

A new upgraded range of fan coils for heating and cooling commercial applications

Aegean[®] Range



AEGEAN® RANGE

A range of fan coil units suitable for all kinds of commercial applications, from restaurants and hotels to office developments, with the ability to rapidly heat and cool large areas with much greater efficiency than other similar heating and cooling systems

Fan Coils provide heating and cooling solutions for a wide range of applications. Fan coils can use either chilled water, or refrigerant to provide cooling but are generally associated with chilled water. Using just chilled water as the cooling medium means that maintenance and checking associated with the FGas regulations are not necessary.

Fan coils can use a slightly lower grade chilled water than that traditionally employed and are hence, in cooling mode, capable of providing cooling in conjunction with a reverse cycle heat pump or making use of free cooling from either a dry cooler or free cooling chiller.

Similar to the cooling medium, although fan coil units are capable of providing heating using either hot water or refrigerant, they are usually supplied with low temperature hot water.

Incorporating the latest EC motor technology, which can result in running-cost savings as high as 80%, and with variable speed control as standard, the Aegean delivers heating/cooling quickly and quietly.

Aegean with its EC fans is very efficient and fully comply with the Part L of the Building Regulations (2010). By using the variable fan speed, unoccupied setbacks etc using the precise control provided by the BMS interfaces further energy consumption can be achieved.

The Aegean range of fan coils units are compatible with most types of renewable heat sources.

The Smith's technical sales team are available to offer free, no-obligation advice on the best combined heating and cooling solution for a wide range of commercial applications.

Features

- EC motor (BMS compatible for easy integration)
- Low sound levels
- Fully attenuated discharge plenum
- Positive fall drain tray
- Designed and made in the UK
- For bespoke specifications please contact us to discuss your requirements

Applications

Suitable for the following commercial application areas: Office buildings, hotels, restaurants, department stores and shopping malls

Finish

Chassis manufactured from 1.2mm hot dipped galvanised steel.
All flanges formed inward facing to prevent exposure to bare metal edge.

Installation

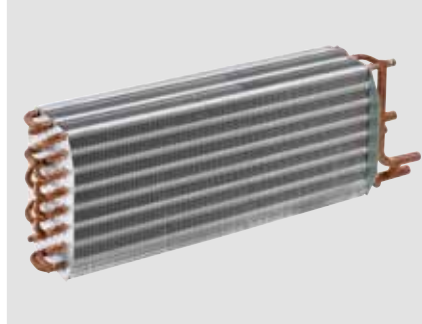
Flow and return connections 15mm.
Designed for system pressures up to 10 bar.
Fan coils are 4-pipe coils (heating and cooling circuit).

Customised requirements

All leading manufacturers controls factory fitted.
Acoustically lined inlet plenum.
Rectangular spigot connection (vertical only).
Concealed/hidden applications (underfloor, behind false walls and ceilings).
Bespoke options.



Controls enclosure



Heat exchanger



Fan mounted inside



Condensate drip tray

Construction

Chassis manufactured from 1.2mm hot dipped galvanised steel. All flanges formed inward facing to prevent exposure to bare metal edges.

Access is provided for maintenance of the fan/motor assembly and also to the coil and condensate tray.

Chassis incorporates an integral discharge plenum chamber. Spigots provided as standard and fixed in the required position.

Fans

Fans are direct drive double inlet forward curved centrifugal type. Both the fan scroll and impeller are galvanised steel. Fan and motor assemblies mounted separately to the fan deck and allows individual removal for non-routine maintenance or replacement. Each fan and motor assembly is statically and dynamically balanced and fitted with neoprene rubber and vibration mounts.

Fan motors

Motors are external rotor EC commutated. The power factor is a minimum of 0.9. Motors have maintenance free and sealed-for-life bearings.

Motors are internally electronically overload protected and insulation conforms with EN 60335-1 class B.

Speed controls

Variable speed control and illuminated on/off switch as standard (additional optional range available including water side/air side controls).

Condensate drip tray

The condensate drip tray is manufactured from 1.2mm hot dipped galvanised steel. The tray is fully insulated against external condensation and have a positive fall to a 15mm plain copper drain point, ensuring effective draining when the unit is installed correctly. The tray covers the entire coil and valve assembly. The connection point is located within the profile of the unit to avoid transit/site damage.

Filters

Filters are easily removable for routine maintenance, cleaning or replacement. Filter media is to EU2 to Eurovent 4/5 (EN779 Rating – G2). If specified filters with EU3 Eurovent (EN779 Rating – G3) can be supplied.

Controls enclosure

Where possible all controls are fitted to a control back plate, which in turn, is mounted within the electrical enclosure. The enclosure has easy access from both sides and below. The whole electrical enclosure, including switches is located within the profile of the unit to prevent transit/site damage.

Accessories

The standard base unit does not include any temperature controls or modulating valves.

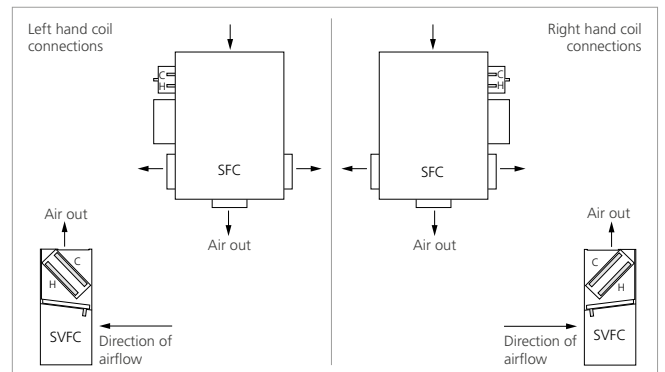
These parts are all fitted as requested and specified by the contractor.

The standard base unit includes a 24V transformer for controls/valves.

Heat exchangers

Coils are manufactured from seamless 3/8" copper tube mechanically expanded into accurately pre-formed collars in aluminium fins giving maximum heat transfer capability.

All coils are circuited counter flow and bottom to top to optimise output and provide free venting/draining. Each coil has been fitted with a manual air vent and drain plug. Coil connection handing is dictated against direction of air flow. Coil termination is 15mm O/D plain copper tails at 40mm centres for fitting to industry standard water control valves. Tails pass through a support plate to provide extra rigidity and terminate within the profile of the unit to prevent transit/site damage. Every coil is leak tested to 21 bar gauge at point of manufacture and additionally to 7 bar gauge c/w valve assembly.





AEGEAN® SFC 235H

A horizontal fan coil with a depth of only 235mm



Features

- EC motor (BMS compatible for easy integration)
- Low sound levels
- Fully attenuated discharge plenum
- Positive fall drain tray
- Designed and made in the UK

Finish

Chassis manufactured from 1.2mm hot dipped galvanised steel.
All flanges formed inward facing to prevent exposure to bare metal edges .

Installation

Flow and return connections 15mm.
Designed for system pressures up to 10 bar. Fan coils are 4-pipe coils (heating and cooling circuit).

Customised requirements

All leading manufacturers controls factory fitted.
Acoustically lined inlet plenum.
Concealed/hidden applications (underfloor, behind false walls and ceilings).
Bespoke options.

Specification

To specify state:
Horizontal Fan Coil Unit 235mm high with EC motor. As Smith's Aegean SFC235/80 (or SFC235/110, SFC235/110X, SFC235/140, SFC235/170, SFC235/200, SFC235/230)

Ordering information

Aegean is a highly configurable bespoke product. Please contact us to discuss your requirements.

Ordering and performance data

Model	Product Code	SIZE		ESP	Airflow	SFP	Total cooling (kW)	Sensible cooling (kW)	Heating (kW)
		SIZE	NR	(Pa)	(l/s)	(W/l/s)	6/12°C	6/12°C	82/71°C
AEGEAN SFC235EC/80	HPAE20004	235/80	35	30	124	0.35	1.97	1.61	2.06
AEGEAN SFC235EC/110	HPAE20005	235/110	35	30	168	0.23	2.67	2.18	2.80
AEGEAN SFC235EC/110X	HPAE20006	235/110X	35	30	196	0.13	3.15	2.57	3.26
AEGEAN SFC235EC/140	HPAE20007	235/140	35	30	200	0.20	3.18	2.60	3.35
AEGEAN SFC235EC/170	HPAE20008	235/170	35	30	233	0.18	3.67	3.00	4.16
AEGEAN SFC235EC/200	HPAE20009	235/200	35	30	287	0.18	4.56	3.72	4.78
AEGEAN SFC235EC/230	HPAE20011	235/230	35	30	314	0.16	5.05	4.11	5.29

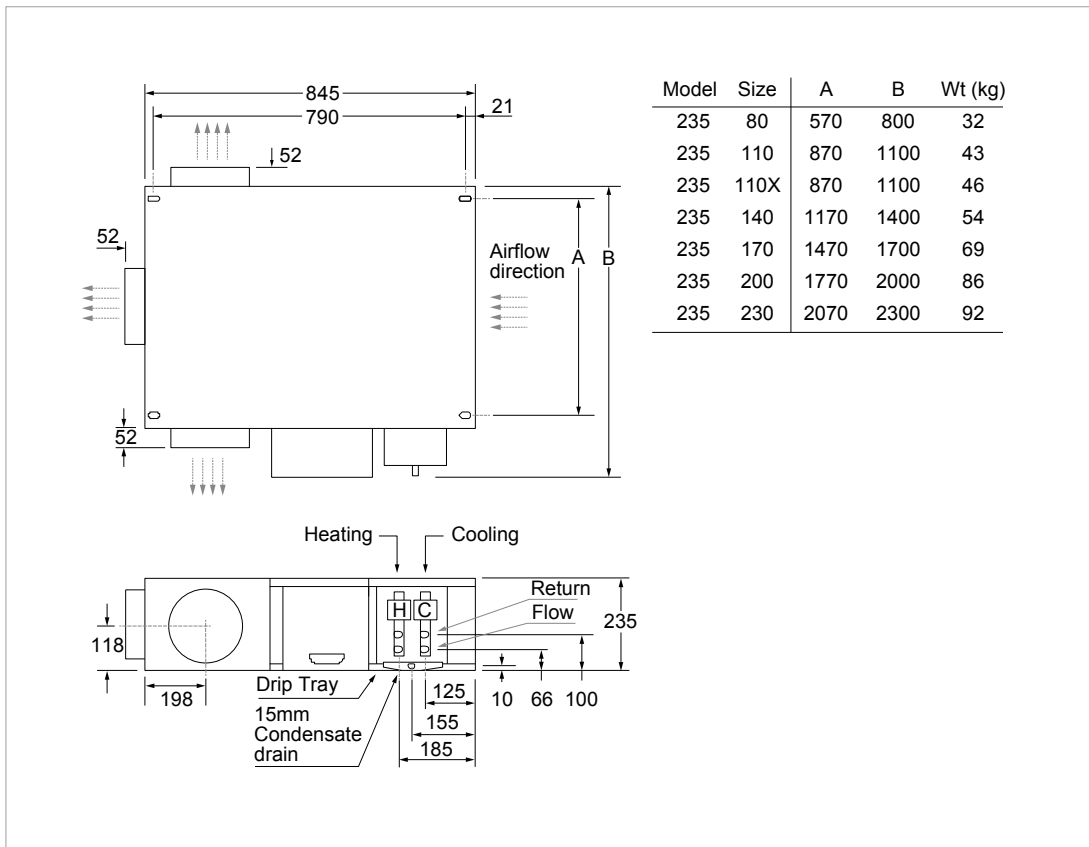
Summer Condition: 23°C EAT, 50% RH (6/12°C). Winter Condition: 21°C EAT (82/71°C)

Performance data verification

Heating and cooling performance has been tested and independently verified by BSRIA to BS EN 1397: 2015. Full set up and details available on request.

Acoustic data has been measured and independently verified by SRL Technical Services to BS EN 16583:2015. Please ask us for our acoustic information pack for more details, including laboratory measured sound power data.

Dimensions





AEGEAN® SFC 260H

A horizontal fan coil with a depth of only 260mm



Features

- EC motor (BMS compatible for easy integration)
- Low sound levels
- Fully attenuated discharge plenum
- Positive fall drain tray
- Designed and made in the UK

Finish

Chassis manufactured from 1.2mm hot dipped galvanised steel.
All flanges formed inward facing to prevent exposure to bare metal edges.

Installation

Flow and return connections 15mm.
Designed for system pressures up to 10 bar. Fan coils are 4-pipe coils (heating and cooling circuit).

Customised requirements

All leading manufacturers controls factory fitted.
Acoustically lined inlet plenum.
Concealed/hidden applications (underfloor, behind false walls and ceilings).
Bespoke options.

Specification

To specify state:
Horizontal Fan Coil Unit 260mm high with EC motor. As Smith's Aegean SFC260/80 (or SFC260/110, SFC260/110X, SFC260/140, SFC260/170, SFC260/200, SFC260/230)

Ordering information

Aegean is a highly configurable bespoke product. Please contact us to discuss your requirements.

Ordering and performance data

Model	Product Code	SIZE		ESP (Pa)	Airflow (l/s)	SFP (W/l/s)	Total cooling (kW)		Heating (kW)
		NR					6/12°C	6/12°C	
AEGEAN SFC260EC/80	HPAE20012	260/80	35	30	146	0.23	2.32	1.89	1.92
AEGEAN SFC260EC/110	HPAE20013	260/110	35	30	169	0.27	2.73	2.22	2.24
AEGEAN SFC260EC/110X	HPAE20014	260/110X	35	30	206	0.27	3.31	2.69	2.72
AEGEAN SFC260EC/140	HPAE20015	260/140	35	30	270	0.20	4.27	3.49	3.67
AEGEAN SFC260EC/170	HPAE20016	260/170	35	30	302	0.19	4.80	3.92	4.59
AEGEAN SFC260EC/200	HPAE20017	260/200	35	30	367	0.18	5.82	4.75	4.87
AEGEAN SFC260EC/230	HPAE20019	260/230	35	30	384	0.17	6.09	4.97	5.09

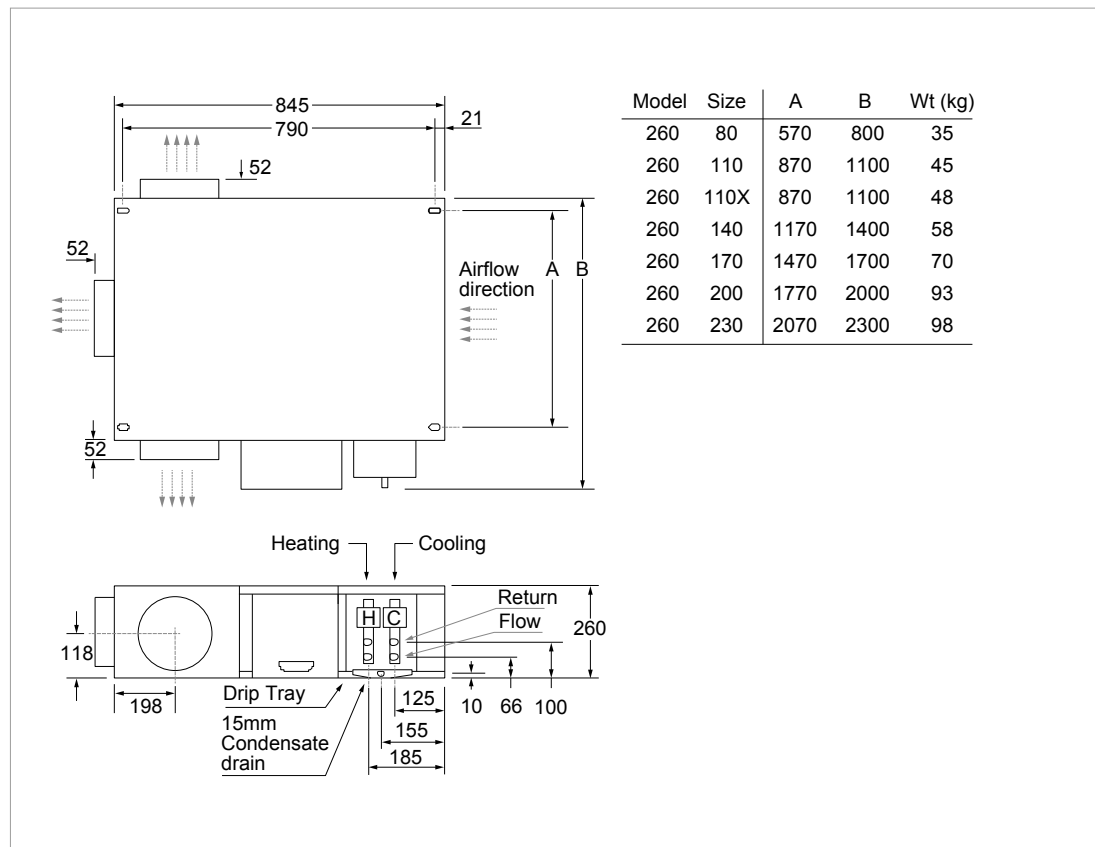
Summer Condition: 23°C EAT, 50% RH (6/12°C). Winter Condition: 21°C EAT (82/71°C)

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Dimensions





AEGEAN® SVFC 500

A vertical fan coil with a depth of 500mm



Features

- EC motor (BMS compatible for easy integration)
- Low sound levels
- Fully attenuated discharge plenum
- Positive fall drain tray
- Designed and made in the UK

Finish

Chassis manufactured from 1.2mm hot dipped galvanised steel.

All flanges formed inward facing to prevent exposure to bare metal edges .

Installation

Flow and return connections 15mm.

Designed for system pressures up to 10 bar. Fan coils are 4-pipe coils (heating and cooling circuit).

Customised requirements

All leading manufacturers controls factory fitted.

Acoustically lined inlet plenum.

Concealed/hidden applications (underfloor, behind false walls and ceilings).

Bespoke options.

Specification

To specify state:

Vertical Fan Coil Unit 500mm high with EC motor. As Smith's Aegean SVFC500/100 (or SVFC500/100, SVFC500/130, SVFC500/190, SVFC500/220, SVFC500/250).

Ordering information

Aegean is a highly configurable bespoke product. Please contact us to discuss your requirements.

Ordering and performance data

Model	Product Code	SIZE		ESP	Airflow	SFP	Total cooling (kW)	Sensible cooling (kW)	Heating (kW)
		SIZE	NR	(Pa)	(l/s)	(W/l/s)	6/12°C	6/12°C	82/71°C
AEGEAN SVFC500EC/100	HPAE20020	500/100	35	5	153	0.35	2.45	2.00	2.01
AEGEAN SVFC500EC/130	HPAE20022	500/130	35	5	183	0.13	2.96	2.41	2.42
AEGEAN SVFC500EC/190	HPAE20024	500/190	35	5	302	0.15	4.79	3.91	4.74
AEGEAN SVFC500EC/220	HPAE20025	500/220	35	5	345	0.18	5.45	4.46	4.57
AEGEAN SVFC500EC/250	HPAE20027	500/250	35	5	414	0.20	6.63	5.40	5.50

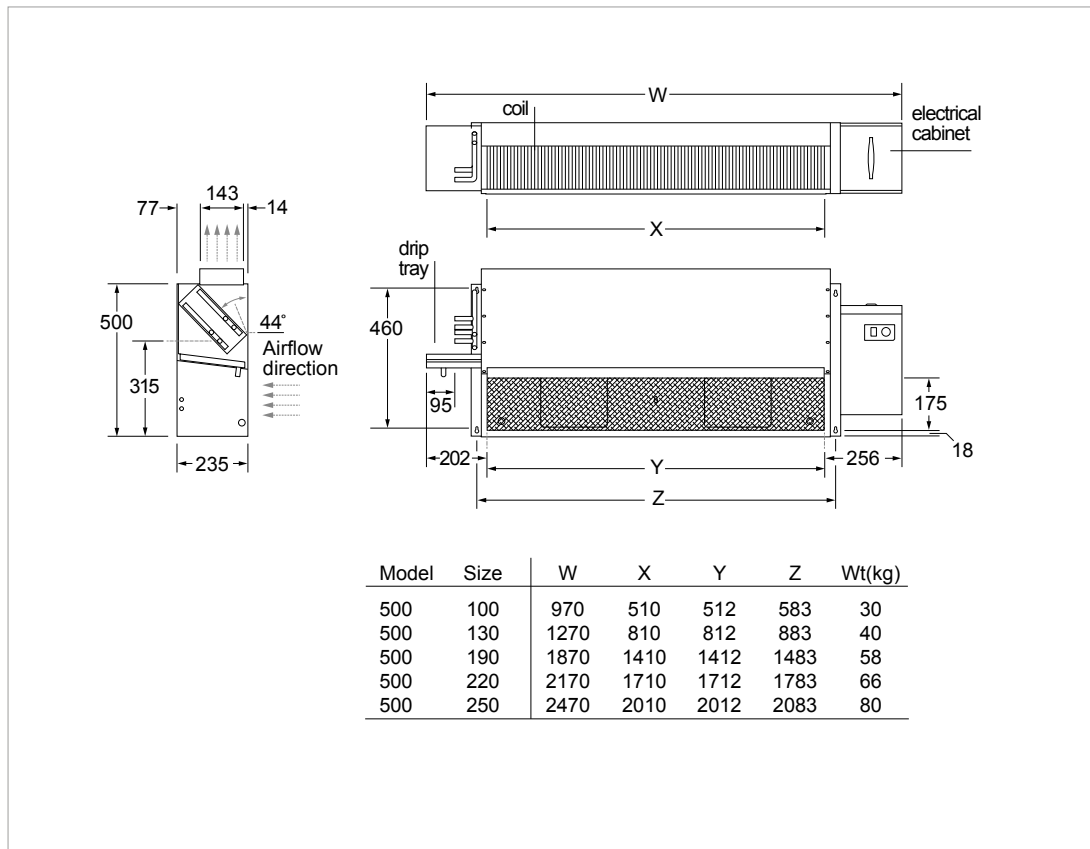
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Dimensions





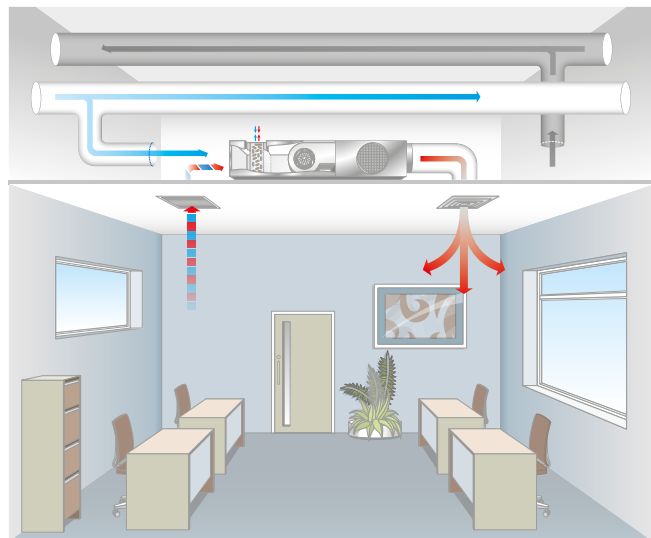
HOW FAN COILS WORK

Fan Coils provide heating and cooling solutions for a wide range of applications

A Fan Coil Unit (FCU) is a device consisting of a heating and/or cooling heat exchanger or coil and fan. It forms part of a HVAC system and is used to heat or cool mainly mixed development, commercial and industrial buildings.

It can be installed to supply one space, or several spaces, with either warm or cool air using ductwork depending on the required demand. Control range is facilitated starting with simple switches (either rocker or rotary), going to advanced intelligent thermostats with fan speed and temperature control.

Because of their simplicity and flexibility FCU's can be more economical to install than fully fresh air ducted systems, VAV, Central Heating Systems with Air Handling Units or Chilled Beams. Various units' configurations are available – Horizontal and vertical units for concealed/hidden applications (underfloor, behind false walls and ceilings).



FCU's can provide warm/chilled air to several different outlets simultaneously providing flexibility and efficiency. They are particularly suitable for office applications because they can easily be modified to accommodate design elements such as meeting rooms and breakout spaces. Ceiling supply and extract grilles can be relocated by extending duct connections to suit design layouts.

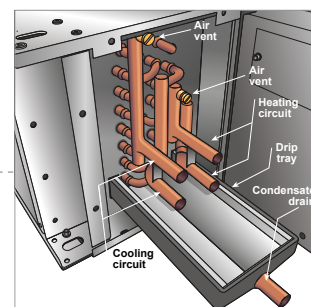
1.

The FCU draws in fresh air, supplied by the Air Handling Unit (AHU), through a replaceable filter. The filter is designed to prevent dust and larger particles being drawn into the fans and then pushed into the space to be heated.

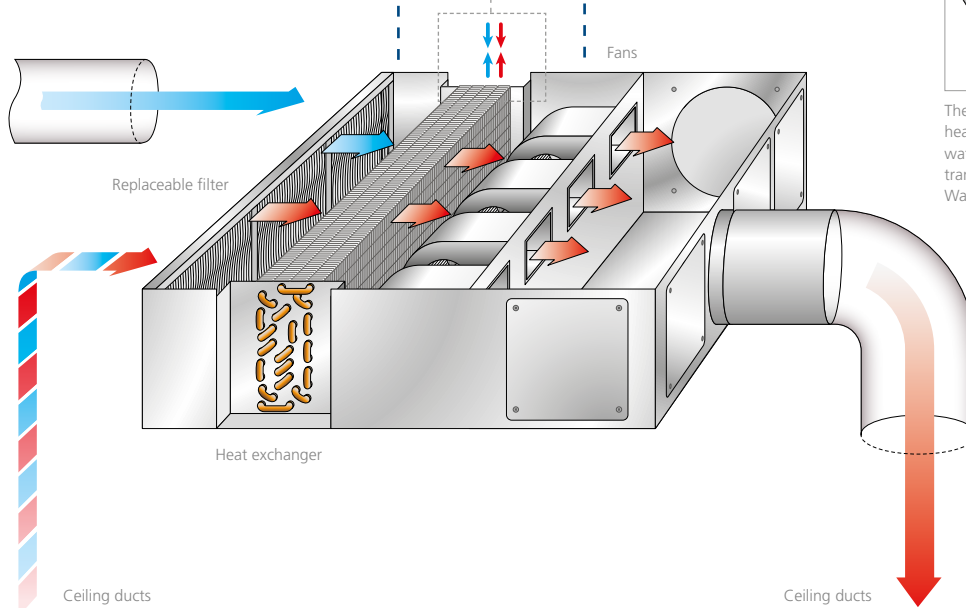
2.

The fans pull in the fresh air and draw it through the heat exchanger, which is either hot, being supplied by hot water from a heat source, or cold being supplied by a chiller. This illustration is showing the FCU in heating mode.

When the FCU is used to chill the air provided to the room the warm air that is passed through the heat exchanger will cause condensation to be produced on the outside of the heat exchanger. This will then need to be managed and removed usually via a condensate tray and then transported away through pipework usually through a gravity system.



The FCU is supplied both hot water from a heat source, typically a boiler, and chilled water from a chiller. The medium to transport the hot/cold water is Low Grade Water through pipework.



4.

Air is drawn out of the room through other ducts positioned away from the heating/cooling supply ducts. The cooler/warmer air is drawn back into the ceiling void is then mixed with the fresh air from the AHU and is drawn back into the FCU to continue the heating, or chilling process.

3.

The conditioned air then is pushed into the room via ducts in the ceiling.



Happy to help

Smith's Environmental Products Ltd is one of the leading manufacturers of heating and cooling products in the UK. We are committed to achieving the highest standards and our faith is supported by a free parts and labour guarantee with every product (see our website for more information). Our customer service is second to none and we are happy to offer any help and guidance that you might need.

Stockists

All products are available nationally from Builders' Merchants, Plumbers' Merchants, Heating Equipment Distributors and Kitchen Equipment Distributors. In the event of difficulty, please contact us or visit our website SmithsEP.co.uk for details of your nearest stockist.

Information and advice

Full technical specifications and list prices are available to download from our website or in hard copy from our office. Also available on our website are price lists, individual product data sheets, installation & user guides, where to buy, who to contact and a media centre.

Alternatively contact our office 9.00am to 5.00pm Monday to Friday.

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To view the full product information
download the datasheet at:
www.SmithsEP.co.uk

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for the **built environment**

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