variable speed



Supply air temperature is closer to setpoint. Zone temperature is kept tightly near setpoint at all times by continuous load-matching operation.

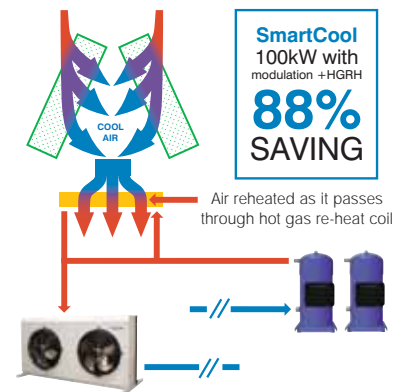


Supply air temperature will be colder than needed due to excess capacity. Zone setpoint is maintained by stepped control.

Key option: Efficient hot gas re-heat (HGRH)

Where heating is used during the cooling de-humidification process, hot gas re-heat offers an energy efficient way of providing re-heat capability by utilising energy that would normally be rejected outside by the condenser. The hot discharge gas re-heats the cooled air after it has passed over the evaporator coil to maintain the room setpoint. The gas from the re-heat coil then rejoins the standard discharge line and is delivered to the condenser.

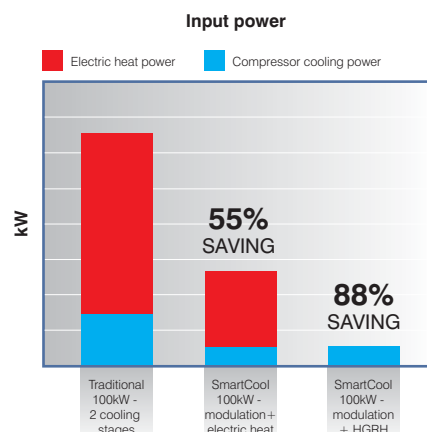
This method of re-heating is far more efficient than existing electric heating or low pressure hot water heating as no further power input is required over the standard power requirement for the refrigeration circuit (see graph below).



Key option: High efficiency de-humidification circuit

The high efficiency de-humidification circuit removes moisture from the room by reducing fan speed and allowing the system to be operated at low temperature whilst using only one stage of cooling. Significantly less mechanical cooling is used compared with conventional dehumidification.

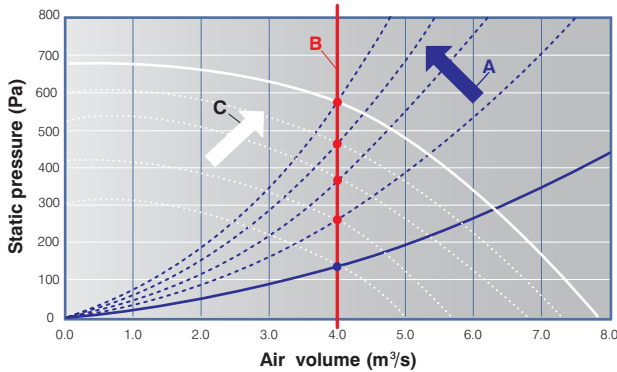
This efficient method allows for 1/8 or 1/4 cooling performance during de-humidification, with minimum reheat, whilst maintaining precise de-humidification control.



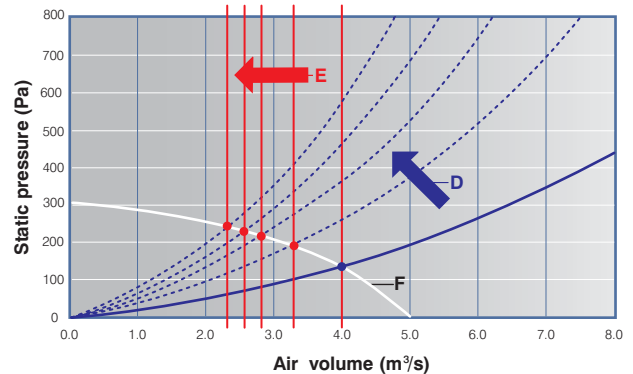
Key option: Automatic adjustment of air volume

SmartCool's direct drive fans allow fan speed to be modulated to give a constant air volume (graph 1). When faced with increasing system resistance such as dirty filters or ductwork extensions (A), design air volume is maintained by the direct drive fan automatically sensing system pressure change and adjusting fan speed to maintain operating air volumes (B). Fan speed increases to match the changing system characteristics (C). Without constant air volume (as in graph 2), fan speed remains static so as system resistance increases (D), system performance airflow drops off (E) and system performance is now confined to a fixed fan curve (F). Modulated fan speed also allows for simple site adjustment of air volume for easier commissioning.

Graph 1 with constant air volume

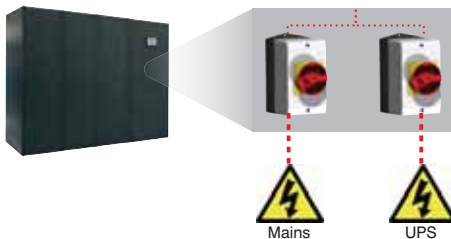


Graph 2 without constant air volume



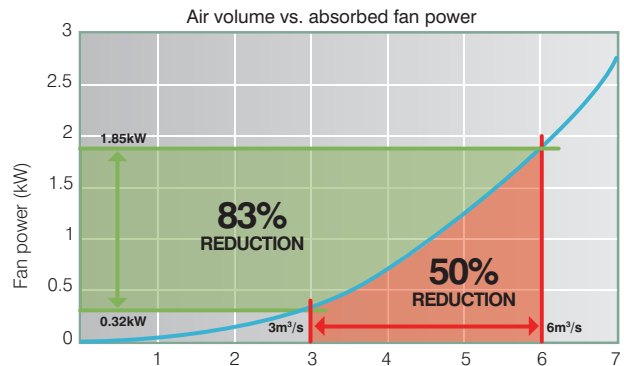
Key option: Dual power supply

SmartCool is designed with a dual power supply feed so that in the event of a power failure, the supply can be switched from mains to an alternative power supply such as a UPS generator. Cooling continues despite the interrupted power supply. With power failure backup designed into the unit, SmartCool supports redundancy power supply specifications in critical data centre builds.



Key option: Variable air volume

Available in selected chilled water applications, variable air volume using advanced control logic enables SmartCool to offer substantial savings in energy consumption. By reducing air volume in response to changes in room demand, the fan power utilised is significantly decreased. For example, typically a 50% drop in air volume will result in an 83% reduction in fan power input.



More features

- > Intelligent, variable head pressure control for increased efficiency (adjustable from display)
- > Sight glass and filter drier included for system reliability
- > High efficiency G4 (EU4) rated, pleated disposable filters give superior high performance with lower airside pressure drops
- > Clean and uncluttered case design
- > Front access to all major components for quicker and easier service and maintenance
- > 360° unit access via fully detachable panels as well as all service connections located at one end of the unit facilitates installation and maintenance

More options

- > Energy Manager to monitor energy consumption
- > Refrigerant leak detection for F gas compliance
- > Variable humidification control (adjustable from display), for precise relative humidity control
- > Staged electric heating during de-humidification to ensure thermal balance
- > Suction throttle valve technology for variable capacity and precise setpoint control
- > Discharge gas temperature monitoring allowing fault detection of abnormal operation such as gas loss, poor oil return or outside of operational envelope
- > Dual purpose condensate pump for humidifier and condensate drains
- > Night-time set-back limits sound emissions in noise sensitive applications by reducing condenser fan speed at pre-set hours

Intelligent controls

SmartCool units are equipped with very latest, intelligent Airetronix microprocessors specially developed by Airedale to facilitate automation and optimisation of the system. The fully programmable microprocessors are linked with key components within the cooling system, allowing sophisticated, modulating and self-optimising control for increased energy efficiency.

User friendly display

The controller's door-mounted display now features as standard, a large and semi-graphical screen, offering more visibility for improved clarity and ease of use. The display has an optional audible alarm function and allows viewing of the unit's operating status. Its multi-button keypad facilitates adjustment of control parameters by enabling the operator easy access to a menu system.

Pictured right is the larger, high-tech display, featuring touchscreen technology, available soon as an option.



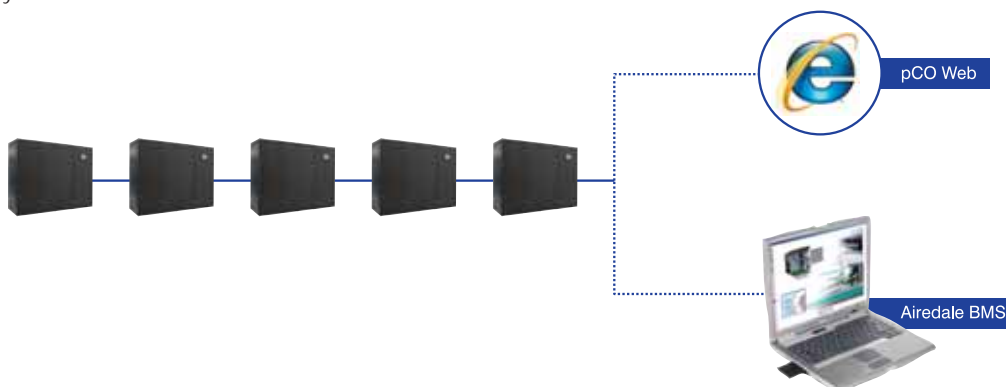
Standard microprocessor features:

- > Multi-language (French, German, Spanish & English)
- > 2MB FLASH program memory
- > Remote on / off capability
- > Compressor anti-cycle control
- > Compressor hours run log and reset
- > Duty rotation (networked units)
- > Temperature and humidity sensor (return air)
- > Visual alarm display
- > Password protection

Duty/standby operation

AireTronix microprocessors can be set-up for duty/standby operation without the requirement for an external sequence panel.

Up to five SmartCool units can be networked together using proprietary Belden 2-core screened communication cable.



Remote supervision



ACIS

ACIS is an intelligent, latest technology BMS software programme which links multi-unit systems managed by AireTronix controllers and located on one or more sites, into a single, proactive control platform. With the click of a button, information can be pulled back automatically and used for remote monitoring and control, including 24/7 alarm indication, time scheduling and adjustment of temperature setpoints for increased energy efficiency.

Integration

The network-capable AireTronix controller can be integrated with a wide range of BMS protocols.

Modbus®

ECHELON
THE LONWORKS COMPANY

BACnet™

PlantVisorPRO

TREND



pCOWeb ethernet solution

pCOWeb supervisory plug-in cards make communicating with a SmartCool unit purely a matter of logging onto the office Intranet or the web. Based on ethernet TCP/IP secure technology and SNMP features, pCOWeb requires no proprietary cabling or monitoring software, little or no set-up on site and is pre-programmed with an IP address.

Airedale Controls - additional services

- > Software program design that will manage everything in the air conditioning system, fine-tuning it for energy efficiency
- > Remote Monitoring Centre – an internet-based bureau service for customers with critical sites
- > After-Sales
- > Live Demonstration and training centre

For more information visit www.airedale.com

Flexible solutions: for optimum precision cooling

SmartCool offers a choice of seven system configurations in DX R410A and/or chilled water and in single/dual circuit or dual cool configurations. This allows the optimum, flexible and energy efficient solution to be selected for precision air conditioning of each critical application.

Dual cool systems, featuring two different cooling mediums in the same case, support 2N redundancy specifications and provide automatic change over and duty share. A free-cooling dual cool variant substantially increases energy savings and when SmartCool is linked to one or more Airedale free-cooling chillers, the potential to reduce building energy costs is even more significant.

Inverter compressor option

Optional (30 – 90Hz) inverter driven compressors offer fully modulated cooling from 25 - 100%. They give higher levels of precision and part load efficiency; reduced sound levels during operation of the compressors and a starting current equivalent to just 10% that of a traditional fixed speed scroll compressor.

Key



Airedale Chiller



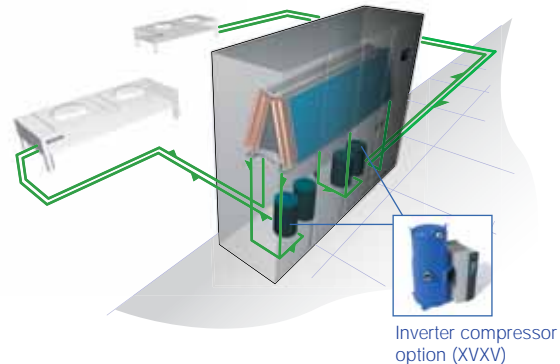
Airedale Dry Cooler



Airedale Condenser

Dual circuit - DX air cooled (X2X2)

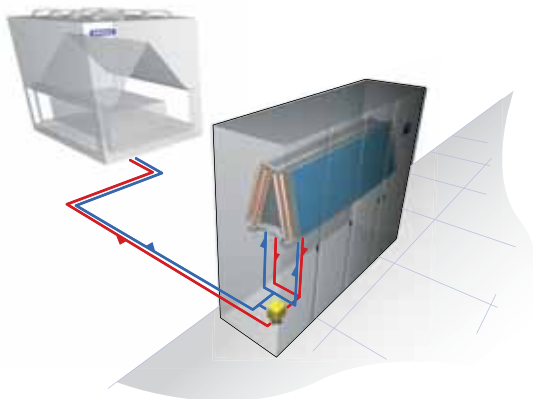
The SmartCool X2X2 is an air cooled, direct expansion (DX), double circuit system linked to two separate, remotely mounted air cooled condensers. Optimised for heat transfer using energy efficient refrigerant R410A in each circuit, the X2X2 system is located within the conditioned space, absorbing room heat and transferring it outside to the condensers. By using one or more same/dissimilar sized scroll compressors across the X2X2 double circuit, part load efficiency can be maximised and capacity more precisely matched to application.



Inverter compressor option (XVXV)

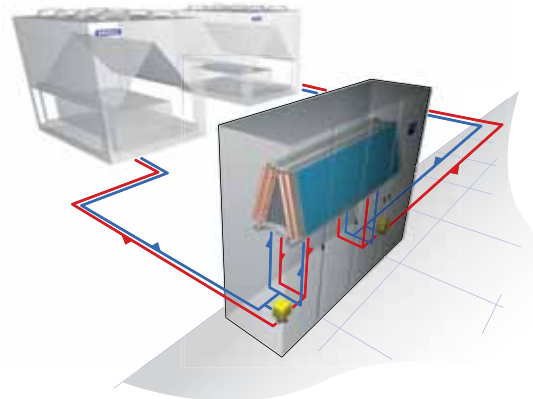
Single circuit - chilled water (C000)

Where a chilled water single circuit system is preferred, warm room air is blown across the efficient cooling coils of the SmartCool C000 and the heat transferred to a chilled water system such as Airedale's high efficiency TurboChill. By controlling the 3-way water regulating valve, the intelligent AireTronix microprocessor can achieve precise control of temperature and humidity.



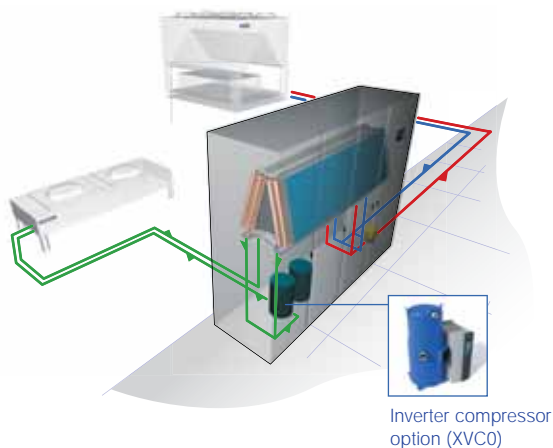
Dual circuit - chilled water (C0C0)

In the SmartCool C0C0 unit, the cooling coils are split into two independent systems, each with a 3-way water regulating valve, and cooled by chilled water from two separate chillers. For extra security, the dual circuit configuration of SmartCool C0C0 offers 2N redundancy.



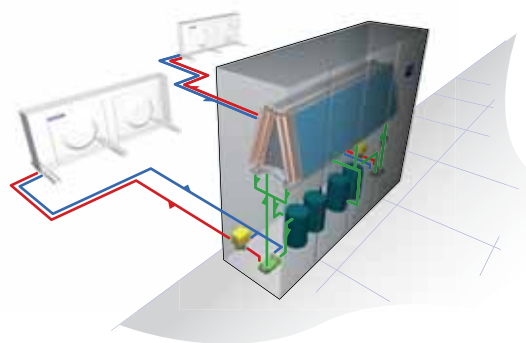
Dual cool - DX air cooled and chilled water (X2C0)

For redundancy in critical applications, the SmartCool dual cool X2C0 offers two different cooling mediums, air cooled DX and chilled water, within the same case. The X2C0 system is managed by the AireTronix microprocessor to select which medium acts as the primary source of cooling or which acts as back-up, should the primary source fail or is unable to cope with the heat load.



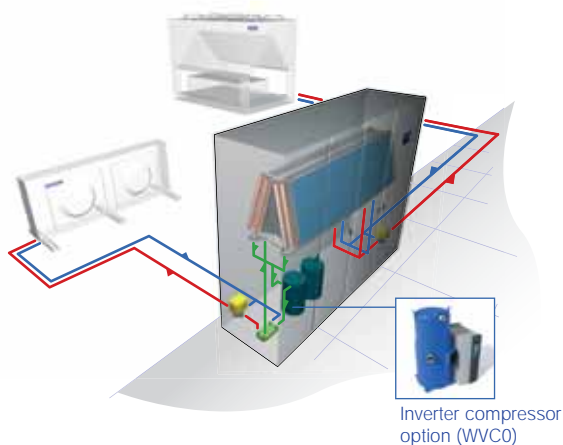
Dual circuit - DX water cooled (W2W2)

Suitable for applications favouring reduced refrigerant charges, the SmartCool W2W2 is a double circuit system featuring DX cooling within the case and dry coolers outside. Warm room air is passed through two completely independent evaporator coils and an integral plate condenser transfers the heat load to the glycol solution which is then channelled outside to two air cooled dry coolers.



Dual cool - DX water cooled and chilled water (W2C0)

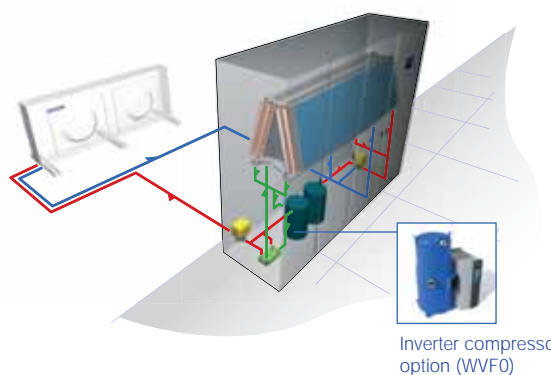
For applications where a water cooled system is preferred over air cooled, the SmartCool W2C0 comprises two different cooling mediums within the same case: DX water cooled, as in the W2W2 system, and chilled water, as in the C000 system. The AireTronix microprocessor elects which medium acts as the primary source of cooling and which as back-up, if the primary source fails or is unable to cope with the heat load.



Dual cool - DX water cooled and free-cooling (W2F0)

The W2F0 system includes a free-cooling coil in conjunction with the evaporator. In low ambient conditions, particularly in relation to the high temperatures and continuous system operation of a server environment, the W2F0 system will run with minimum energy. At times of higher ambient, sophisticated AireTronix controls technology will modulate the 3-way water regulating valves to transition from free-cooling back to mechanical cooling. Typically the SmartCool W2F0 single circuit free-cooling system uses 46%* less energy than a standard air cooled DX system.

* Based on Met Office average ambient figures for London, UK at 24°C/45%RH



Nomenclature explained SC 19 D 033 - X 2 C 0 - 0

	SC	SmartCool
	19 - 31	Decimetre case width (dm)
	D	Downflow
	60 - 150	Nominal capacity (kW)
MONO / DUAL (CIRCUIT 1)	X/W	Air cooled / Water cooled (R410A)
	C	Chilled water
MONO / DUAL (CIRCUIT 2)	0/1/2	Compressors per circuit
	V	Inverter compressor
MONO / DUAL (CIRCUIT 2)	0/	No option
	X/W	Air cooled / Water cooled (R410A)
MONO / DUAL (CIRCUIT 2)	F/C	Free-cooling / Chilled water
	0/1/2	Compressors per circuit
MONO / DUAL (CIRCUIT 2)	V	Inverter compressor

Model no.	Nominal capacity (kW)		EER	No. of fans	Air volume (m³/s)	Sound pressure @ 3m (dBA)*	Dimensions (H x W x D)(mm)
	TC	SC					
Single circuit							
C000 - chilled water							
SC19D065-C000-0	68.9	56.3	47.74	2	3.7	43	1980 x 1985 x 890
SC19D075-C000-0	77.7	64.0	34.38	2	4.2	46	1980 x 1985 x 890
SC19D090-C000-0	90.3	75.2	21.50	2	5.1	51	1980 x 1985 x 890
SL19D100-C000-0	93.7	84.2	21.39	2	5.1	54	1985 x 2300 x 890
SL19D105-C000-0	99.3	86.4	22.37	2	5.1	54	1985 x 2300 x 890
SC25D090-C000-0	97.1	80.5	28.68	3	5.3	52	1980 x 2549 x 890
SC25D100-C000-0	106.0	88.4	22.32	3	5.9	55	1980 x 2549 x 890
SC25D110-C000-0	114.6	96.2	17.56	3	6.5	57	1980 x 2549 x 890
SL25D130-C000-0	125.2	110.2	22.30	3	6.5	60	2549 x 2300 x 890
SL25D140-C000-0	131.0	112.5	22.87	3	6.5	60	2549 x 2300 x 890
SC31D110-C000-0	111.7	90.5	37.82	3	5.8	54	1980 x 3113 x 890
SC31D130-C000-0	128.6	105.1	25.42	3	6.9	58	1980 x 3113 x 890
SC31D150-C000-0	144.7	119.2	17.84	3	7.9	60	1980 x 3113 x 890
SL31D170-C000-0	157.7	142.2	18.88	3	8.4	65	3113 x 2300 x 890
SL31D180-C000-0	161.8	142.2	18.88	3	8.4	65	3113 x 2300 x 890
Above figures based on nominal cooling at 24°/45% - 7/12°C Water in/out							
Dual circuit							
C0C0 - chilled water							
SC19D033-C0C0-0	49.6	49.3	34.39	2	3.7	43	1980 x 1985 x 890
SC19D038-C0C0-0	54.9	54.6	24.35	2	4.3	47	1980 x 1985 x 890
SL19D080-C0C0-0	60.9	60.9	13.73	2	5.1	54	1985 x 2300 x 890
SC19D045-C0C0-0	62.6	62.2	14.90	2	5.1	51	1980 x 1985 x 890
SC25D045-C0C0-0	75.9	70.4	22.42	3	5.3	52	1980 x 2549 x 890
SC25D050-C0C0-0	79.8	73.4	16.81	3	5.9	55	1980 x 2549 x 890
SC25D055-C0C0-0	85.2	80.1	13.05	3	6.5	57	1980 x 2549 x 890
SL25D110-C0C0-0	87.2	87.2	15.23	3	6.5	60	2549 x 2300 x 890
SC31D055-C0C0-0	84.4	78.4	28.57	3	5.8	54	1980 x 3113 x 890
SC31D065-C0C0-0	92.8	86.6	18.34	3	6.9	58	1980 x 3113 x 890
SC31D075-C0C0-0	101.0	100.4	12.45	3	7.9	60	1980 x 3113 x 890
SL31D140-C0C0-0	105.9	105.9	12.36	3	8.4	65	3113 x 2300 x 890
Above figures based on nominal cooling at 24°/45% - 7/12°C Water in/out							
X2X2 - DX air cooled							
SC19D055-X2X2-0	52.8	52.0	3.19	2	3.5	51	1980 x 1985 x 890
SC19D070-X2X2-0	66.5	64.1	3.07	2	4.4	53	1980 x 1985 x 890
SC19D080-X2X2-0	74.9	71.6	2.81	2	5.1	55	1980 x 1985 x 890
SC25D080-X2X2-0	76.2	74.4	2.97	3	5.2	55	1980 x 2549 x 890
SC25D090-X2X2-0	82.3	81.2	2.69	3	5.9	58	1980 x 2549 x 890
SC25D100-X2X2-0	94.3	90.7	2.60	3	6.5	60	1980 x 2549 x 890
SC31D100-X2X2-0	95.9	91.4	2.88	3	6.1	59	1980 x 3113 x 890
SC31D120-X2X2-0	111.6	106.0	2.87	3	7.3	58	1980 x 3113 x 890
SC31D130-X2X2-0	118.8	112.7	2.72	3	7.9	60	1980 x 3113 x 890
Above figures based on nominal cooling at 24°/45% - 35°C Ambient							
W2W2 - DX water cooled							
SC19D055-W2W2-0	53.1	52.2	3.24	2	3.5	51	1980 x 1985 x 890
SC19D070-W2W2-0	66.9	64.2	3.13	2	4.4	53	1980 x 1985 x 890
SC19D080-W2W2-0	76.1	72.2	2.95	2	5.1	55	1980 x 1985 x 890
SC25D080-W2W2-0	77.6	75.1	3.13	3	5.2	55	1980 x 2549 x 890
SC25D090-W2W2-0	84.6	82.3	2.91	3	5.9	58	1980 x 2549 x 890
SC25D100-W2W2-0	96.3	91.7	2.77	3	6.5	60	1980 x 2549 x 890
SC31D100-W2W2-0	98.3	92.5	3.09	3	6.1	59	1980 x 3113 x 890
SC31D120-W2W2-0	112.4	106.4	2.93	3	7.3	58	1980 x 3113 x 890
SC31D130-W2W2-0	120.2	113.4	2.82	3	7.9	60	1980 x 3113 x 890
Above figures based on nominal cooling at 24°/45% - 35/40°C Water in/out							

TC = total cooling. SC = sensible cooling. * Ducted return air.

Model no.	DX cooling (kW)			Chilled water cooling (kW)			No. of fans	Air volume (m³/s)	Sound pressure @ 3m (dBA)*	Dimensions (H x W x D)(mm)
	TC	SC	EER	TC	SC	EER				
X2CO - DX air cooled / chilled water										
SC19D033-X2CO-0	28.9	28.9	3.13	51.3	51.0	33.92	2	3.7	47	1980 x 1985 x 890
SC19D038-X2CO-0	36.4	36.4	3.05	56.8	56.4	23.82	2	4.3	49	1980 x 1985 x 890
SC19D045-X2CO-0	41.3	41.3	2.66	64.7	64.4	15.41	2	5.1	52	1980 x 1985 x 890
SC19D064-X2CO-0	62.2	62.2	2.66	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D070-X2CO-0	67.2	65.5	2.60	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D076-X2CO-0	72.9	67.8	2.47	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC25D045-X2CO-0	42.6	42.6	2.89	78.5	72.8	23.19	3	5.3	53	1980 x 2549 x 890
SC25D050-X2CO-0	46.1	46.1	2.55	82.5	75.9	17.38	3	5.9	56	1980 x 2549 x 890
SC25D055-X2CO-0	53.0	53.0	2.43	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D067-X2CO-0	65.6	65.6	2.53	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D073-X2CO-0	71.2	71.2	2.50	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D080-X2CO-0	77.4	77.4	2.40	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC31D055-X2CO-0	52.7	52.7	2.89	87.3	81.1	29.55	3	5.8	55	1980 x 3113 x 890
SC31D065-X2CO-0	61.0	61.0	2.81	96.0	89.6	18.97	3	6.9	58	1980 x 3113 x 890
SC31D075-X2CO-0	65.7	65.7	2.50	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
SC31D077-X2CO-0	73.8	73.8	2.44	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D080-X2CO-0	77.0	77.0	2.39	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D083-X2CO-0	80.3	80.3	2.35	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35°C Ambient. Above figures based on nominal chilled water cooling at 24°/45% - 7/12°C Water in/out										
W2CO - DX water cooled / chilled water										
SC19D033-W2CO-0	29.1	29.1	3.23	51.3	51.0	33.92	2	3.7	47	1980 x 1985 x 890
SC19D038-W2CO-0	36.8	36.8	3.15	56.8	56.4	23.82	2	4.3	49	1980 x 1985 x 890
SC19D045-W2CO-0	42.3	42.3	2.83	64.7	64.4	15.41	2	5.1	52	1980 x 1985 x 890
SC19D064-W2CO-0	63.2	63.2	2.79	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D070-W2CO-0	68.9	66.1	2.79	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D076-W2CO-0	75.3	69.0	2.69	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC25D045-W2CO-0	43.8	43.8	3.11	78.5	72.8	23.19	3	5.3	53	1980 x 2549 x 890
SC25D050-W2CO-0	47.8	47.8	2.80	82.5	75.9	17.38	3	5.9	56	1980 x 2549 x 890
SC25D055-W2CO-0	54.6	54.6	2.63	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D067-W2CO-0	66.9	66.9	2.67	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D073-W2CO-0	73.1	73.1	2.69	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D080-W2CO-0	80.4	88.1	2.63	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC31D055-W2CO-0	54.5	54.5	3.17	87.3	81.1	29.55	3	5.8	55	1980 x 3113 x 890
SC31D065-W2CO-0	61.8	61.8	2.91	96.0	89.6	18.97	3	6.9	58	1980 x 3113 x 890
SC31D075-W2CO-0	66.8	66.8	2.62	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
SC31D077-W2CO-0	75.9	75.9	2.63	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D080-W2CO-0	79.9	79.9	2.61	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D083-W2CO-0	83.7	83.7	2.59	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35/40°C Water in/out. Above figures based on nominal chilled water cooling at 24°/45% - 7/12°C Water in/out										
W2F0 - DX water cooled / free-cooling										
SC19D033-W2F0-0	29.1	29.1	3.23	51.3	51.0	33.92	2	3.7	47	1980 x 1985 x 890
SC19D038-W2F0-0	36.8	36.8	3.15	56.8	56.4	23.82	2	4.3	49	1980 x 1985 x 890
SC19D045-W2F0-0	42.3	42.3	2.83	64.7	64.4	15.41	2	5.1	52	1980 x 1985 x 890
SC19D064-W2F0-0	63.2	63.2	2.79	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D070-W2F0-0	68.9	66.1	2.79	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC19D076-W2F0-0	75.3	69.0	2.69	64.7	64.4	15.41	2	5.1	51	1980 x 1985 x 890
SC25D045-W2F0-0	43.8	43.8	3.11	78.5	72.8	23.19	3	5.3	53	1980 x 2549 x 890
SC25D050-W2F0-0	47.8	47.8	2.80	82.5	75.9	17.38	3	5.9	56	1980 x 2549 x 890
SC25D055-W2F0-0	54.6	54.6	2.63	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D067-W2F0-0	66.9	66.9	2.67	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D073-W2F0-0	73.1	73.1	2.69	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC25D080-W2F0-0	80.4	88.1	2.63	88.1	82.8	13.50	3	6.5	57	1980 x 2549 x 890
SC31D055-W2F0-0	54.5	54.5	3.17	87.3	81.1	29.55	3	5.8	55	1980 x 3113 x 890
SC31D065-W2F0-0	61.8	61.8	2.91	96.0	89.6	18.97	3	6.9	58	1980 x 3113 x 890
SC31D075-W2F0-0	66.8	66.8	2.62	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
SC31D077-W2F0-0	75.9	75.9	2.63	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D080-W2F0-0	79.9	79.9	2.61	104.5	103.9	12.88	3	7.9	60	1980 x 3113 x 890
SC31D083-W2F0-0	83.7	83.7	2.59	104.5	103.9	12.88	3	7.9	61	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35/40°C Water in/out. Above figures based on nominal free-cooling at 24°/45% - 7/12°C Water in/out										

See overleaf for inverter compressor options →

Inverter compressor options								
Model no.	Nominal capacity (kW)				No. of fans	Air volume (m ³ /s)	Sound pressure @ 3m (dBA)*	Dimensions (H x W x D)(mm)
	TC	SC	EER (Std)	EER (Peak)				
XVXV DX inverter air cooled								
SC19D080-XVXV-0	79.5	69.6	2.61	3.4	2	5.1	52	1980 x 1985 x 890
SC25D100-XVXV-0	103.2	88.1	2.52	3.25	3	6.5	57	1980 x 2549 x 890
SC31D110-XVXV-0	108.5	98.2	2.52	3.21	3	7.9	61	1980 x 3113 x 890
Above figures based on nominal cooling at 24°/45% - 35°C Ambient								

Model no.	Nominal capacity (kW)						No. of fans	Air volume (m ³ /s)	Sound pressure @ 3m (dBA)*	Dimensions (H x W x D)(mm)	
	TC	SC	EER (Std)	EER (Peak)	TC	SC					EER
XVC0 - DX inverter air cooled / chilled water											
SC19D055-XVC0	51.9	47.6	2.74	3.99	52.2	51.9	30.92	2	3.8	46	1980 x 1985 x 890
SC25D060-XVC0	55.2	50.3	3.09	4.08	64.6	57.7	51.98	3	4	47	1980 x 2549 x 890
SC31D065-XVC0	57.1	54.4	3.16	3.96	73.4	65.5	59.67	3	4.5	49	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35°C ambient. Above figures based on nominal chilled water cooling at 24°/45% - 7/12°C Water in/out											
WVC0 - DX inverter water cooled / chilled water											
SC19D055-WVC0	54.9	50.5	2.96	3.88	56.0	55.7	25.23	2	4.2	48	1980 x 1985 x 890
SC25D060-WVC0	55.7	50.5	3.16	3.78	64.6	57.7	51.98	3	4	47	1980 x 2549 x 890
SC31D065-WVC0	57.8	54.6	3.25	3.81	73.4	65.5	59.67	3	4.5	49	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35/40°C Water in/out. Above figures based on nominal chilled water cooling at 24°/45% - 7/12°C Water in/out											
WVFO - DX inverter air cooled/free-cooling											
SC19D055-WVFO	54.9	50.5	2.96	3.88	56.0	55.7	25.23	2	4.2	48	1980 x 1985 x 890
SC25D060-WVFO	55.7	50.5	3.16	3.78	64.6	57.7	51.98	3	4	47	1980 x 2549 x 890
SC31D065-WVFO	57.8	54.6	3.25	3.81	73.4	65.5	59.67	3	4.5	49	1980 x 3113 x 890
Above figures based on nominal DX cooling at 24°/45% - 35/40°C Water in/out. Above figures based on nominal free-cooling at 24°/45% - 7/12°C Water in/out											

SafeCool Service Plan – maintaining your SmartCool's efficiency



The SmartCool is a highly efficient system. To make sure its full efficiency is realised after leaving our factory, we recommend a **SafeCool** Service Plan. This provides a planned, preventative maintenance package to sustain the optimum efficiency of the SmartCool and enable the user to see real savings in energy costs and reduced carbon emissions. A priority, 24/7 emergency helpline; professional support and call-out service is on hand throughout the year with guaranteed response by a fully qualified Airedale engineer. **SafeCool** also ensures you are F Gas compliant. For customers outside the UK, our international distributors trained by Airedale would be pleased to offer service on Airedale units.



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