

PRODUCT CATALOGUE

2019 - VERSION 5.3



AIRMASTER®
ventilation in balance

KNOW THE FEELING?

Stuffy, warm air. Your eyes are dry and itchy. Your head feels heavy and you find it hard to concentrate.

“A poor indoor climate has a lot of influence on our comfort and wellbeing. Research indicates that a poor indoor climate has a negative effect on our performance level of 5-10%. Children are affected even more.” *

* That's why we need world class indoor climate.

**Geo Clausen, International Centre for Indoor Environment and Energy,
Technical University of Denmark*



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AN OPTIMUM CO₂-LEVEL IMPROVES LEARNING AND HEALTH

We have all experienced entering a room in which the air feels close and stuffy. Air consists of a number of elements, of which oxygen, nitrogen and CO₂ are the largest. There has to be a natural balance between them.

An increase in the level of CO₂ is an indication of human activity. Human activity is good, but the "used" air has to be replaced with fresh air to restore the natural balance.

The level of CO₂ tells us whether sufficient fresh air is being supplied in relation to the number of people in the room. If you are exposed to an excessively high level of CO₂, it can affect your health, including:

- Headaches
- Vertigo
- Fatigue
- Restlessness
- A tingling sensation in the legs
- Difficulty breathing
- High blood pressure

DIFFERENT CO₂-LEVELS:

400-1000

400-1000 ppm is considered the normal CO₂ level for rooms with a good supply of fresh air.

1000-2000

At a level of 1000-2000 ppm, you will typically begin to feel tired and have difficulty concentrating.

2000-5000

At a level of 2000-5000 ppm, you will typically suffer headaches, feel sleepy and generally unwell.

5000-

At a level of 5000 ppm or above, there is a risk of fainting due to CO₂ poisoning.



Airmaster has developed compact measuring stations for test measurement. We offer free, non-obligatory test measurements of your indoor climate

A COMMON EXAMPLE

CO₂ measurements performed in a traditional classroom at Gl. Hasseris School, clearly show how important good ventilation is for air quality.

The blue line shows the CO₂ level with an Airmaster unit in operation. The red line shows readings taken in the same room without ventilation.

Figure 1 shows readings taken in one school day, and figure 2 shows readings taken over five weekdays.

The results are clear to see. Without ventilation, the CO₂ level reaches 2000 ppm within a single hour of lessons. Given the number of hours spent in daycare, schools and at work, this is a thought-provoking and disturbing result.

FIGURE 1

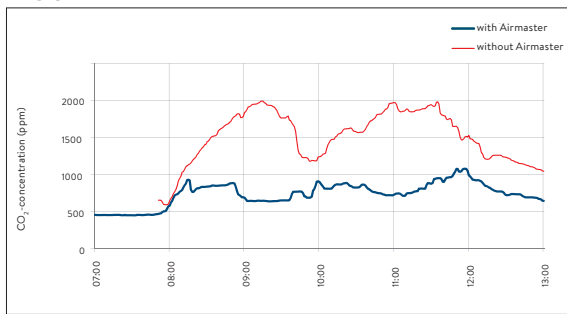
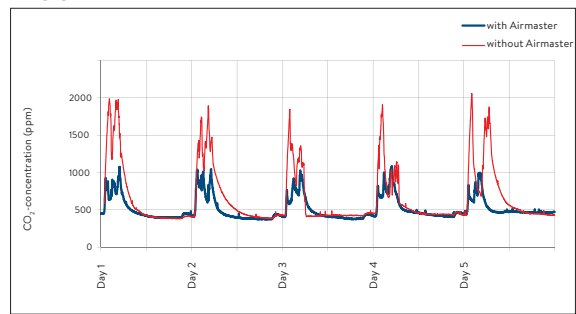
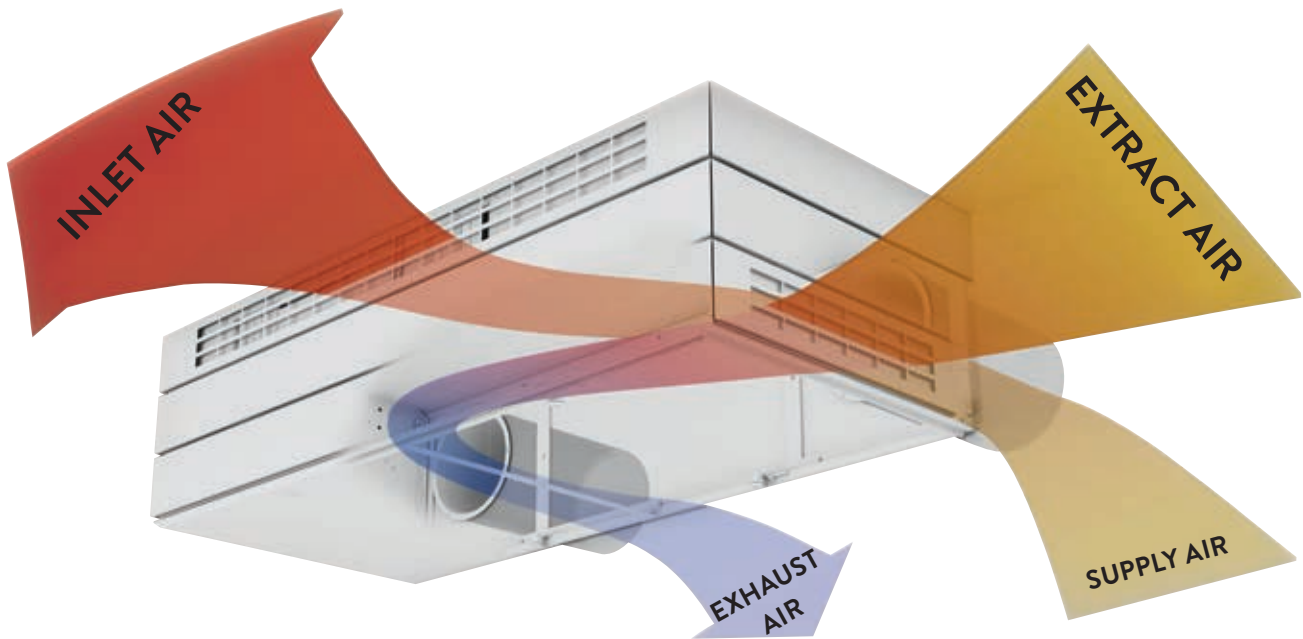


FIGURE 2



VENTILATION IN BALANCE



Fresh air is a human right. And that's why Airmaster has developed the most energy-efficient and quiet, decentralised ventilation solutions on the market with heat recovery - solutions which can be used in all types of rooms and buildings.

Airmaster's decentralised ventilation solutions keep energy consumption for ventilation and heating in a building to a minimum. Only those rooms where and when ventilation is needed are serviced. No wasted energy on unnecessary ventilation.

INTELLIGENT VENTILATION

LOW ENERGY CONSUMPTION WITH HIGH HEAT RECOVERY

The decentralised air handling unit with counter-current heat exchanger is placed in the room close to an outer wall. The very short distance extracted air has to travel combined with the countercurrent heat exchanger located alongside means very low energy consumption. No need for long ventilation ducts, meaning minimum heat loss (transmission loss). Decentralised ventilation supplies an individual room without being difficult or expensive to install.

EFFICIENT EC MOTOR TECHNOLOGY

Airmaster uses energy-efficient EC motors, which give low energy consumption, flexible adjustment and silent operation.

HIGH HEAT RECOVERY

We use highly-efficient countercurrent heat exchangers, and document temperature ratio in accordance with European standard DS/EN3081, which is a dry temperature ratio, under conditions in which condensation of return air does not occur.

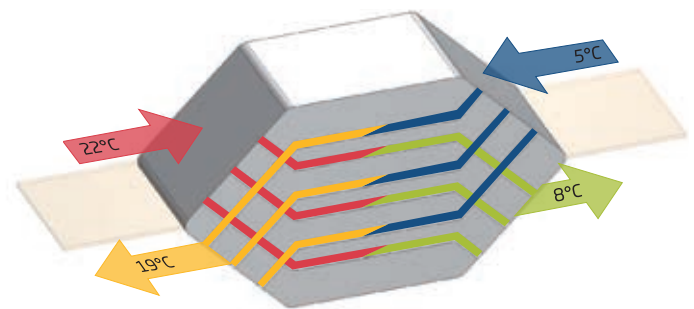
Airmaster's countercurrent heat exchangers perform up to 85% measured as a dry temperature ratio in accordance with EN308, and up to 95% if condensation is included.

NO DRAUGHTS OR COLD AIR DISCOMFORT

Airmaster's decentralised air handling units are all fitted with motor-controlled air dampers for the supply and extract air. When the unit is inactive, the motor-controlled damper is closed against direct air access. Cold outdoor air cannot pass through the unit into the room. Similarly, warm air cannot pass through to the outdoors.

MAJOR BENEFITS OF AIRMASTERS SOLUTIONS

- Energy-efficient ventilation
- Low noise level: 30 dB(A)
- Cost-effective units
- Fast, easy installation



1	Test conditions:	
	Ambient temperature	5°C
	Extract temperature	25°C
	Airflow, test range	50-150% of the nominal airflow.
	Internal/external air emission	<3% of the nominal airflow inlet and extract are the same.

HORIZONTAL OR VERTICAL MODEL

Choosing the right unit

The AM series consists of wall-mounted and floor-standing air handling units. Both types come in two models: horizontal and vertical, indicating where the supply and exhaust are located.

Both models permit inlet air grille through the upper, middle or lower panels. Consequently, 1/3rd or 2/3rds of the unit can be integrated above a ceiling.

WALL-MOUNTED



Horizontal model

Supply and exhaust pass horizontally out of the unit and through an outer wall. A louvred grille is mounted on the facade side.



Vertical model

Supply and exhaust pass vertically up through the roof. Roof Caps and covers are used at the end of the duct.

FLOOR-STANDING UNIT

Floor-standing units can be placed along a wall, away from a wall or freestanding, e.g. as a room divider.



Horizontal model

Supply and exhaust pass horizontally through an outer wall.



Vertical model

Supply and exhaust pass vertically up through the roof.

PARTIALLY INTEGRATED UNIT



Horizontal model

Horizontal model with 1/3rd of the unit integrated into a ceiling.



Horizontal model

Horizontal model with 2/3rd of the unit integrated into a ceiling.



Vertical model

Vertical model with 1/3rd of the unit integrated into a ceiling.



Vertical model

Vertical model with 2/3rd of the unit integrated into a ceiling.

SIDE MODEL



Side model

Supply and exhaust pass sideways out of the unit. Only possible on the AM 1000 unit.



Side model

Supply and exhaust pass sideways out of the unit. 2/3rd of the unit are integrated into a ceiling. Only available for the AM 1000 unit.

This floor-mounted units can be placed along a wall and supply air at ground level (displacement) or at ceiling level (mixed).

Available as either a horizontal or vertical model.



Horizontal model

Supply and exhaust pass horizontally through an outer wall.



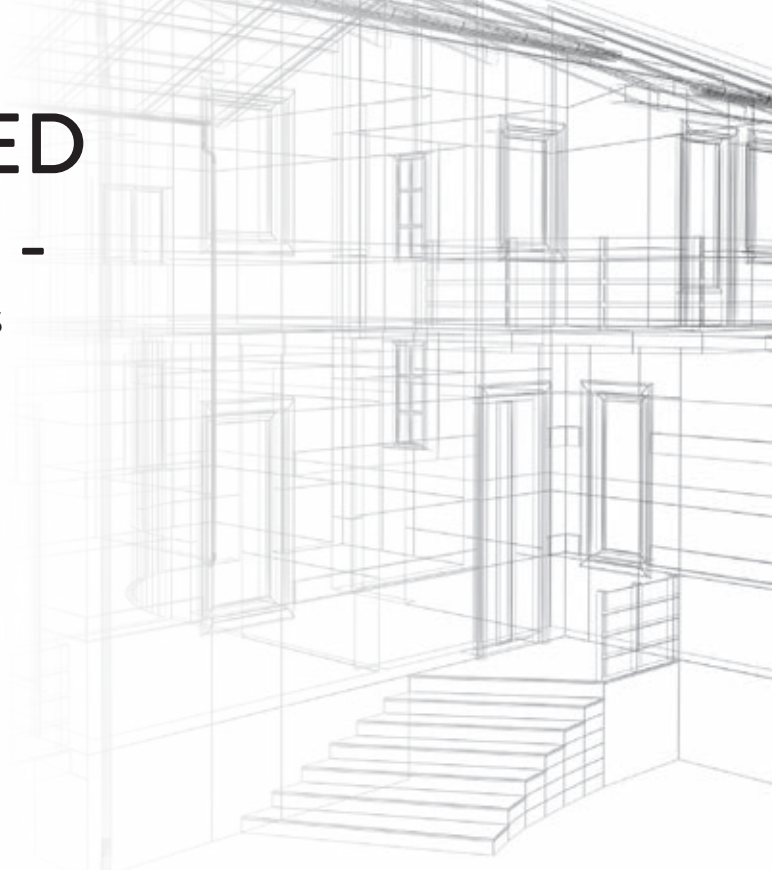
Vertical model

Supply and exhaust pass vertically through the roof.

DECENTRALISED VENTILATION -

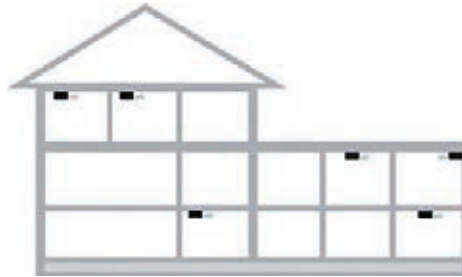
A WIDE RANGE OF APPLICATIONS

Decentralised ventilation allows you to install ventilation in small stages, in buildings with special challenges or throughout buildings.



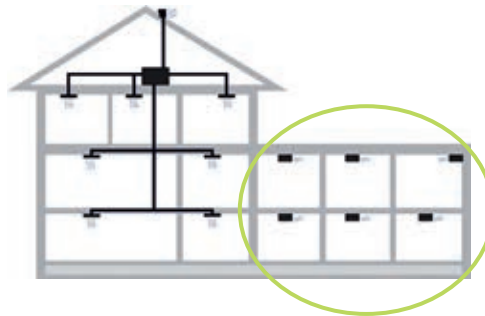
1

In a large building, where ventilation only has to be installed in a few rooms that are spread apart.



2

In a building extension, where the existing ventilation system cannot be extended.



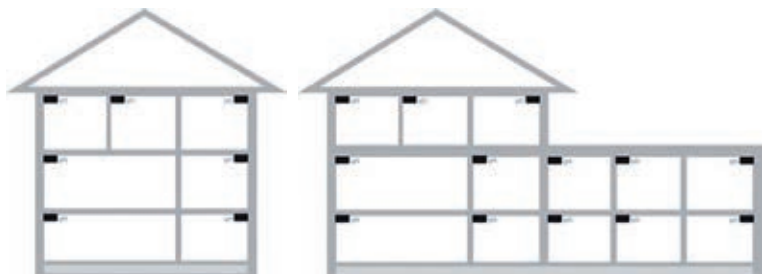
3

In a building with a flat roof.



4

When total ventilation is required in a new building or in a renovation.





Photograph: Troldekt

VENTILATION CEILING

An Airmaster air handling unit can also be integrated above a ventilation ceiling, with only its service hatch visible.

All wall-mounted models can be integrated above a ventilation ceiling, where the inlet air is blown across the ceiling and the air flows down into the room through the ventilation ceiling.

Additional airflow does not need to be calculated with this solution. It will be the same with or without the ventilation ceiling.

The extract air is extracted via an extraction unit in the ceiling.

Photograph: Tranbjerg School's "Grønløkke" campus. An AM 800 air handling unit, installed above a ventilation ceiling with extraction unit at the side.

AIRMASTERS

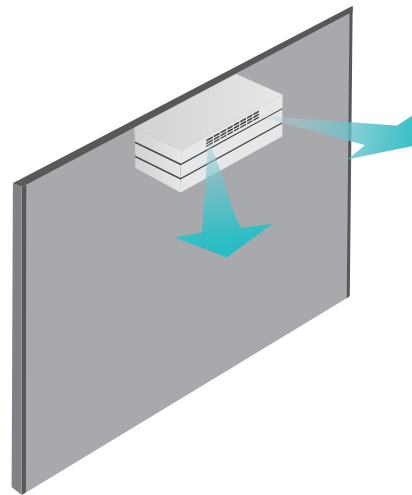
INLET STREAM PRINCIPLES

COANDA EFFECT

The fresh supply air tends to run along the ceiling, before slowly descending - known as the Coanda effect. The Coanda effect mixes fresh air with ambient air and then slowly descends into the room.

MIXING PRINCIPLE

The Coanda effect causes the stream to stick to the ceiling. The fresh air is blown in at a relatively high velocity. The air in the room is pushed along to ensure effective mixing of fresh and ambient air. The entrainment of the room air and ambient air ensures uniform air quality in the room, whilst reducing the velocity of the supply inlet stream. Consequently, draughts are avoided in the room.

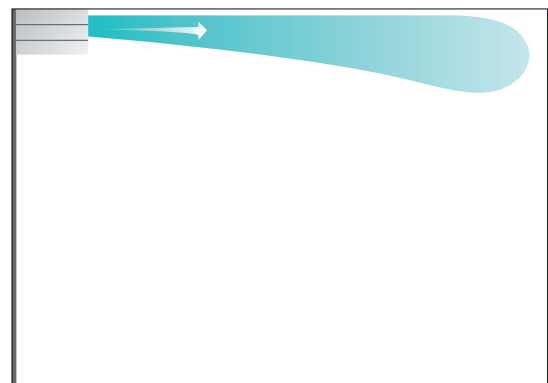


Wall-mounted Airmaster ventilation.

INLET STREAM FOR WALL-MOUNTED UNITS

All wall-mounted models ventilate according to the mixing principle, in which fresh air is fed into the room at ceiling level, exploiting the Coanda effect.

The AM 1000 air handling unit is available with an adaptive inlet, which adjusts the throw in relation to the airflow relative to the length of the room.



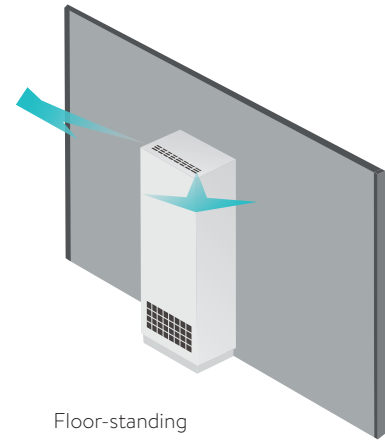
Wall-mounted Airmaster ventilation with inlet stream seen from the side.

INLET STREAM FOR FLOOR-STANDING UNITS

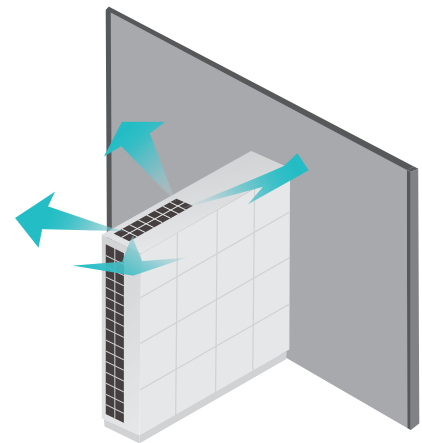
The mixing principle is also used for Airmaster’s floor-standing models (AM 900, AM 1200), with fresh air fed upwards into the room to exploit the Coanda effect.

ADJUSTABLE INLET OPENING

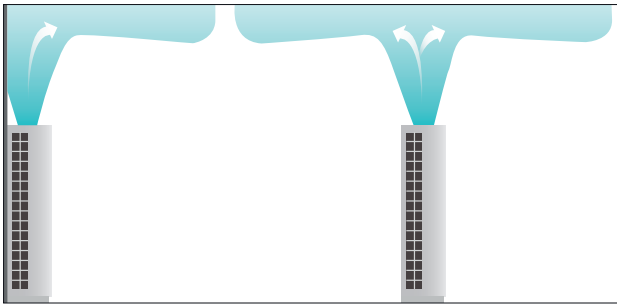
Floor-standing models AM 900 and AM 1200 are fitted with adjustable inlet openings. The opening can be adjusted according to requirement, ensuring the right throw length according to the size of the room. The throw length can be easily varied by changing the inlet opening/louvre angle.



Floor-standing AM 900 - mixed ventilation.



Floor-standing AM 1200 placed at right-angles to a wall as a room divider. Airflow and direction are adjusted using the louvred grille.

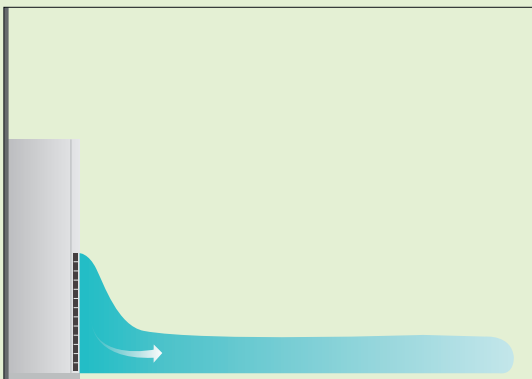


The illustration shows two floor-standing AM 1200, one standing close to a wall and the other freestanding. Inlet viewed from the side.

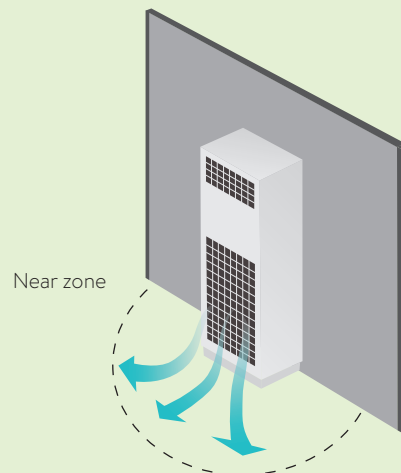
THE DISPLACEMENT PRINCIPLE

Airmaster’s floor-standing model AM 900 is also available as a displacement model. The displacement ventilation principle feeds fresh air into the room at low velocity at floor level. The fresh air is blown in at a temperature a couple of degrees lower than the room temperature.

The air is distributed over the entire floor due to the difference in density between cold and warm air. The low inlet velocity avoids draughts in the room.



Floor-standing AM 900 - displacement ventilation with inlet stream seen from the side.

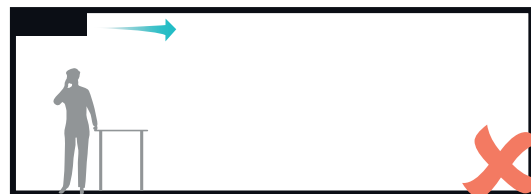


Floor-standing AM 900 - displacement ventilation.

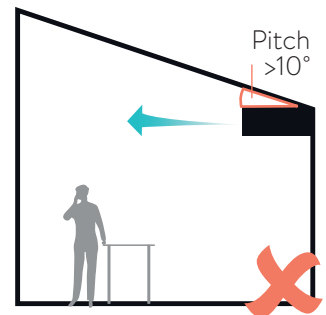
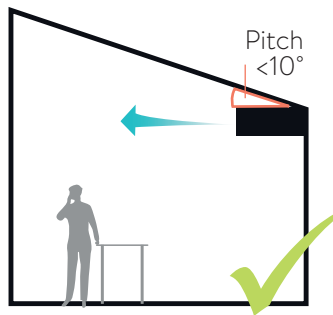
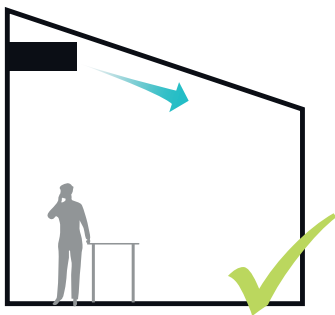
CORRECT PLACING

To gain the full benefit of Airmaster units, they must be correctly positioned in relation to the physical geometry of the room.

- 1 Two smaller units can be appropriate for a long, narrow room, where the throw length is too short longitudinally, yet too long laterally.

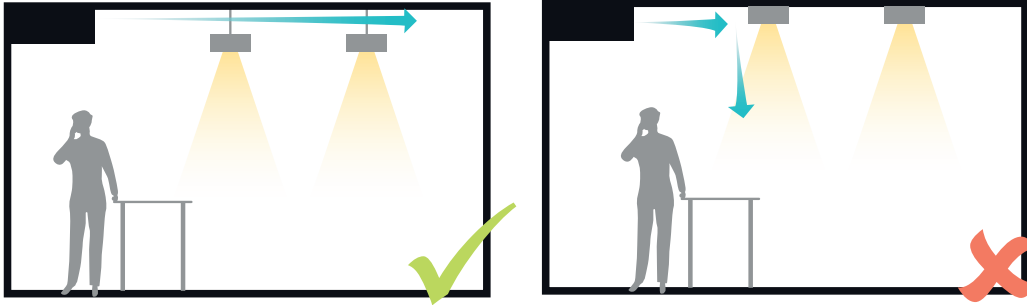


- 2 If the room has a high or sloping ceiling, the units should be mounted as high as possible.



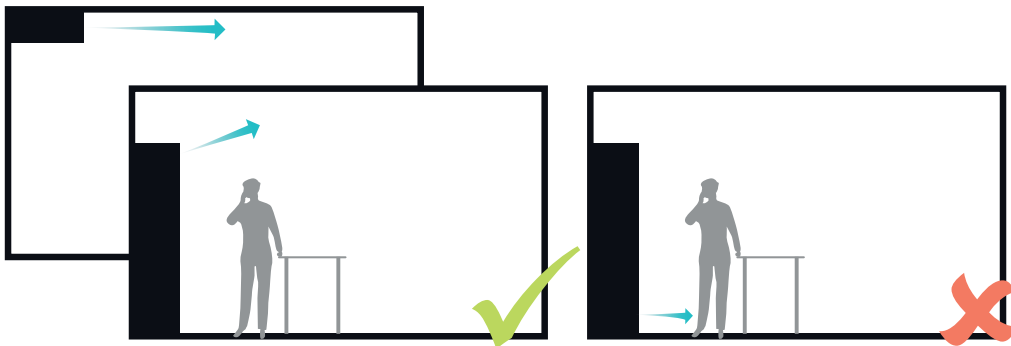
3

To achieve the most effective inlet, objects that could obstruct the path of the air should be avoided, such as light fittings mounted directly on the ceiling. Light fittings should be lowered to allow the air to circulate freely around the room.



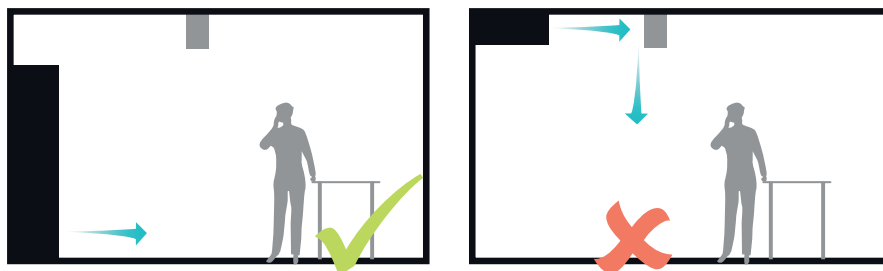
4

In rooms where the occupants are physically close to a unit, it is important to use wall-mounted or floor-standing models according to the mixing principle to avoid draughts.



5

If there are ceiling beams in the room that can obstruct the air current, choose a floor-standing unit that ventilates according to the displacement principle (AM 900 D), or a wall-mounted unit that ventilates along the length of the room.

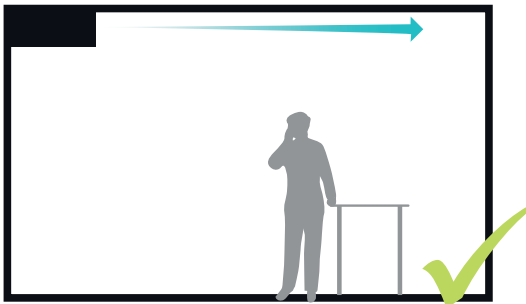


CORRECT PLACING

WITH REGARD TO ACOUSTIC PRESSURE



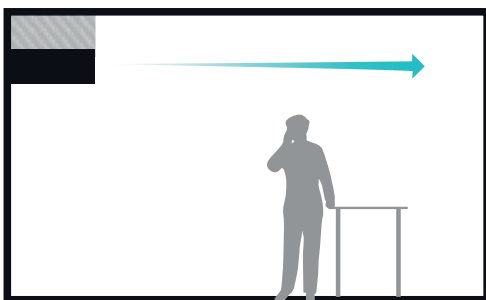
SECTIONAL VIEW



System mounted against the ceiling and wall.

To gain maximum out of your AM unit you should be aware of the following details. These diagrams can be used as a guideline and a tool for effective acoustic installation.

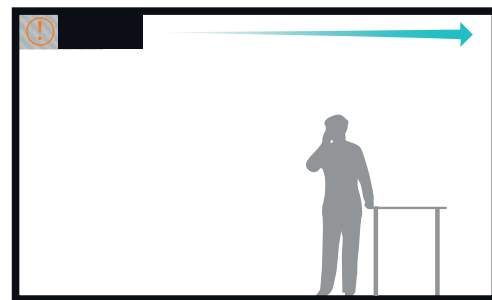
SECTIONAL VIEW



System mounted against the wall but away from the ceiling.

- ⚠ Visible ducts and top plate should be sound-proofed and, if required, condensation-proofed. Space between the system and ceiling may be covered, if required.

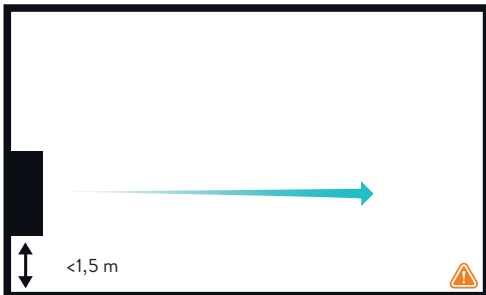
SECTIONAL VIEW



System mounted against the ceiling at a short distance from the wall.

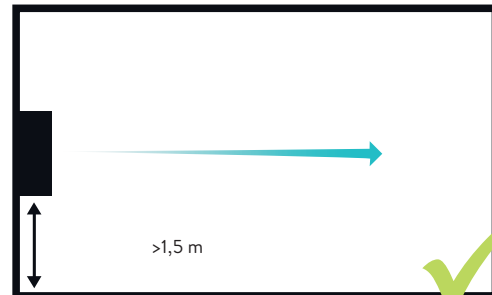
- ⚠ Visible ducts and rear plate should be sound-proofed and, if required, condensation-proofed. Space between the system and the wall may be covered, if required.

TOP VIEW



System mounted with a short distance from extract to the side wall.

TOP VIEW



System mounted with a further distance from extract to the side wall.

⚠ Additional acoustic calculations and measures may be expected. Contact Airmaster.



Sound is an important part of comfort ventilation and it is a challenge that Airmaster has solved.

Airmaster is Europe's leading supplier of decentralised comfort ventilation, providing solutions to public sector institutions and private companies.

Airmaster has installed more than 60,000 air handling units since it launched a new generation of Airmaster air handling units in 2005.

The company's continued rapid development has led to the further introduction of other new models and new technology.

Airmaster employs around 95 people, and about 20% of its workforce are engineers and technicians working in development and in the product department –

all of them with their own specialist fields and includes an acoustic engineer.

The R&D department has its own advanced test and development facilities with a climatic chamber, where in addition to development work, we also test customer-specific setups and user scenarios.

Airmaster collaborates with educational and research institutions on an ongoing basis, at a national and international level, in order to provide decentralised high-quality ventilation units with heat recovery – future-proof solutions with low sound and low energy consumption.



CONTROL PROCESSES

To follow is a look at the different advanced control processes.

DEALING WITH CONDENSATE

When heat recovery is running up to 95%, the air is cooled considerably in the counterflow heat exchanger. The humidity in return air can then condense in the heat exchanger, and is collected in a condensate tray. A float registers a high level of condensate in the tray automatically.

To prevent stoppages, a drain can be fitted to the condensate tray to remove water from the unit. Alternatively, the air handling unit can be fitted with a fully automatic condensate pump.

FROST PROTECTION

When the outside temperature approaches freezing point, the exhaust temperature behind the counterflow heat exchanger drops. This can result in condensate freezing in the heat exchanger. The Airlinq control system prevents the formation of ice by increasing extract air and reducing inlet air, causing the extract air temperature to rise again.

If this process is insufficient to prevent ice forming in the heat exchanger, Airlinq will protect the unit by shutting down operation.



FLOAT

Built-in float sensor detects unwanted build-up of condensate.

"PREHEAT" WITH ELECTRIC PREHEATING SURFACE

If the air handling unit is fitted with an electric preheating surface, it will heat the fresh air before it meets the counter-current heat exchanger, preventing the formation of ice. To maintain balanced ventilation, the Airlinq control system controls the temperature in the unit. This is achieved by the preheating surfaces only cutting in if the requirement exists. Energy consumption can thus be kept at a minimum.

"VIRTUAL PREHEAT" WITH ELECTRIC HEATING SURFACE

Alternatively, ice can be prevented using an electric heating surface and the virtual preheat function. A bypass damper diverts some of the fresh air past the countercurrent heat exchanger. The heating surface heats the fresh air up to the inlet temperature is reached. The extract air is cooled down less in the heat exchanger, preventing ice formation.



ELECTRIC PREHEATING SURFACE

Optional preheating surface for very cold areas.

CONTROLLED INLET TEMPERATURE

To achieve the highest level of heat recovery, Airmaster air handling units are fitted with highly-efficient counter-current heat exchangers. A comfort current is therefore used only to equalise the minimal heat loss from ventilation.

Balanced ventilation is maintained as long as the inlet temperature remains within acceptable limits as standard.

If the inlet temperature cannot be maintained at low fresh temperatures, Airlinq will reduce inlet air and increase extract air to compensate for the low temperature.

The function is also active if comfort heating surface capacity is utilised 100%.

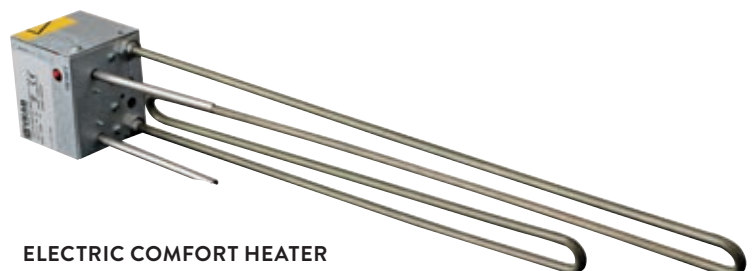
This function means that in certain climates the comfort heating surface is not required.

ELECTRIC COMFORT HEATING SURFACE WITH ADAPTIVE CONTROL

The electrical comfort heating surface is controlled automatically by the Airlinq controls system, which checks the temperature conditions in the air handling unit and switches on/off the comfort heating surface as required.

Adaptive control means that the electrical comfort heating surface warms the inlet air after the counter-current heat exchanger with only the energy required to maintain the desired inlet air temperature. In other words, adaptive control ensures that the supply air has an even temperature.

The balance between the supply air and extract air can be maintained via an electrical comfort heating surface, even at very low outdoor air temperatures.



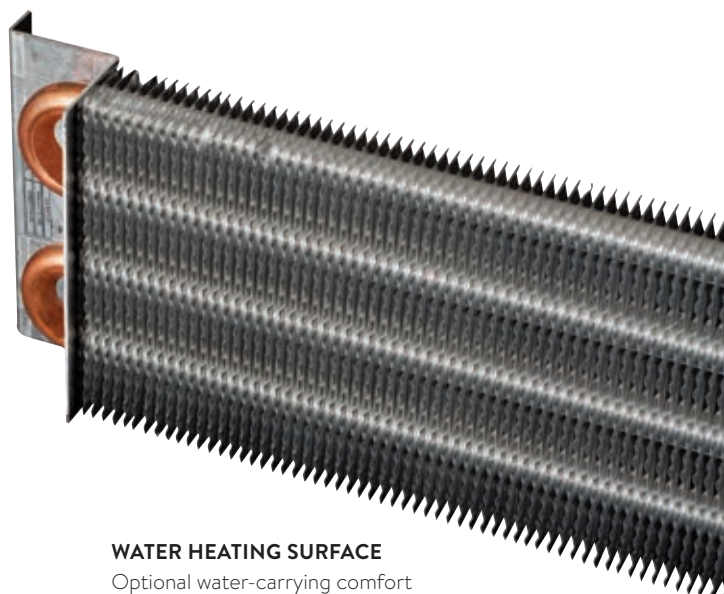
ELECTRIC COMFORT HEATER

CONTROL PROCESSES

WATER HEATING SURFACE

Most air handling units can have a water heating surface fitted as an alternative to an electric comfort heating surface. A water heating surface also ensures the required inlet temperature. The large surface area of the heating surface ensures efficient transfer of heat energy to the inlet air.

The Airlinq control system starts and stops the heating surface using a motor-driven valve. The heating surface is supplied built-in to the air handling unit, or as part of the duct system. Connection to the local heating system is therefore quick and simple.



WATER HEATING SURFACE

Optional water-carrying comfort heating surface.

FROST PROTECTION OF WATER HEATING SURFACE

The water heating surface is fitted with a separate, self-controlling heat retention valve, which ensures a minimum temperature even when the air handling unit is switched off. All nominal values for the water heating surface are preprogrammed into the Airlinq control system. The heating surface is therefore protected against frost and is directly functional.

ENERGY METER

All Airmaster air handling units can be fitted with an energy meter, to provide a precise overview of the unit's electricity consumption. The figures can be read directly on the meter's display. Power consumption can also be monitored using the Airlinq Service Tool program or via Airlinq Online, if the air handling unit is connected to this.



ENERGY METER

An energy meter can be fitted for reading the air handling unit's energy consumption. .

FLOW CONTROL

Most air handling units can control the airflow using flow control. Flow control means that the airflow is stated in m^3/h and ensures balanced operation, at varying pressure difference on the supply and extract air. To convert airflow to m^3/h , a measuring nozzle is fitted inside the air handling unit between the fan and the main box, which measures the differential pressure. The differential pressure is measured for the supply air and extract air respectively, and then converted to an airflow in m^3/h .

AUTOMATIC BYPASS

The Airlinq control system can open the bypass gradually if the inlet temperature exceeds the required level. Cooler fresh air will be allowed to bypass the counter-current heat exchanger, ensuring that the inlet temperature set is maintained. Airlinq will adjust the inlet air temperature to achieve a higher cooling output. If the room temperature exceeds the level set, e.g. as a result of strong sunshine, the bypass will open automatically.

If a cooling module is fitted to the air handling unit, Airlinq will activate it automatically if cooling using fresh air is insufficient. When the cooling module is working, the bypass is still used to regulate the inlet air temperature.

NIGHT TIME COOLING

If the room temperature exceeds the maximum level set during the day, all Airmaster air handling units can automatically cool down the room using colder night air. It will be registered by the Airlinq control system, and started automatically.

If necessary, the function will use the bypass damper and cooling module to achieve the cooling output required. The building and its contents will be cooled, and a reduction of the room temperature will be achieved for the next day.



CONTROL PROCESSES FOR COOLING

ENERGY-EFFICIENT AND ON-DEMAND COOLING

Airmaster inverter-controlled cooling modules provide efficient and on-demand controlled ventilation and cooling solutions with extremely low-energy consumption in rooms where air-replacement and cooling needs vary.

The inverter-controlled cooling modules are integrated with Airmaster decentralised air handling units.

COOLING USING INVERTER-CONTROLLED COOLING MODULES (CC)

At high outdoor air temperatures, the bypass function and night cooling ensures that the supply air temperature is kept to the desired level. If the cooling level is insufficient, the temperature can be reduced efficiently using the cooling module.

The Airlinq control system automatically activates the cooling module, which can reduce the outdoor air temperature by up to 15°C.

The cooled air is fed into the air handling unit and the supply air temperature is thus kept to the desired level.

All cooling modules are dimensioned in accordance with European conditions (outdoor air temperature 35°C, 40% relative humidity) and standard EN 14511-2.

The cooling module is not subject to the PED – Pressure Equipment Directive in accordance with article 1 (3.6).

All cooling modules are equipped with a built-in condensation pump as standard.

Airmaster specially developed inverter-controlled cooling modules (CC) are fully automatically controlled by the Airlinq control system.

Together with five network modules (LON®, MODBUS® RTU RS485, BACnet™ MS/TP, BACnet™/IP, KNX®) and the intuitive control panels, Airlinq supports an efficient, economical and future-proof ventilation solution.

CC COOLING MODULE

is available for the following air handling units:

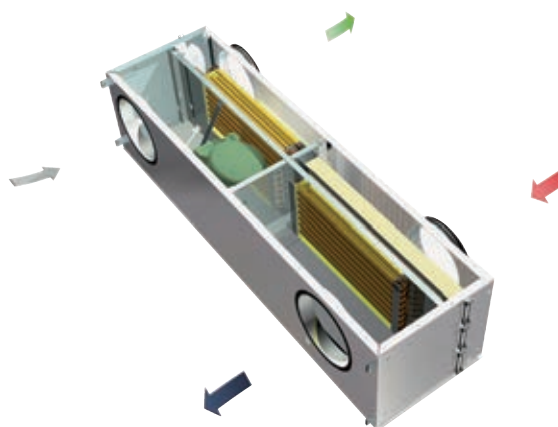
AMC 150 H (integrated)

AM 300 H

AM 500 H

AM 800 H

DV 1000

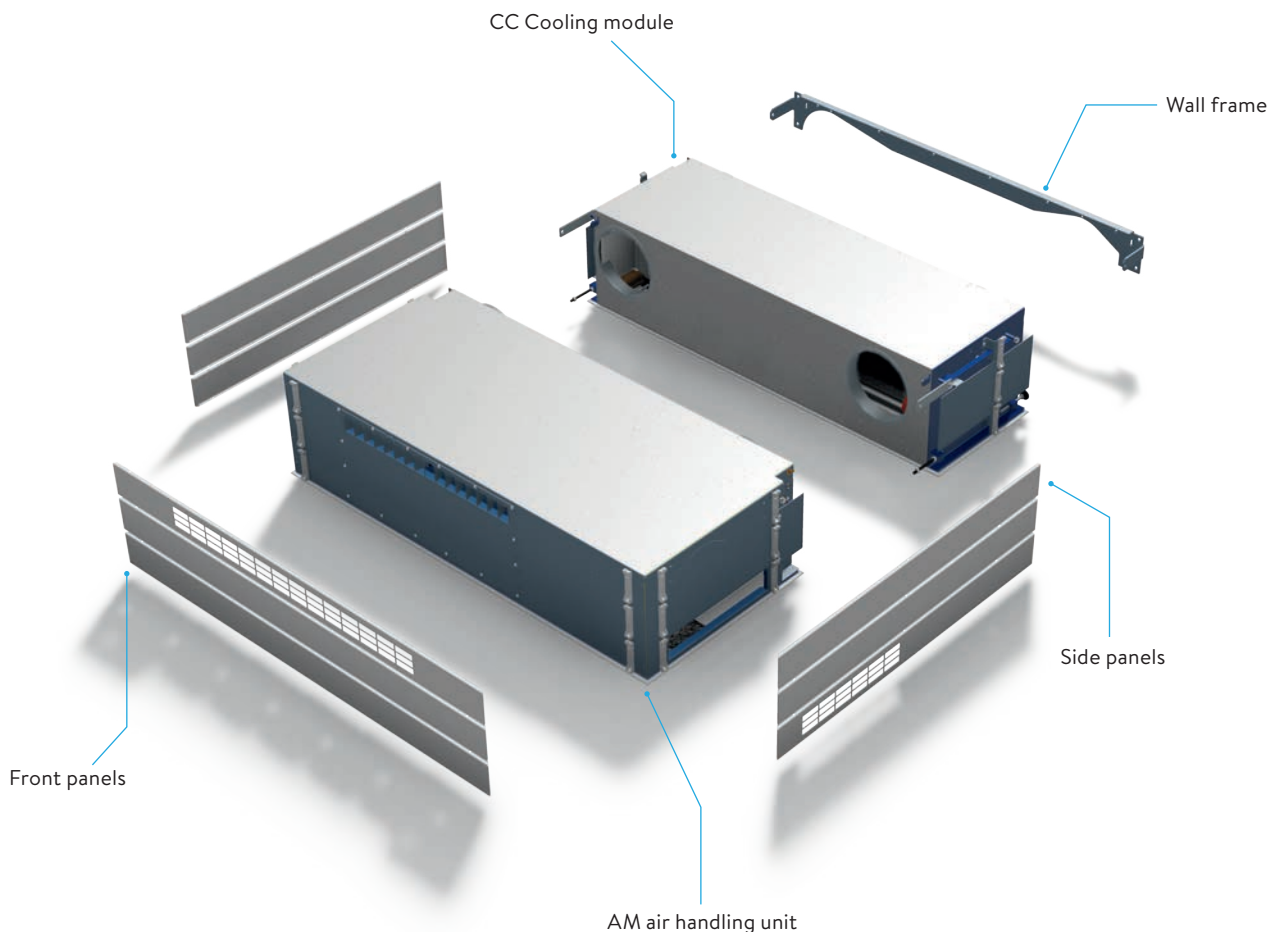


Airmaster's comfort-creating cooling module for horizontal models completes the most flexible ventilation system on the market.

BENEFITS IN TERMS OF RUNNING COSTS AND CLIMATE IMPACT ARE GAINED BY THE DEPLOYMENT OF PIONEERING TECHNOLOGY.

An inverter-controlled cooling solution gives infinitely adjustable capacity regulation of the compressor, to ensure that it adjusts constantly to actual cooling requirement. That means significant benefits in terms of running costs and climate impact:

- Optimised for energy-efficient operation in our climate zone.
- Improved annual mean EER value due to inverter-controlled compressor.
- Lower running costs thanks to on-demand control - annual savings for electricity typically 60-80%.
- A big reduction in the number of compressor starts. Combination of inverter control and electronic expansion valve ensure sustainable operation, even under extreme climate conditions inside and out.
- Very quiet in operation.
- Uses the highly effective coolants R410A or R134A that do not contribute to ozone loss.
- Outdoor air is typically cooled by 15°C before entering the room via the Airmaster unit.
- Easy monitoring of operation and climate via Airlinq data log - stores up to one year's operating data.



CONTROL PROCESSES WITH SENSORS

Demand controlled ventilation can be obtained by means of various sensors. Controlling ventilation according to need provides both a high level of indoor air quality and reduces energy consumption.

CONTROL VIA CO₂ SENSOR

A CO₂ sensor measures the CO₂ level in the room, and sends the reading to the control system. The control system then adjusts the rate of air replacement in the room according to the CO₂ level. The unit's energy consumption is reduced to the minimum.



CO₂ SENSOR - WALL-MOUNTED OR BUILT-IN

Automatically aligns the ventilation level to the CO₂ level in individual rooms.

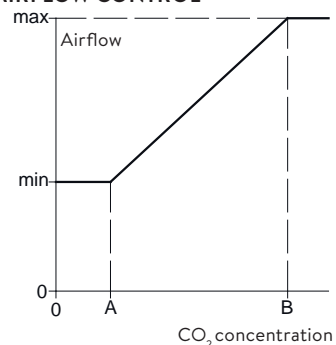
AIRFLOW CONTROL (FIGURE 1)

The unit can be set to run with a reduce standard airflow (min.) for basic ventilation. If the CO₂ level in the room exceeds the programmed lower limit (A), the CO₂ sensor will cut in and increase airflow.

If CO₂ levels continue to rise, the airflow will be increased linearly up to the maximum volume (max.) at the upper CO₂ limit (B) and above.

FIGURE 1

AIRFLOW CONTROL



START, STOP AND AIRFLOW CONTROL (FIGURE 2)

If the air handling unit is fully controlled by a CO₂ sensor, it will start with standard airflow once the CO₂ level exceeds the programmed limit, plus + 10% (A + 10 %).

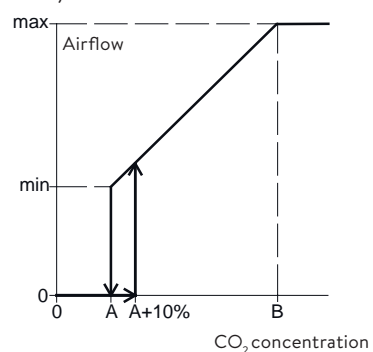
If the CO₂ level continues to increase in the room, the airflow is increased linearly, up to the maximum airflow at the CO₂ level's upper limit (B) and above.

If the CO₂ level falls below the programmed lower limit (A), the air handling unit stops again.

If the air handling unit is started by a timer and the CO₂ limit continues to exceed the lower limit (A), the air handling unit will continue even after the programmed stop, until the CO₂ level has fallen below the lower limit, to ensure a good indoor climate.

FIGURE 2

START, STOP AND AIRFLOW CONTROL





CONTROL VIA MOTIONSENSOR (PIR)

The air handling unit is set to start/stop via a signal from a motion sensor. The motion sensor registers motion within its detection field and sends a signal to the unit to start. The unit will start in normal operation with the programmed airflow and inlet temperature.

When the signal ceases, the unit will stop after the preprogrammed afterrun time. A motion sensor is often used to switch the unit from basic ventilation to normal operation when anyone enters the detection field.



A MOTION SENSOR ensures the lowest energy consumption possible, as ventilation only starts when there is motion in the room. Variable afterrun time can be programmed in the Airlinq control system.



We deliver units all over Europe. Consequently, we know that our units have to function effectively under very different outside temperatures - ranging from -25°C and up to 35°C .

CONTROL BY A WALL-MOUNTED HYGROSTAT

A hygrometer registers relative air humidity, and sends either a start or stop signal to the air handling unit. Start/stop signal can be adjusted. Humidity in the air affects the length of hygroscopic man-made fibres. Depending on the humidity level, the fibres will activate a contact that triggers the signal. When the relative air humidity goes over or under the level set, the hygrometer sends a start/stop signal to the air handling unit. Hygrostats are often used to switch a unit from basic ventilation to full operation when the relative humidity set is exceeded.



HYGROSTAT ensures that humidity is automatically kept down. Can be installed in the room or on the unit.

HUMIDITY CONTROL

ADAPTIVE ON-DEMAND CONTROL

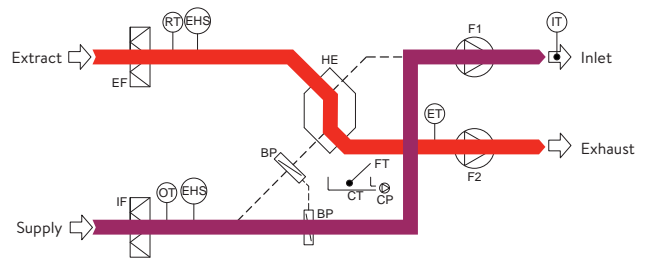
Airmaster air handling units can be fitted with an extra humidity sensor or extended programming.

Integrated humidity and temperature sensors on supply and extract make exact calculation of absolute air humidity possible.

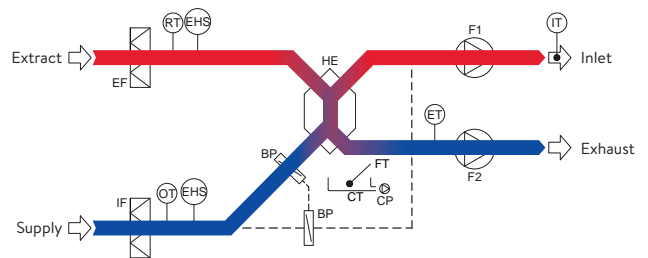
AUTOMATIC ADAPTATION TO WATHER CONDITIONS

The adaptive humidity control automatically prevents the air drying out in the winter and reduces humidity in the summer. This effective, energy-saving form of operation creates a healthy environment and a healthy energy bill.

Example of air handling unit in summer mode



Example of air handling unit in winter mode



Name of component

F1	Supply Air Fan
F2	Extract Air Fan
IF	Supply Air Filter
EF	Extract Air Filter
BP	Bypass Damper
HE	Countercurrent Heat Exchanger
EHS	Electronic humidity Sensor
CT	Condensate Tray
FT	Float
CP	Condensate Pump
OT	Outside Temperature Sensor
IT	Inlet Air Temperature Sensor
RT	Room Temperature Sensor
ET	Exhaust Air Temperature Sensor



The ideal unit for small rooms such as two-man offices and the like. Its quietness ensures that no one is disturbed at work.

AM 150

AM 150 is a horizontal model and supply and exhaust pass horizontally out of the unit and through an outer wall. AM 150 is particularly suited for one to two-person offices and small meeting rooms at companies, schools and institutions. Essentially, small rooms where there is a need for a pleasant indoor climate for comfort and well-being.

With options such as motion sensors and CO₂ sensors, ventilation can be controlled based on the number of people in a room at a given time. Furthermore, the fully automatic control can be combined with Airmaster Airlinq® Online.



TECHNICAL DATA	30 dB(A)	35 dB(A)	BOOST
Capacity*	115 m ³ /h	147 m ³ /h	215 m ³ /h
Throw length (0,2 m/s)*	2,6 m	3,4 m	-
Nominal current*	0,2 A	0,3 A	1 A
Maximum power consumption*	21 W	38 W	96 W
Electrical connection	1 x 230 V + N + PE / 50 Hz		
Duct connections	125 mm dia.		
Weight	47 kg		
Heat exchanger	Countercurrent heat exchanger (PET)		
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%		
Colour	RAL 9010 (white)		
Power cable	3 x 0,75 mm ²		
Leakage current	≤ 0,5 mA		
Energy class (SEC class)	A		
Dimensions (WxHxD)	1170 x 261 x 572 mm		

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

ELECTRIC HEATING SURFACE

Unit, electric connection	1 x 230 V
Heat output	600 W
Nominal current consumption	2,6 A
Thermal circuit breaker, aut. reset	75°C
Thermal circuit breaker, man. reset	90°C

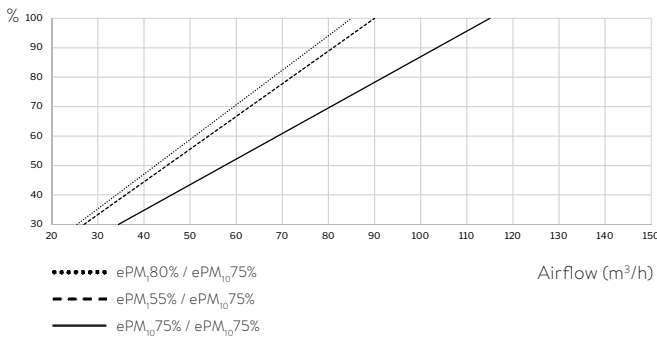
STANDARD AND OPTIONS

STANDARD AND OPTIONS	AM 150 H
Bypass	X
Electric heating surface/VPH	•
CO ₂ sensor (built-in)	•
PIR/motion sensor (built-in)	•
Condensate pump	•
Motor driven exhaust air damper	X
Motor driven supply air damper	X
Countercurrent heat exchanger (PET)	X
Energy meter	•
Wall / Ceiling frame	•

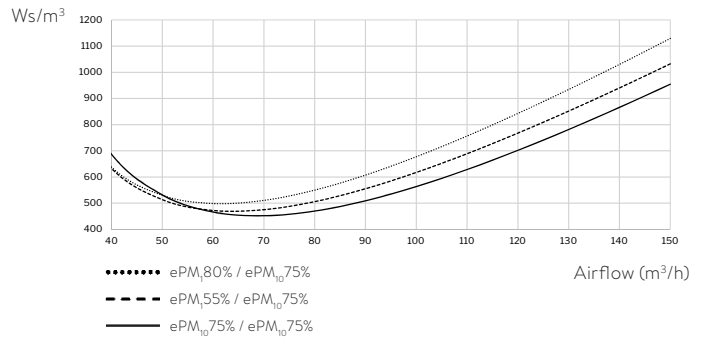
X: standard • : option

AM 150

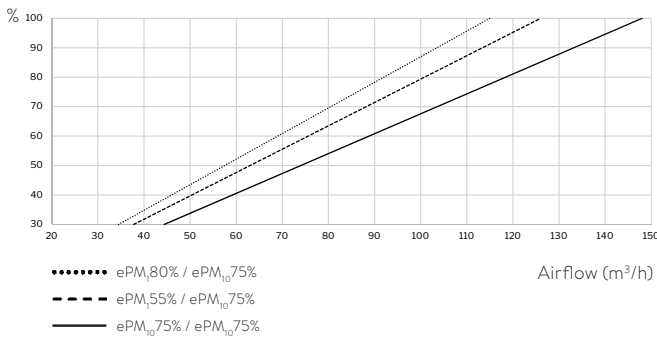
CAPACITY30 dB(A) version ¹



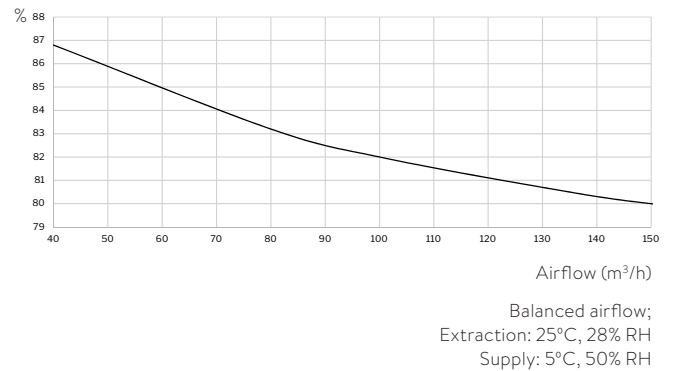
SFP ¹



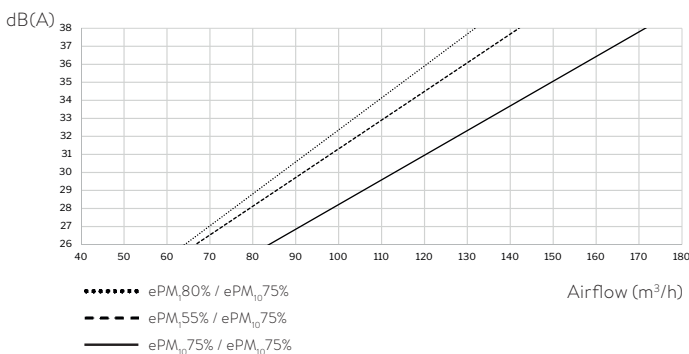
CAPACITY35 dB(A) version ¹



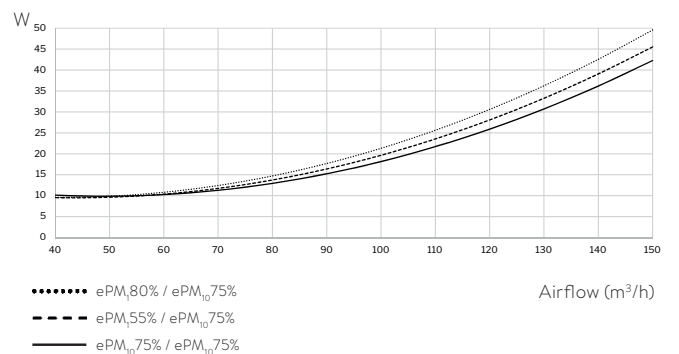
TEMPERATURE EFFICIENCY, ACC. TO EN308



SOUND PRESSURE LEVEL ²



POWER CONSUMPTION ¹

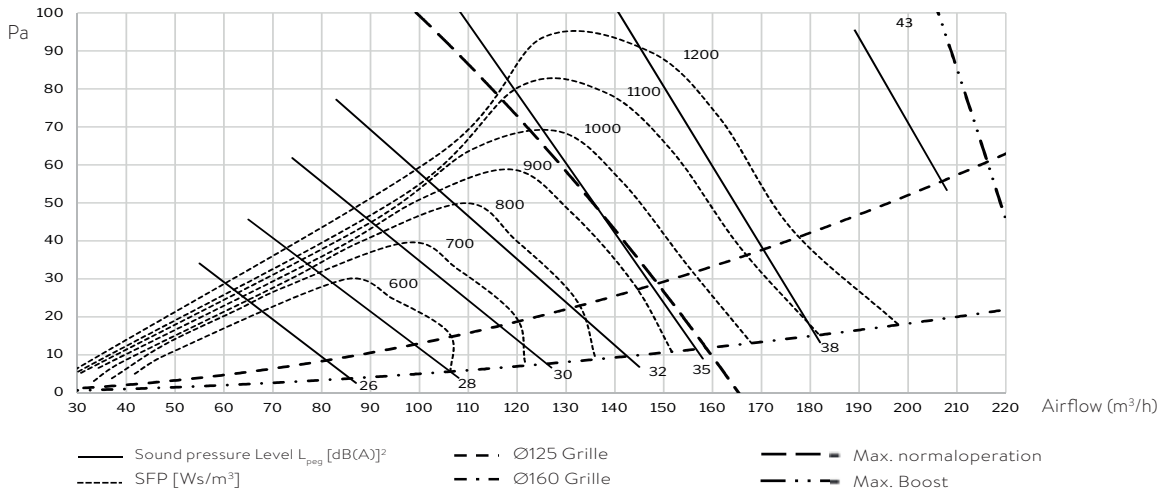


¹ Measurements are taken at normal operation in a standard installation situation with Airmaster's recommended Ø125 mm wall grille.

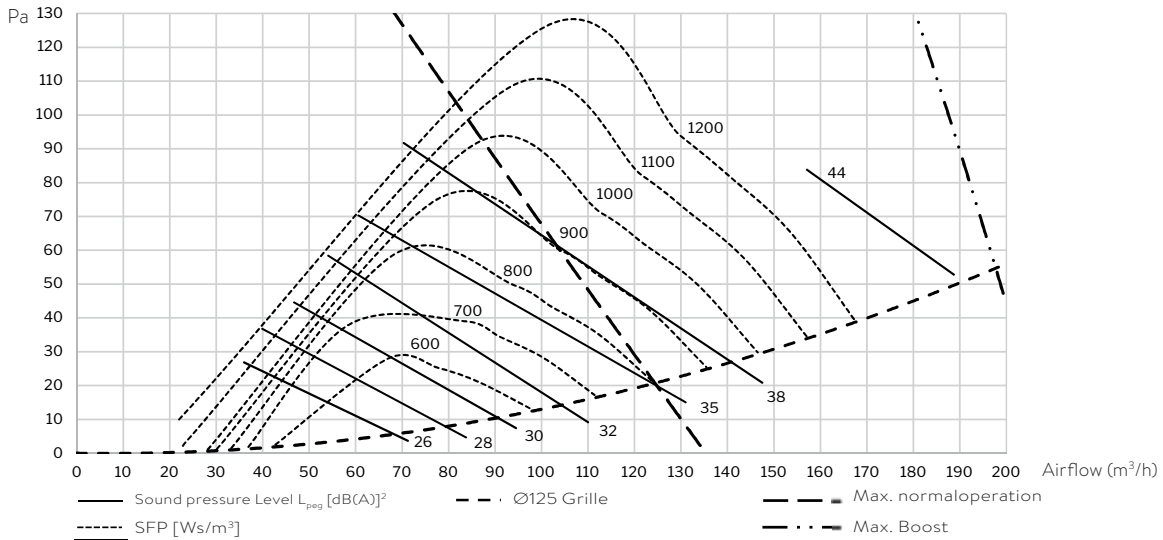
² Sound pressure level $L_{p,eq}$ is measured at 1.2 m height with 1 m horizontal distance from the air handling unit in a 200 m³ room with a reverberation time of $T = 0.6$ s or equivalent to a room sound attenuation of 7.5 dB. In smaller rooms, e.g. 40 m³, 2 dB of sound pressure must be added.

AM 150

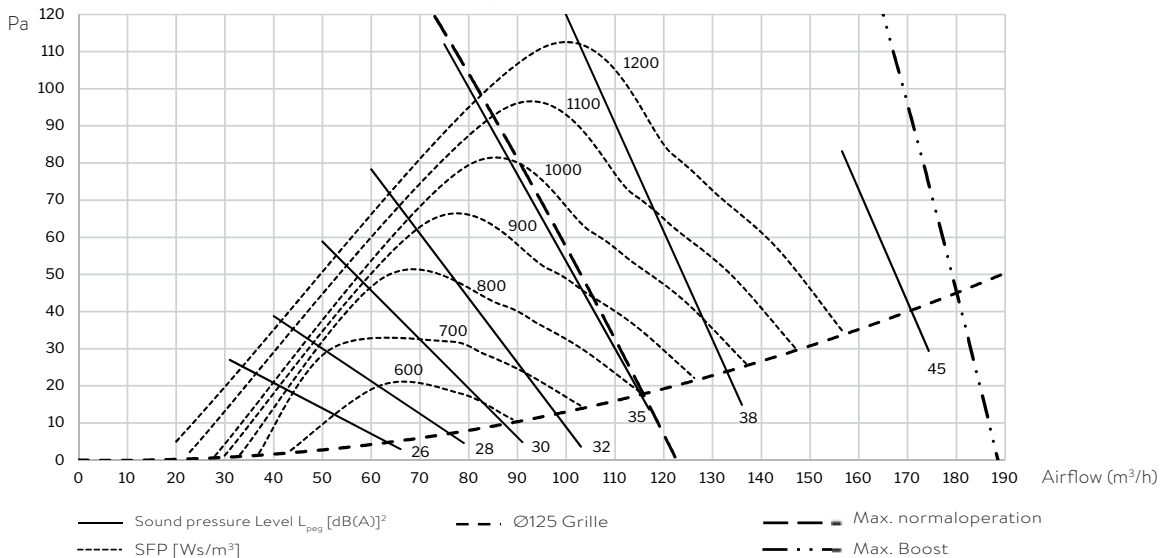
SFP, WITH ePM₁₀ 75% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹



SFP, WITH ePM₁ 55% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹



SFP, WITH ePM₁ 80% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹

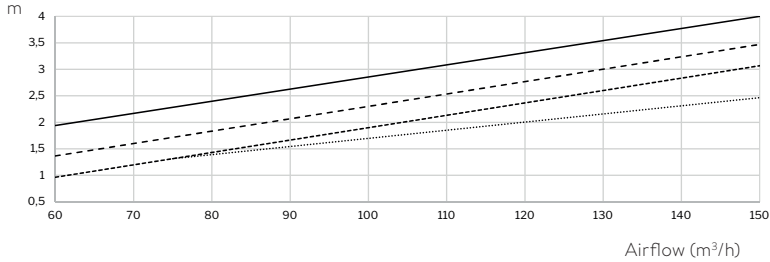


¹ Measurements are carried out in a 200 m³ room with 7.5 dB room sound attenuation in a standard installation situation.

² Sound pressure level $L_{p,eq}$ is measured at 1.2 m height with 1 m horizontal distance from the air handling unit.

AM 150

THROW LENGTH, AT 0,2 m/s¹



With small inlet diffuser area:

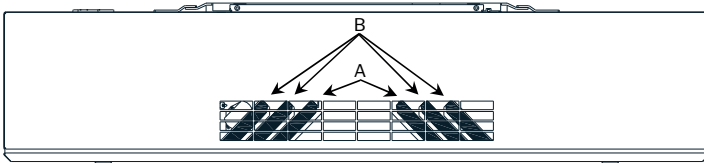
- 1: 30° blade angle
- 2: 45° blade angle

With large inlet diffuser area:

- 3: 45° blade angle
- 4: 60° blade angle

¹ The throw length is measured with 2°C subcooled inlet.

SMALL AND LARGE INLET DIFFUSOR AREA:



Small inlet diffuser area:

A is closed, B is open with X degree blade angle.

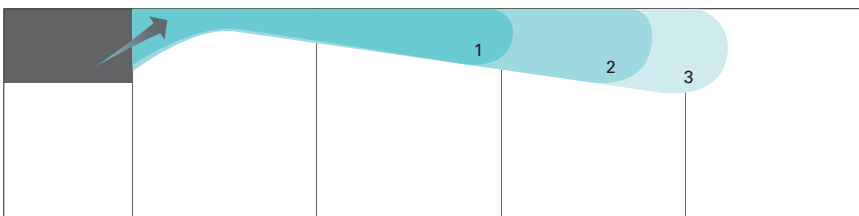
Large inlet diffuser area:

A and B are open with X degree blade angle.

Default delivery state:

Small inlet diffuser area, 45 degree blade angle.

THROW, SIDE VIEW

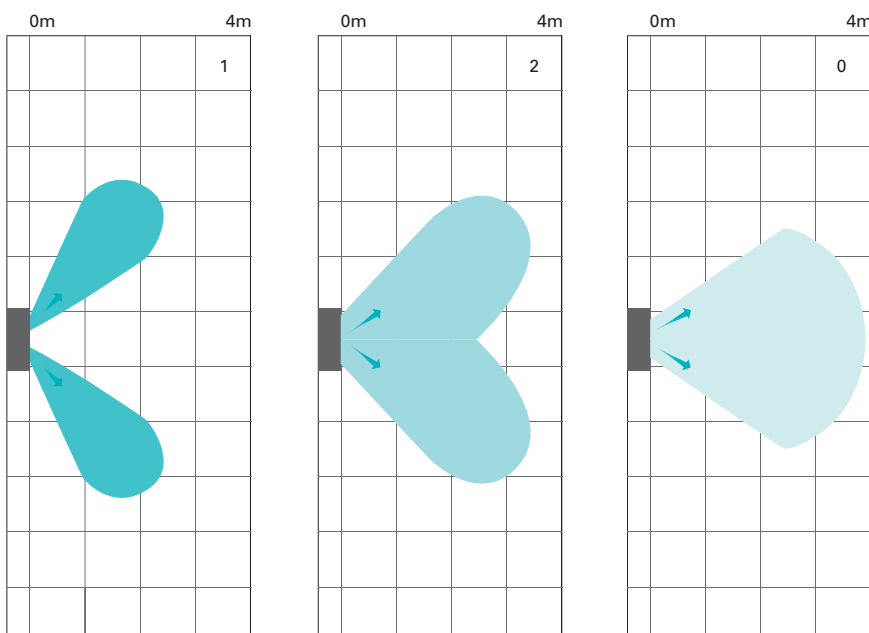


Airmaster's air handling unit spreads fresh air differently, according to angle of control blades in the inlet opening.

This is shown on illustrations, where the blue color indicates the spread pattern of the inlet jet.

Throw length at 0,2 m/s. Spread pattern is shown for different blade angles at 147 m³/h at 35 B(A).

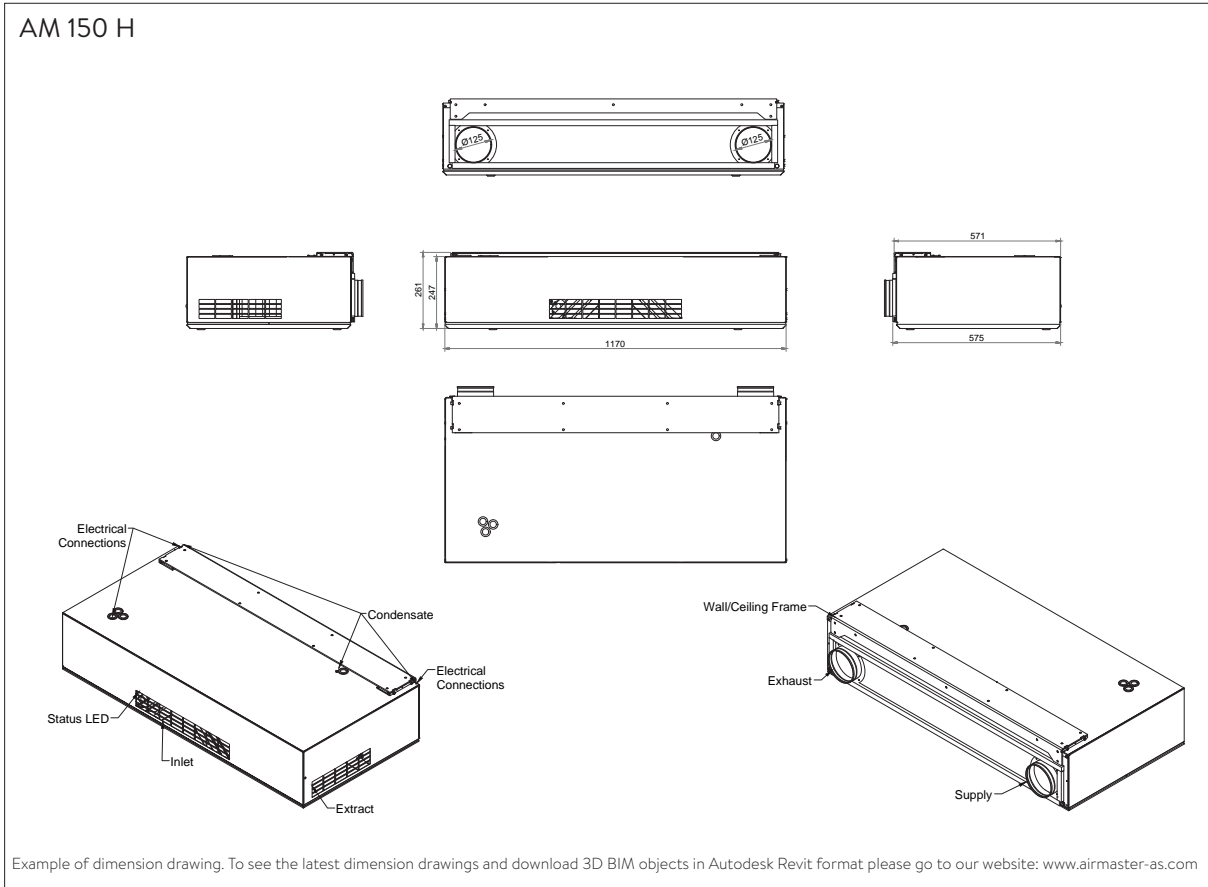
THROW, TOP VIEW



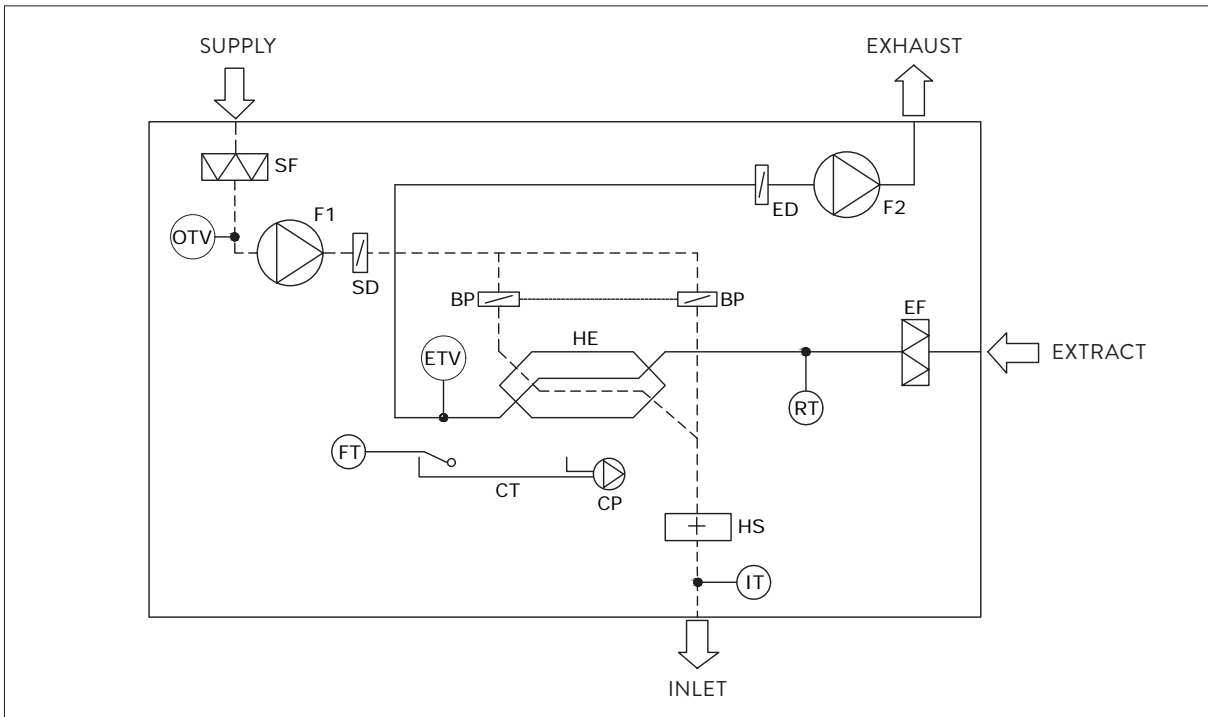
- 1. Throw length with 60° blade angle.
- 2. Throw length with 45° blade angle. (Small inlet diffuser)
- 3. Throw length with 30° blade angle.

Regarding adjustment of blade angle, see operator's manual. Standard is 45° with small inlet diffuser.

AM 150



SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass Damper (motor driven)	FT	Float	OTV	Outside Temperature Sensor
CP	Condensate Pump	F1	Supply Air Fan	RT	Room Temperature Sensor
CT	Condensate Tray	F2	Extract Air Fan	SD	Supply Air Damper (motor driven)
ED	Exhaust Air Damper (motor driven)	HE	Countercurrent Heat Exchanger	SF	Supply Air Filter
EF	Extract Air Filter	HS	Heating Surface		
ETV	Exhaust Temperature Sensor	IT	Inlet Temperature Sensor		



**Air handling unit with
heat recovery and cooling module
in one product.**

AMC 150

AMC 150 is an AM 150 with integrated cooling module specially designed to cover the needs for ventilation in smaller rooms, such as two-person offices.

It can be installed visibly, or partly integrated into the ceiling, only showing the lower part of the unit. Having the ventilation unit and cooling module integrated into one single unit from the factory, provides a plug-and-play installation.

Airlinq® Online enables one-step monitoring and administration of Airmaster ventilation units, including the AMC 150.



TECHNICAL DATA	30 dB(A)	35 dB(A)	BOOST
Capacity*	115 m ³ /h	147 m ³ /h	195 m ³ /h
Throw length (0,2 m/s)*	2,6 m	3,4 m	-
Nominal current, unit/w. cooling module*	0,2/1,2 A	0,4/1,4 A	0,7/1,7 A
Nominal power consumption, unit/w. cooling module*	28/190 W	48/210 W	87/249 W
Electrical connection	1 x 230 V + N + PE / 50 Hz		
Duct connections	125 mm dia.		
Weight	75 kg		
Heat exchanger	Countercurrent heat exchanger (PET)		
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%		
Colour	RAL 9010 (white)		
Power cable	3 x 0,75 mm ²		
Leakage current	≤ 1,5 mA		
Energy class (SEC class), unit/w. cooling module	A /A++		
Dimensions (WxHxD)	1170 x 261 x 846 mm		
Drain hose, internal/external diameter	4/6 mm dia.		

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

ELECTRIC HEATING SURFACE

Electrical connection	1 x 230 V
Heat output	600 W
Nominal current	2,6 A
Thermal circuit breaker, aut. reset	75°C
Thermal circuit breaker, man. reset	90°C

COOLING MODULE

Nominal cooling capacity	640 W
Min. cooling capacity	146 W
Nominal EER	4,5
Max. airflow	147 m ³ /h
Max. airflow*	50 m ³ /h
Coolant	R134a
Filling	145 g

* Cooling module activation.

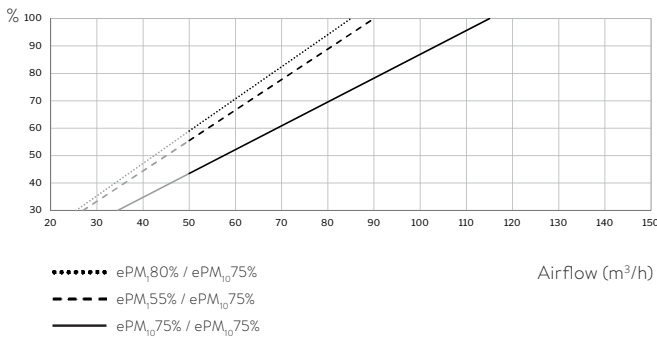
STANDARD AND OPTIONS

	AMC 150
Bypass	X
Electric heating surface/VPH	•
CO ₂ sensor (built-in)	•
PIR/motion sensor (built-in)	•
Condensate pump	•
Condensate pump cooling module	X
Motor driven exhaust air damper	X
Motor driven supply air damper	X
Countercurrent heat exchanger (PET)	X
Energy meter	•
Wall / Ceiling frame	•

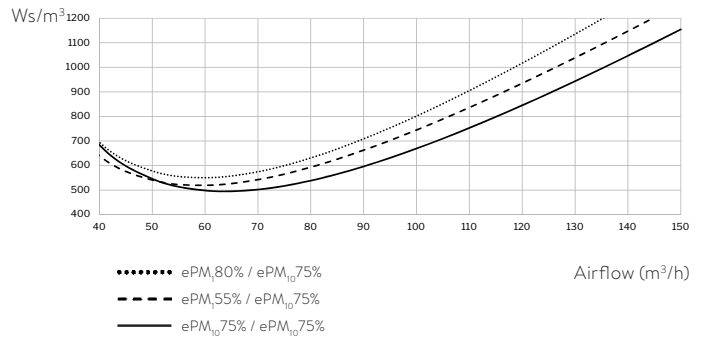
X: standard • : option

AMC 150

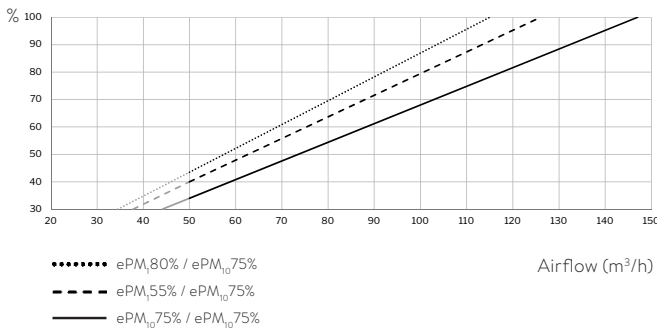
CAPACITY30 dB(A) ¹



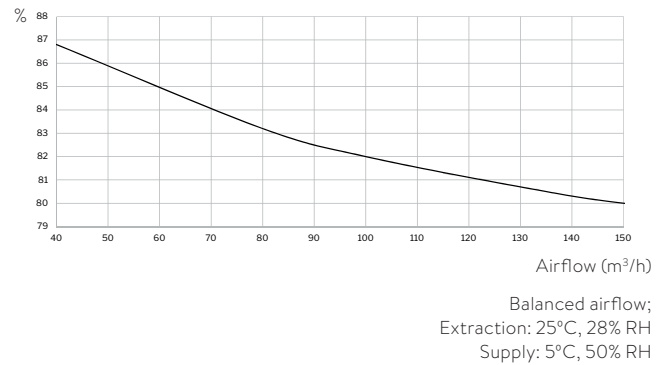
SFP ¹



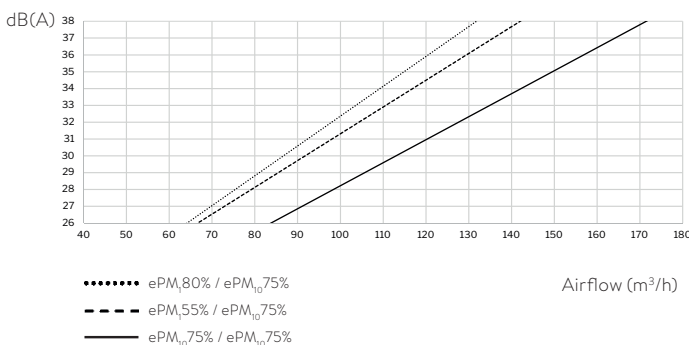
CAPACITY35 dB(A) ¹



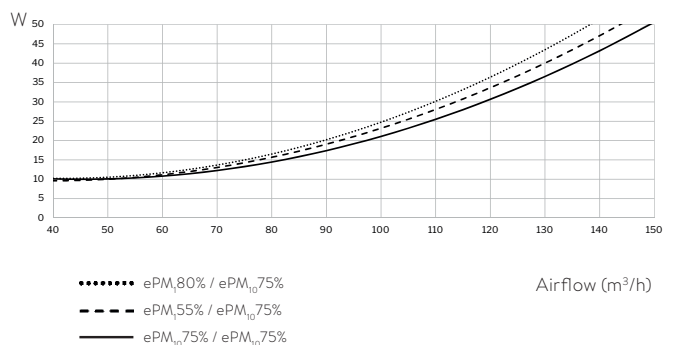
TEMPERATURE EFFICIENCY, ACC. TO EN308



SOUND PRESSURE LEVEL ²



POWER CONSUMPTION ¹

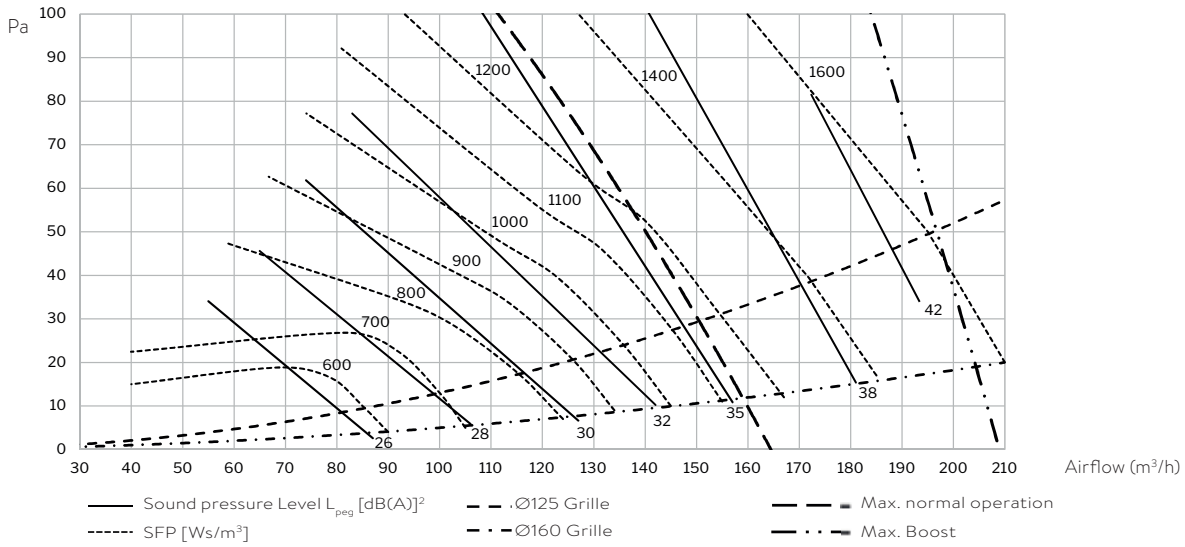


¹ Measurements are taken at normal operation in a standard installation situation with Airmaster's recommended Ø125 mm wall grille.

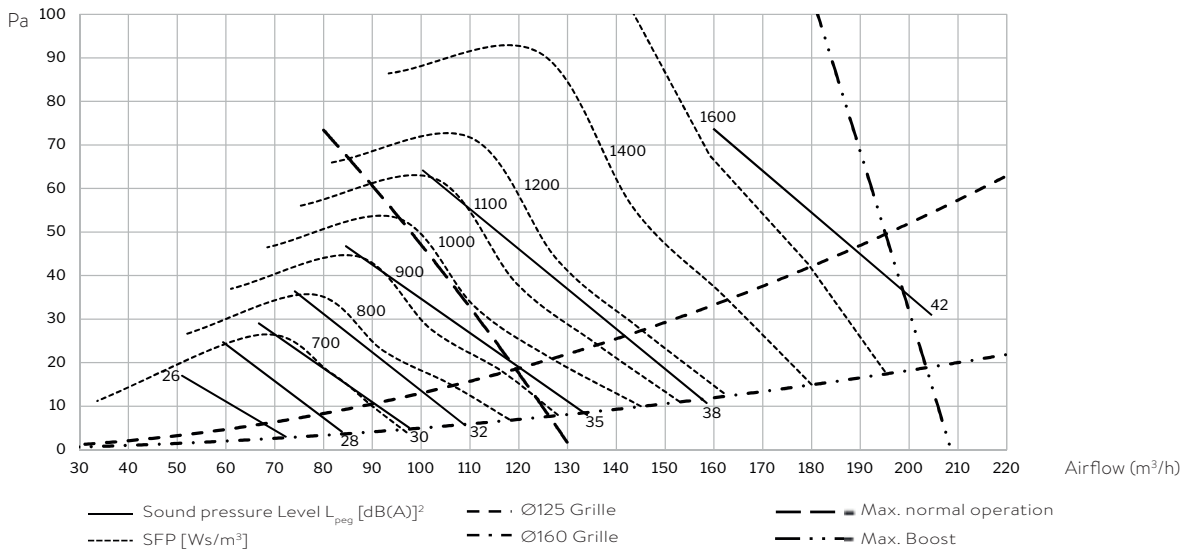
² Sound pressure level L_{p,eq} is measured at 1.2 m height with 1 m horizontal distance from the air handling unit in a 200 m³ room with a reverberation time of T = 0.6 s or equivalent to a room sound attenuation of 7.5 dB. In smaller rooms, e.g. 40 m³, 2 dB of sound pressure must be added.

AMC 150

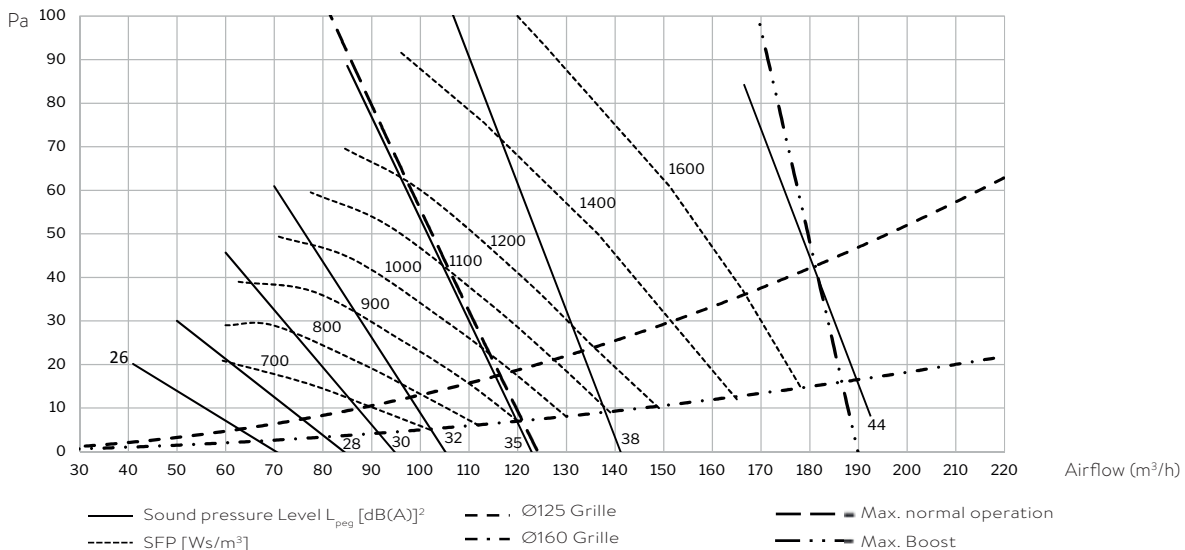
SFP, WITH ePM₁₀ 75% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹



SFP, WITH ePM₁ 55% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹



SFP, WITH ePM₁ 80% SUPPLY AIR FILTER AND ePM₁₀ 75% EXTRACT AIR FILTER:¹

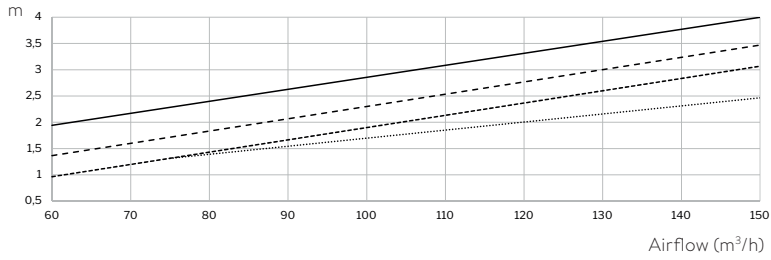


¹ Measurements are carried out in a 200 m³ room with 7.5 dB room sound attenuation in a standard installation situation.

² Sound pressure level $L_{p,eq}$ is measured at 1.2 m height with 1 m horizontal distance from the air handling unit.

AMC 150

THROW LENGTH, AT 0,2 m/s¹:



With small inlet diffuser area:

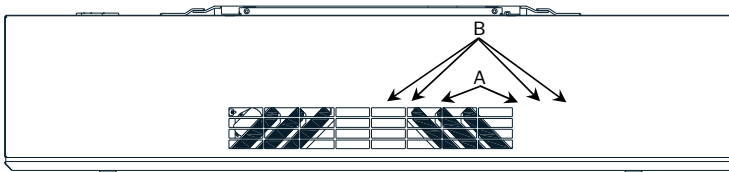
- 1: 30° blade angle
- 2: 45° blade angle.

With large inlet diffuser area:

- 3: 45° blade angle
- 4: 60° blade angle

¹ The throw length is measured with 2°C subcooled inlet.

SMALL AND LARGE INLET DIFFUSOR AREA:



Small inlet diffuser area:

A is closed, B is open with X degree blade angle.

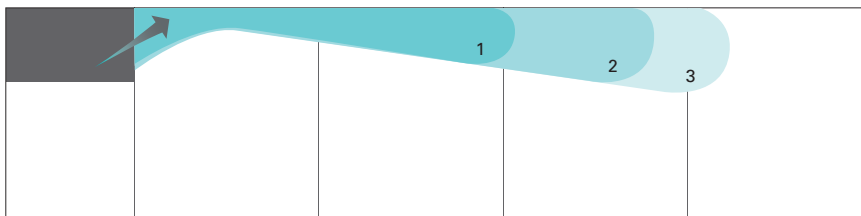
Large inlet diffuser area:

A and B are open with X degree blade angle.

Default delivery state:

Small inlet diffuser area, 45 degree blade angle.

THROW, SIDE VIEW

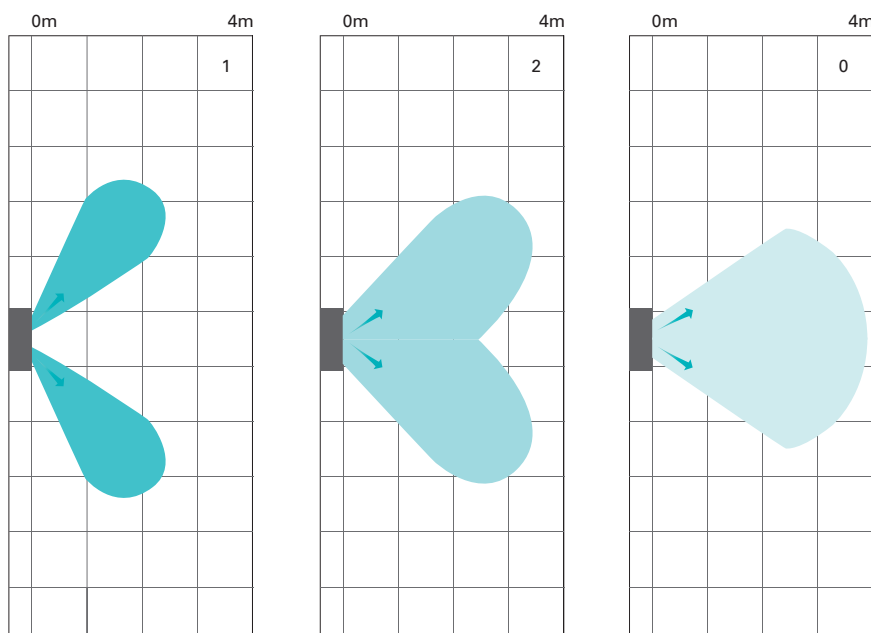


Airmaster's air handling unit spreads fresh air differently, according to angle of control blades in the inlet opening.

This is shown on illustrations, where the blue color indicates the spread pattern of the inlet jet.

Throw length at 0,2 m/s. Spread pattern is shown for different blade angles at 147 m³/h at 35 B(A).

THROW, TOP VIEW

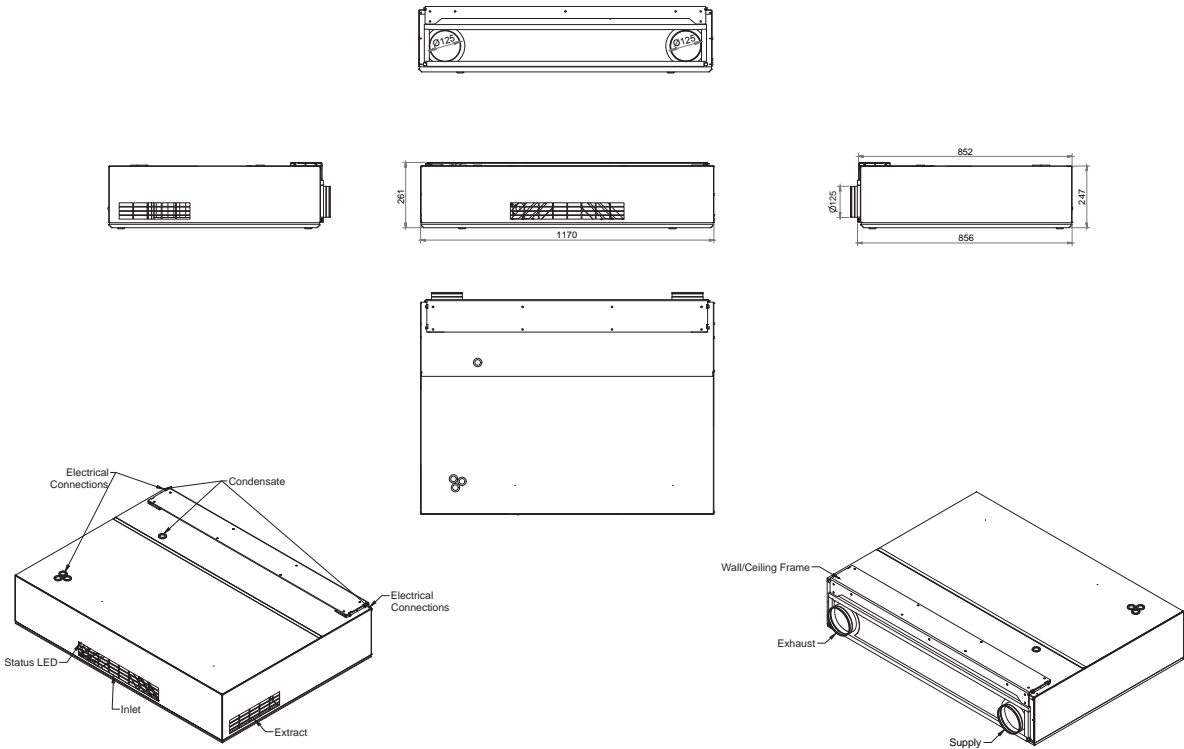


- 1. Throw length with 60° blade angle.
- 2. Throw length with 45° blade angle. (Small inlet diffuser)
- 3. Throw length with 30° blade angle.

Regarding adjustment of blade angle, see operator's manual. Standard is 45° with small inlet diffuser.

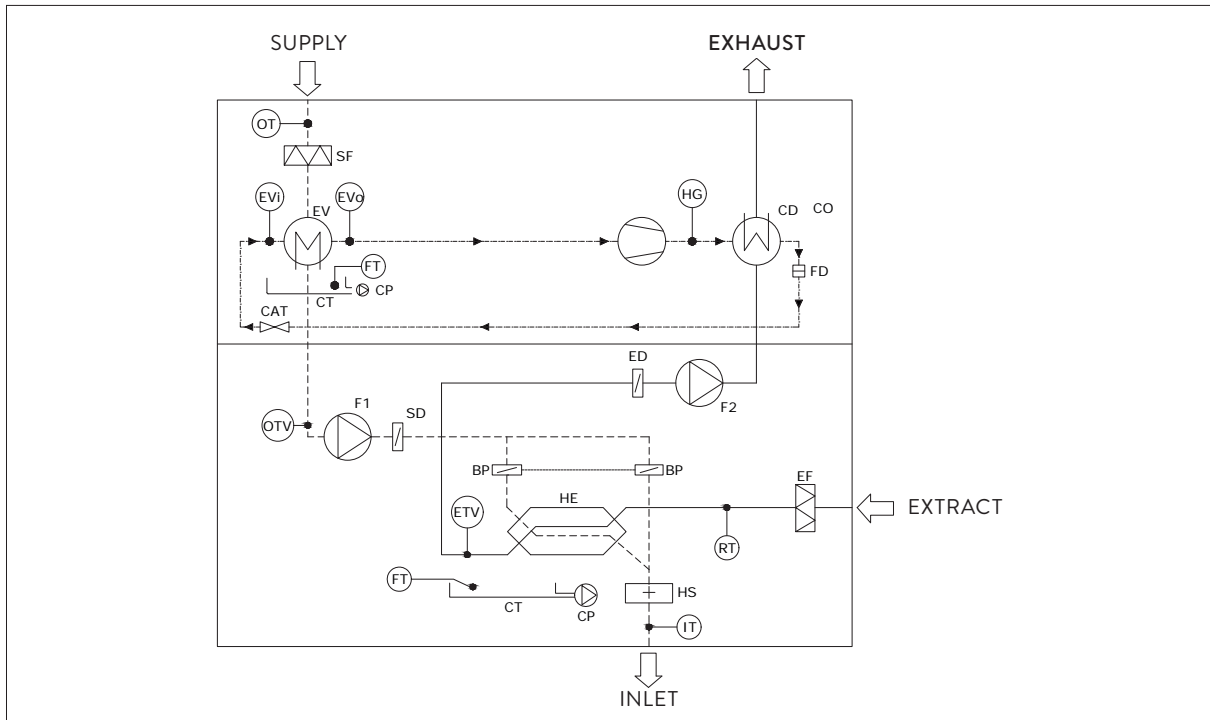
AMC 150

AMC 150 H



Example of dimension drawing. To see the latest dimension drawings and download 3D BIM objects in Autodesk Revit format please go to our website: www.airmaster-as.com

SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass Damper (motor driven)	EV	Evaporator	HS	Heating Surface
CAT	Capillary tube	EVi	Evaporator, temperature inlet	IT	Inlet Temperature Sensor
CD	Condenser	EVo	Evaporator, temperature outlet	OTV	Outdoor Temperature Sensor, ventilation unit
CO	Compressor, inverter-controlled	FD	Dry Filter	RT	Room Temperature Sensor
CP	Condensate Pump	FT	Float	SD	Supply Air Damper (motor driven)
CT	Condensate Tray	F1	Supply Air Fan	SF	Supply Air Filter
ED	Exhaust Air Damper (motor driven)	F2	Extract Air Fan		
EF	Extract Air Filter	HE	Countercurrent Heat Exchanger		
ETV	Exhaust Temperature Sensor, ventilation unit	HG	Hotgas Temperature		



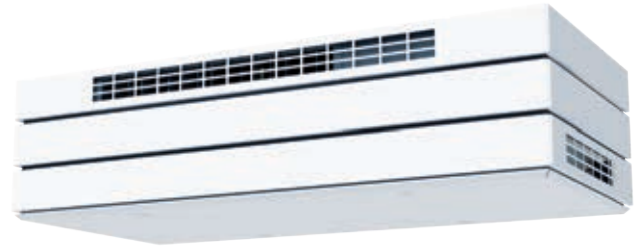
When temperature and CO₂ levels in a room become too high, comfort, satisfaction and productivity fall. Sick leave levels also rise.

AM 300

The AM 300 is ideal for office buildings and institutions. The electric heating surface can be used as a Virtual Preheater (VPH). VPH uses a bypass to divert some of the cold outdoor air past the heat exchanger and directly to the heating element. This protects the unit against frost, even at very low temperatures.

A cooling module can be connected (see page 22).

Ducts can be connected to extract, to inlet or to extract and inlet.



TECHNICAL DATA

Maximum capacity at 30 dB(A)*	240 m ³ /h
Maximum capacity at 35 dB(A)*	300 m ³ /h
Throw length (0,2 m/s)*	4,8 m at 160 m ³ /h
	5,7 m at 220 m ³ /h
	6,5 m at 300 m ³ /h
Nominal Current*	0,6 A
Maximum power consumption*	100 W
Electrical connection	1 x 230 V + N + PE / 50 Hz
Duct connections	200 mm dia.
Condensate drain	16 mm dia.
Weight	50 kg
Heat exchanger	Countercurrent heat exchanger (aluminium)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	Panels RAL 9010 (white)
Power cable	1,5 mm ²
Leakage current	≤ 3 mA
Dimensions (WxHxD)	1274 x 333 x 578 mm

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

ELECTRIC HEATING SURFACE

Heat output	750 / 1500 W
Thermal circuit breaker, aut. reset	75°C
Thermal circuit breaker, man. reset	120°C

WATER HEATING SURFACE

Max. operating temperature	90°C
Max. operating pressure	10 bar
Heat output	505 W*
Connection dimension	3/8" (DN 10)
Materials pipes/fins	copper/aluminium
Open/close time, motor valve	< 60 s

* Capacity at: supply/return temperature 60/40°C, water volume 15 l/h

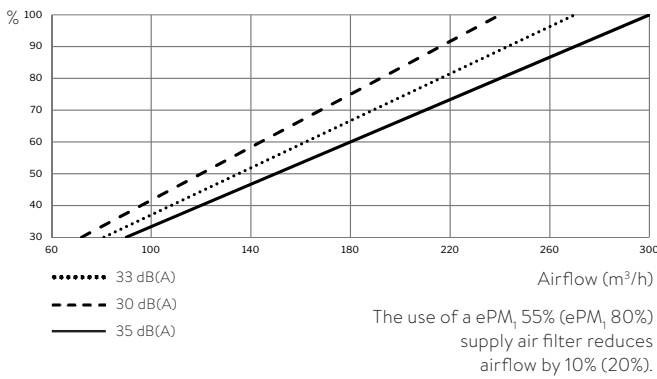
STANDARD AND OPTIONS

	AM 300 V	AM 300 H
Bypass	X	X
Electric heating surface/VPH	•	•
Water comfort heater	•	•
CO ₂ sensor (wall-mounted)	•	•
CO ₂ sensor (built-in)	•	•
PIR/motion sensor (wall-mounted)	•	•
PIR/motion sensor (built-in)	•	•
Hygostat	•	•
Condensate pump	•	•
Cooling module		•
Motor driven supply air damper	X	X
Countercurrent heat exchanger (aluminium)	X	X
Energy meter	•	•
Wall / Ceiling frame	•	•
Mounting bracket	•	•
Mini B USB (on front of unit)	•	•

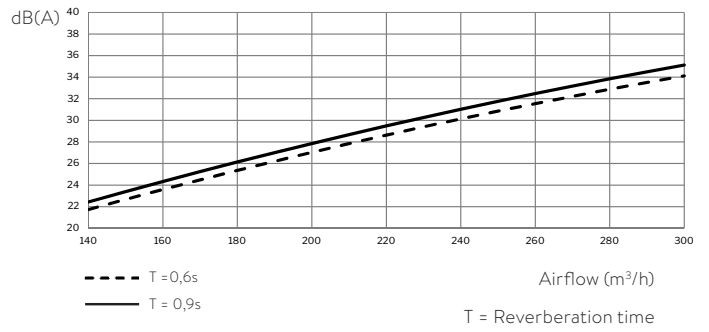
X : standard • : option

AM 300

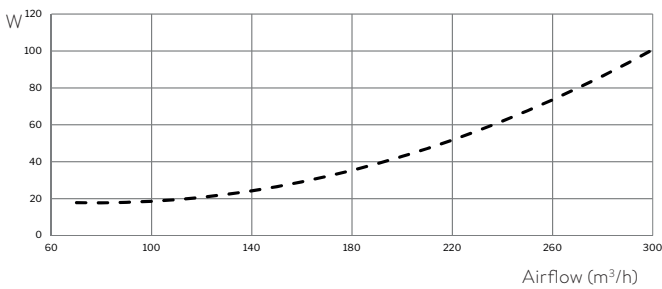
CAPACITY



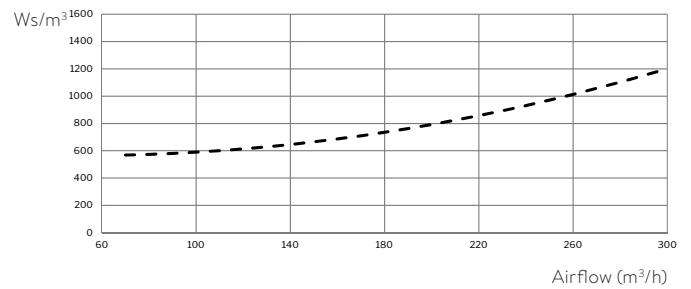
SOUND PRESSURE



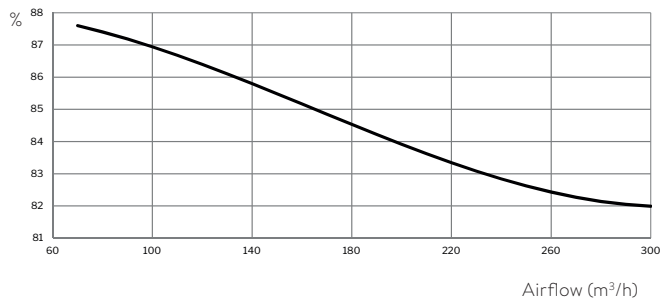
POWER CONSUMPTION



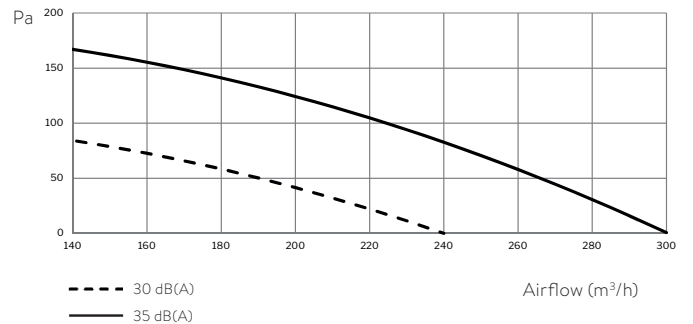
SFP



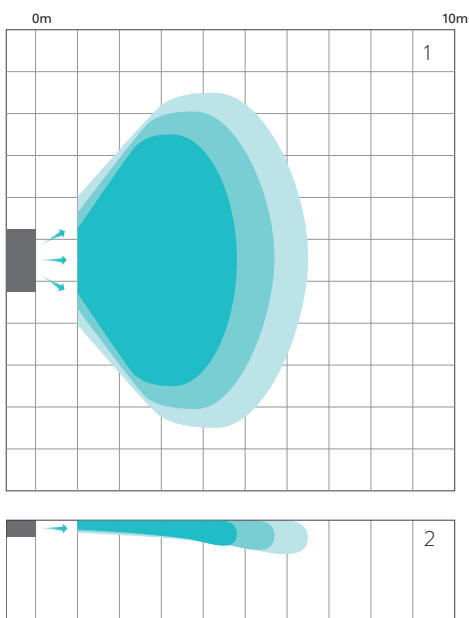
TEMPERATURE EFFICIENCY



EXTERNAL PRESSURE LOSS



Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH

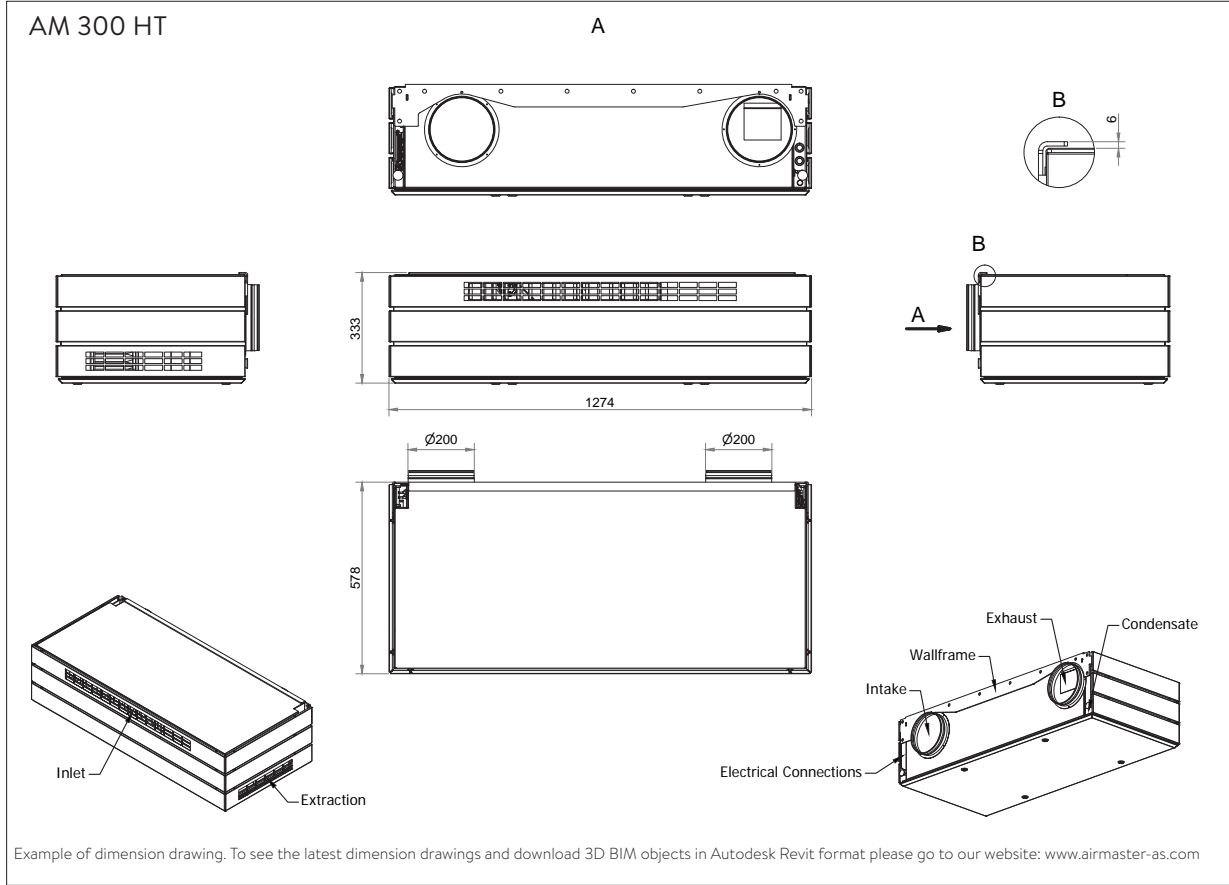


THROW LENGTH

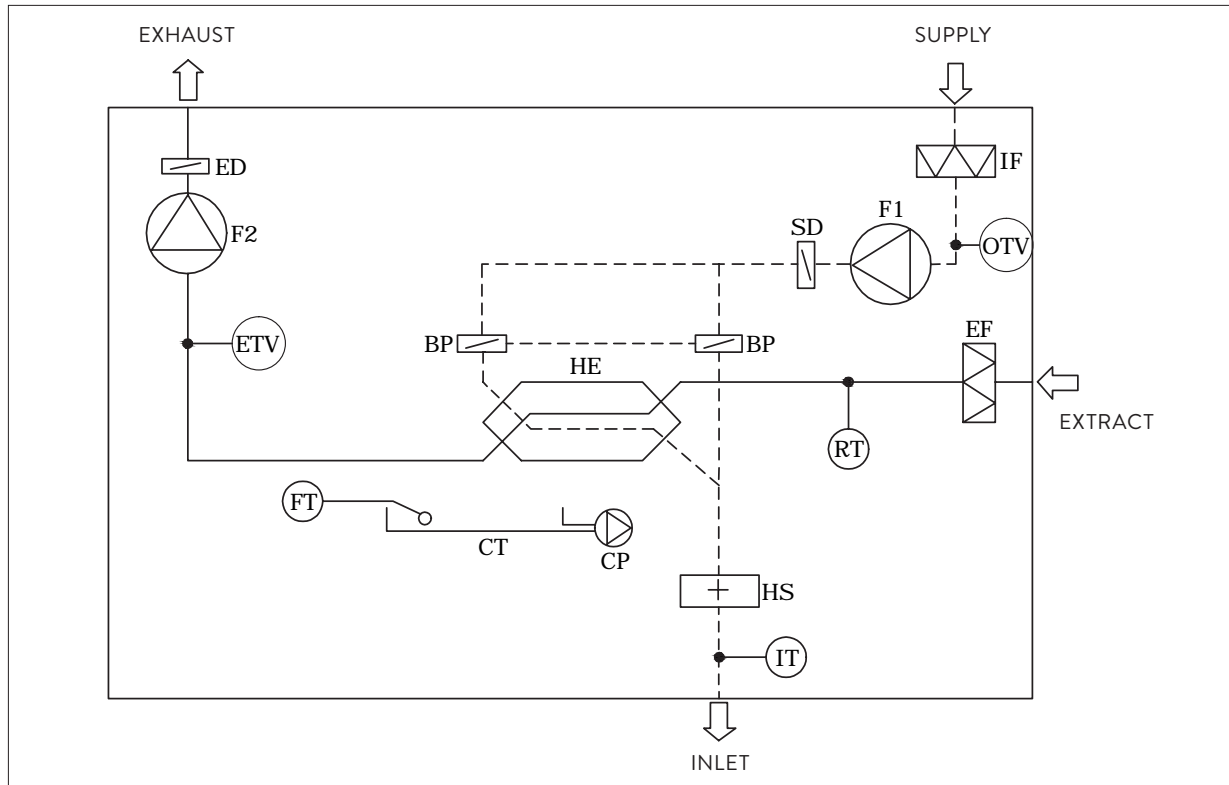
Airmaster air handling units spread an air stream in different directions, depending on the given airflow. This can be seen in the illustration on the left, in which the blue shading indicates airflows for the different throw lengths for an AM 300 unit.

- ¹ Throw length seen from above
- ² Throw length seen from the side

AM 300



SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass (motor driven)	ETV	Exhaust Temperature Sensor	IF	Supply Air Filter
CP	Condensate Pump (option)	FT	Float	IT	Inlet Temperature Sensor
CT	Condensate Tray	F1	Supply Air fan	OTV	Outside Temperature Sensor
ED	Exhaust Air Damper (motor driven)	F2	Extract Air fan	RT	Room Temperature Sensor
EF	Extract Air Filter	HE	Countercurrent Heat Exchanger	SD	Supply Air Damper (motor driven)
		HS	Heating Surface (option)		

CC 300 COOLING MODULE

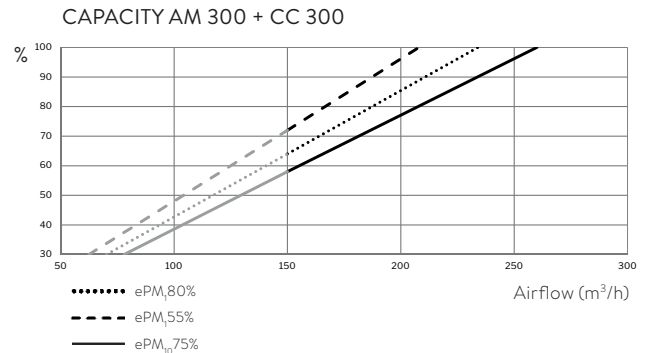
Read more about our inverter-controlled cooling modules on page 22.

TECHNICAL DATA

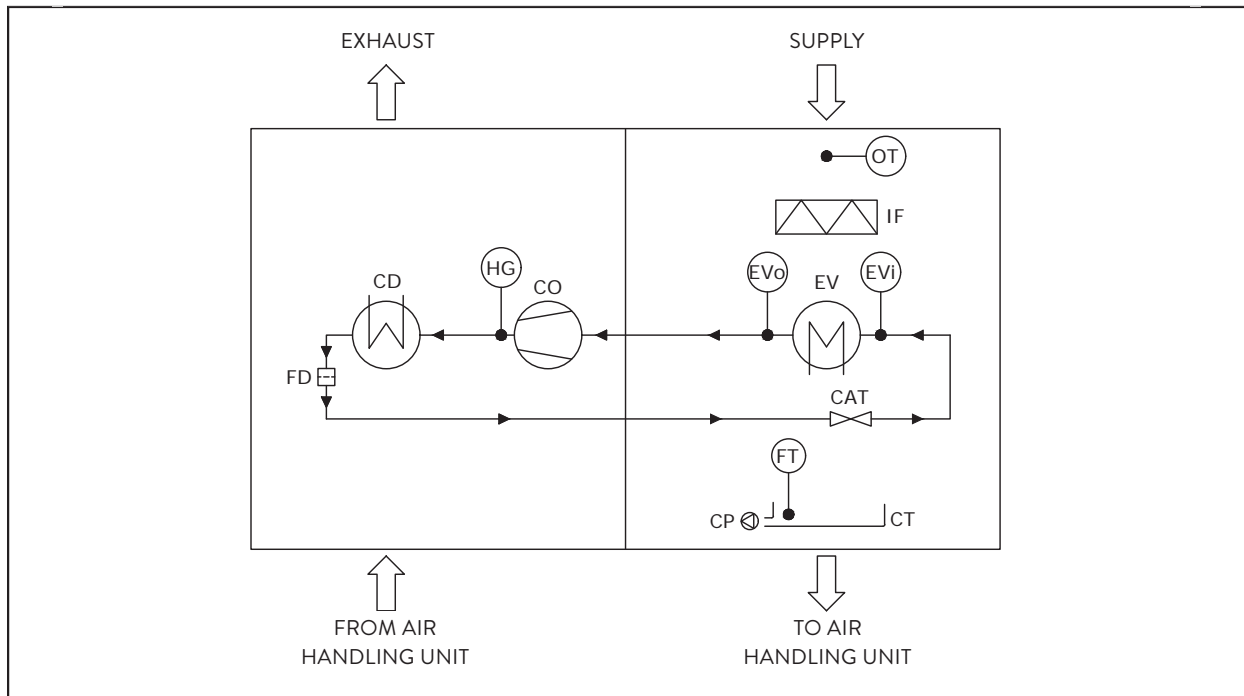
Nominal cooling capacity*	2450 W
Min. cooling capacity*	421 W
Nominal EER	4,01
Max. airflow	260 m ³ /h
Min. airflow**	150 m ³ /h
Electricity supply	1 x 230 V + AC / 50 Hz
Nominal electrical output	617 W
Nominal current strength	3,8 A
Electrical output factor	0,7
Max. leakage current	3,0 mA
Coolant	R134a
Filling	300 g
Duct connection	200 mm dia.
Drain hose, internal/external diameter	8/12 mm dia.
Energy class (SEC class)	A**
Weight	49 kg
Dimensions incl. unit (WxHxD)	1274 x 333 x 972 mm

* Measured according to EN308 and EN14825 at max. airflow with ePM₁₀ 75% filter.

** Cooling module activation.



SCHEMATIC SKETCH CC



NAME OF COMPONENT

CAT	Capillary Tube	CT	Condensate Tray	FT	Float
CD	Condenser	EV	Evaporator	HG	Hot Gas Temperature
CO	Compressor, inverter-controlled	EVi	Evaporator, Temperature inlet	OT	Outside Temperature
CP	Condensate Pump	EVo	Evaporator, Temperature output		
		FD	Dry Filter		



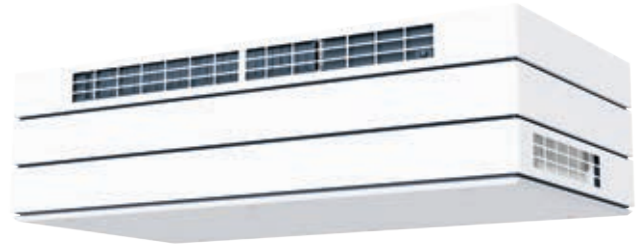
An unhealthy indoor climate affects concentration and disrupts learning. Ventilation should be on-demand controlled and quiet.

AM 500

The AM 500 is designed for medium-sized rooms. A horizontal or vertical model can be installed, depending on the room and location of the unit. The air handling unit is available with a separate control panel and can also be connected to a network system (see page 86).

A cooling module can be connected (see page 22).

Ducts can be connected to extract, to inlet or to extract and inlet.



TECHNICAL DATA

Maximum capacity at 30 dB(A)*	430 m ³ /h
Maximum capacity at 35 dB(A)*	550 m ³ /h
Throw length (0,2 m/s)*	5 m at 350 m ³ /h
	5,9 m at 450 m ³ /h
	7,5 m at 550 m ³ /h
Nominal current*	1,1 A
Maximum power consumption*	132 W
Electrical connection	1 x 230 V + N + PE / 50 Hz
Duct connections	250 mm dia.
Condensate drain	16 mm dia.
Weight	108 kg
Heat exchanger	Countercurrent heat exchanger (aluminium)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	Panels RAL 9010 (white)
Power cable	1,5 mm ²
Leakage current	≤ 6 mA
Dimensions (WxHxD)	1600 x 439 x 779 mm

* Filter type: ePM₁₀ 75% / ePM₁ 75%

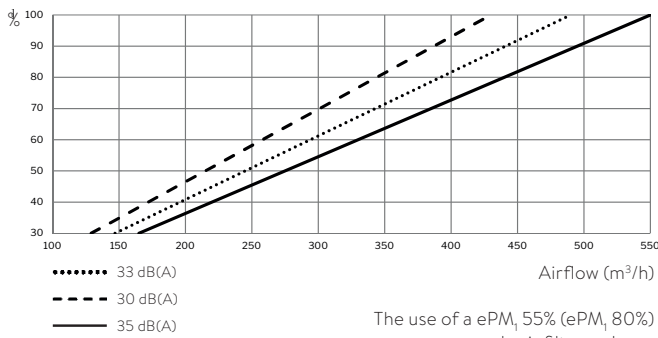
ELECTRIC HEATING SURFACE	COMFORT HEATER		STANDARD AND OPTIONS	
	PRE-HEATER	COMFORT HEATER	AM 500 V	AM 500 H
Heat output	1000 W	630 W	X	X
Thermal circuit breaker, aut. reset	75°C	75°C	•	•
Thermal circuit breaker, man. reset	120°C	120°C	•	•
WATER HEATING SURFACE	COMFORT HEATER		Electric preheating surface	•
Max. operating temperature	90°C		Electric comfort heating surface	•
Max. operating pressure	10 bar		Water heating surface	•
Heat output	858 W*		CO ₂ sensor (wall-mounted)	•
Connection dimension	3/8" (DN 10)		CO ₂ sensor (built-in)	•
Materials pipes/fins	copper/aluminium		PIR/motion sensor (wall-mounted)	•
Open/close time, motor valve	< 60 s		PIR/motion sensor (built-in)	•
			Hygrostat	•
			Condensate pump	•
			Cooling module	•
			Motor driven exhaust air damper	X
			Motor driven supply air damper	X
			Capacitive return for motor driven damper	•
			Countercurrent heat exchanger (aluminium)	X
			Energy meter	•
			Wall / Ceiling frame	•
			Mini B USB (on front of unit)	•

* Capacity at: supply/return temperature 60/40°C, water volume 25 l/h

X : standard • : option

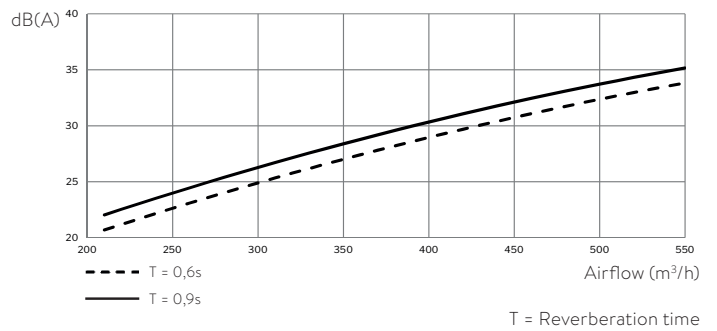
AM 500

CAPACITY



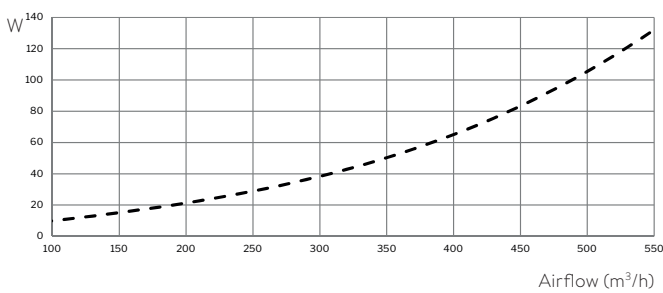
The use of a ePM₁ 55% (ePM₁ 80%) supply air filter reduces airflow by 10% (20%).

SOUND PRESSURE

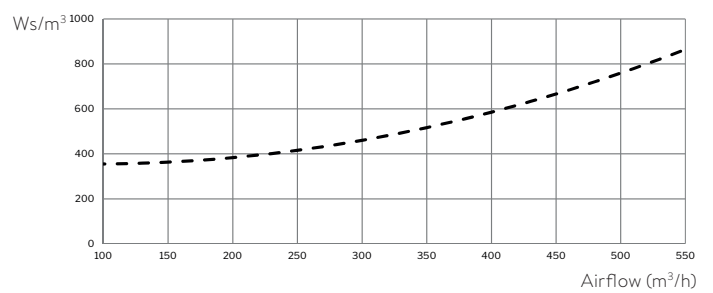


T = Reverberation time

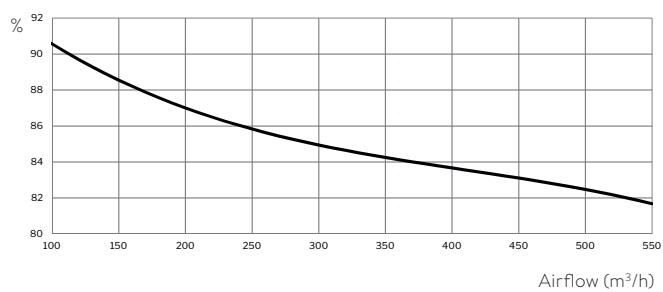
POWER CONSUMPTION



SFP

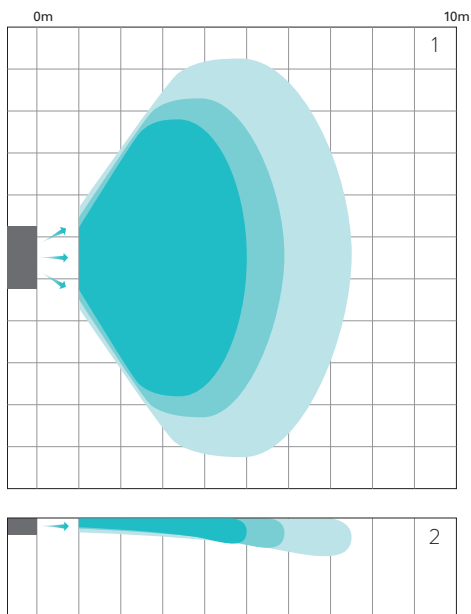
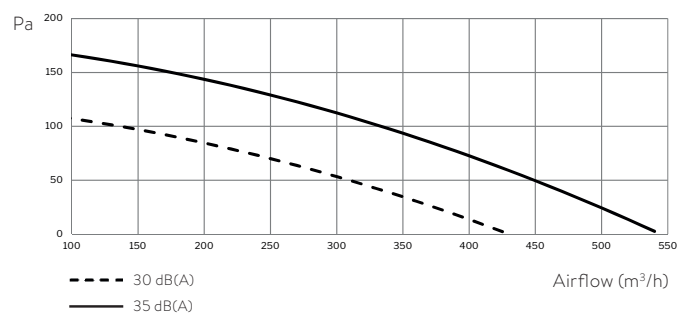


TEMPERATURE EFFICIENCY



Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH

EXTERNAL PRESSURE LOSS

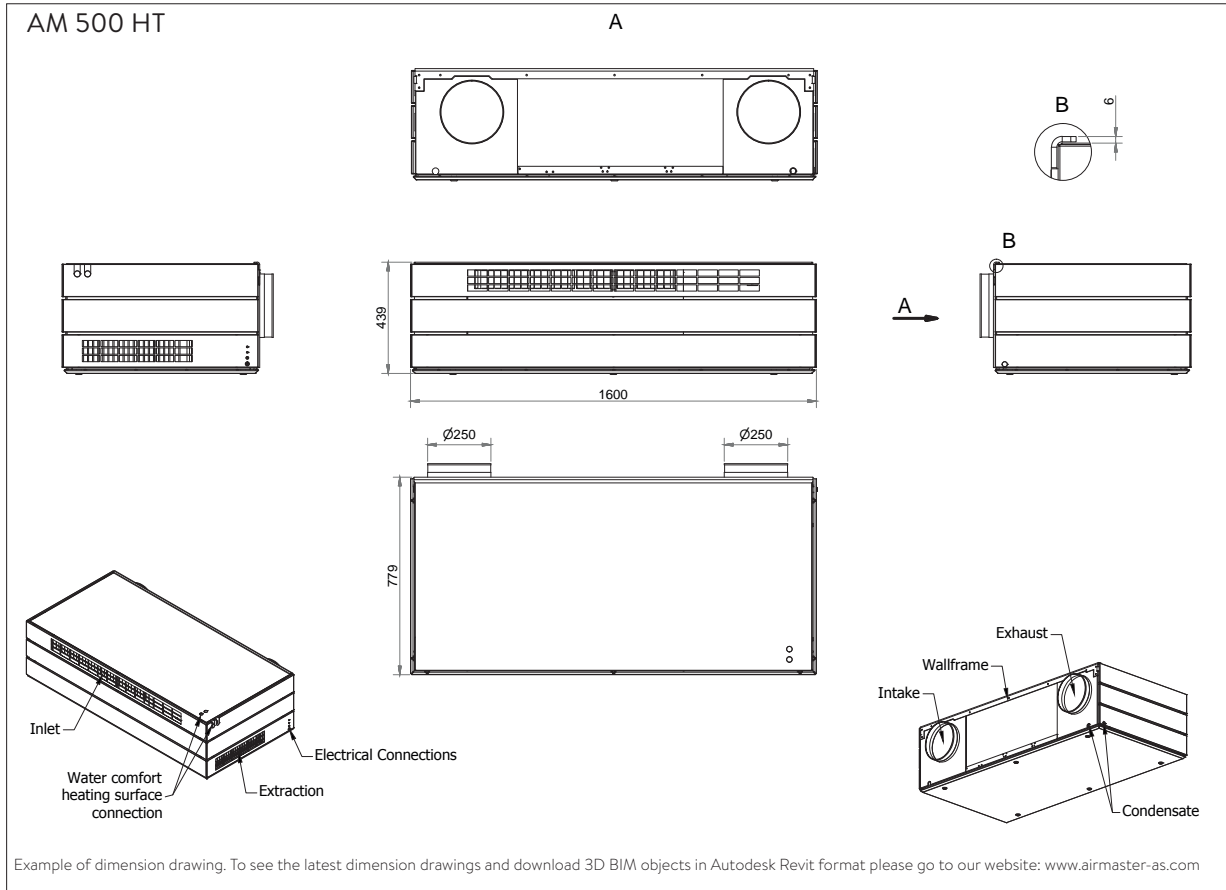


THROW LENGTH

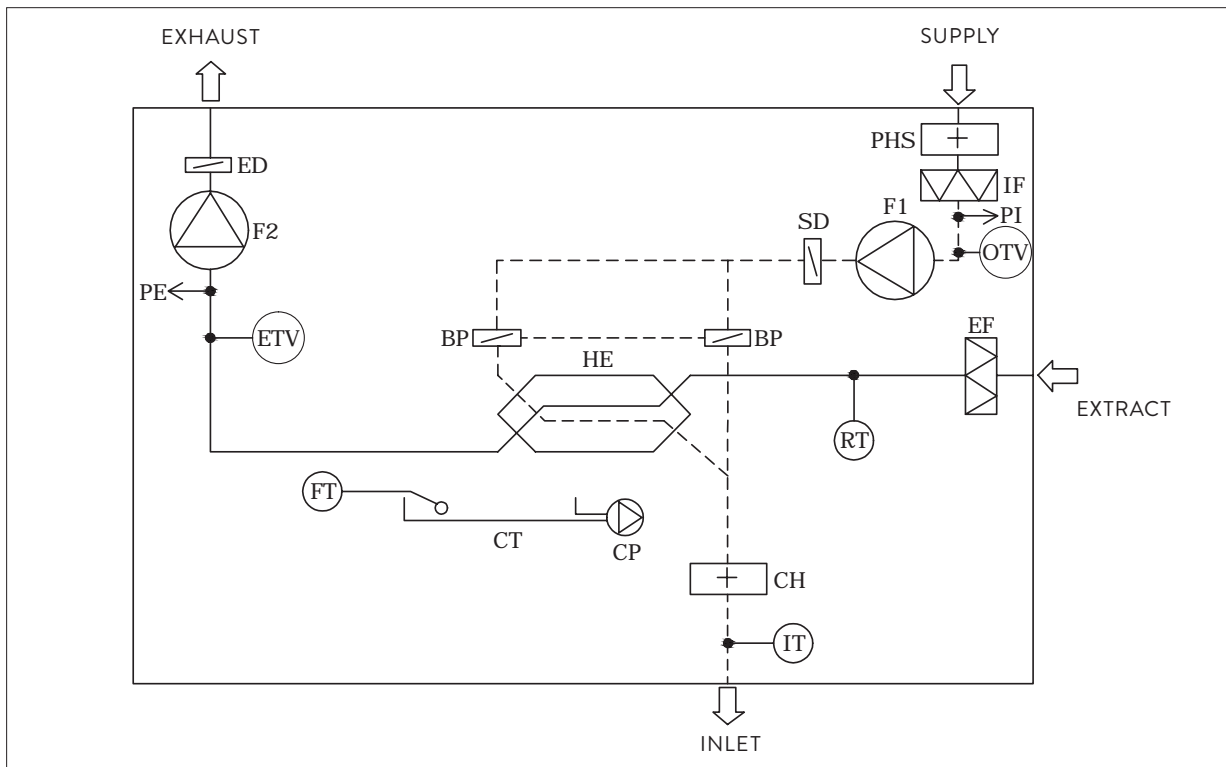
Airmaster air handling units spread an air stream in different directions, depending on the given airflow. This can be seen in the illustration on the left, in which the blue shading indicates airflows for the different throw lengths.

- ¹ Throw length seen from above
- ² Throw length seen from the side

AM 500



SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass (motor driven)	FT	Float	PE	Flow Meter, extracted air (option)
CH	Comfort Heating Surface (option)	F1	Supply Air Fan	PHS	Preheating Surface (option)
CP	Condensate Pump (option)	F2	Extract Air Fan	PI	Flow Meter, supply air (option)
CT	Condensate Tray	HE	Countercurrent Heat Exchanger	RT	Room Temperature Sensor
ED	Exhaust Air Damper (motor driven)	IF	Supply Air Filter	SD	Supply Air Damper (motor driven)
EF	Extract Air Filter	IT	Inlet Air Temperature Sensor		
ETV	Exhaust Temperature Sensor	OTV	Outside Temperature Sensor		

CC 500 COOLING MODULE

Read more about our inverter-controlled cooling modules on page 22.

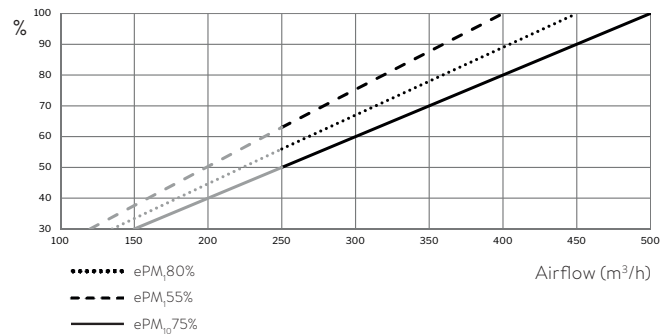
TECHNICAL DATA

Nominal cooling capacity*	3280 W
Min. cooling capacity*	820 W
Nominal EER	3,16
Max. airflow	500 m ³ /h
Min. airflow**	250 m ³ /h
Electricity supply	1 x 230 V + AC / 50 Hz
Nominal electrical output	1038 W
Nominal current strength	6,4 A
Electrical output factor	0,71
Max. leakage current	2,0 mA
Coolant	R410a
Filling	480 g
Duct connection	250 mm dia.
Drain hose, internal/external diameter	8/12 mm dia.
Energy class (SEC class)	A*
Weight	82,8 kg
Dimensions incl. unit (WxHxD)	1600 x 439 x 1185 mm

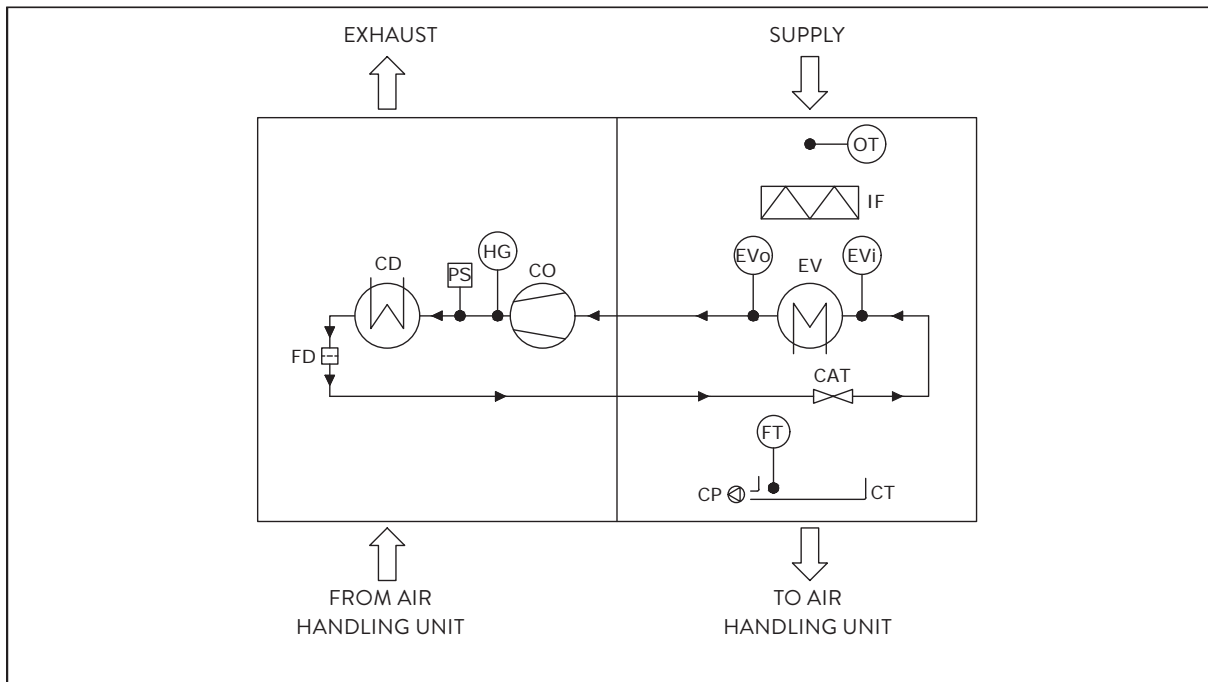
* Measured according to EN308 and EN14825 at max. airflow with ePM₁₀ 75% filter.

** Cooling module activation.

CAPACITY AM 500 + CC 500



SCHEMATIC SKETCH CC



NAME OF COMPONENT

CAT	Capillary Tube	CT	Condensate Tray	FT	Float
CD	Condenser	EV	Evaporator	HG	Hot gas Temperature
CO	Compressor, inverter-controlled	EVi	Evaporator, temperature inlet	OT	Outside Temperature
CP	Condensate Pump	EVo	Evaporator, temperature output	PS	Pressure Switch
		FD	Dry Filter		





People are sensitive to changes in the air. Temperature, oxygen and CO₂ levels should ideally be in natural balance for the sake of our wellbeing.

AM 800

This air handling unit is designed for large rooms with moderate requirement and is thus perfect for classrooms. A horizontal or vertical model can be installed, depending on the room and location of the unit. The air handling unit is available with a separate control panel and can also be connected to a network system (see page 86).

A cooling module can be connected (see page 22).

Ducts can be connected to extract, to inlet or to extract and inlet.



TECHNICAL DATA

Maximum capacity at 30 dB(A)*	650 m ³ /h
Maximum capacity at 35 dB(A)*	725 m ³ /h
Throw length (0,2 m/s)*	6,5 m at 500 m ³ /h 7,4 m at 600 m ³ /h 8,1 m at 700 m ³ /h
Nominal current*	1,1 A
Maximum power consumption*	156 W
Electrical connection	1 x 230 V + N + PE / 50 Hz
Duct connections	315 mm dia.
Condensate drain	16 mm dia.
Weight	155 kg
Heat exchanger	2 x Countercurrent heat exchanger (aluminium)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	Panels RAL 9010 (whvite)
Power cable	1,5 mm ²
Recommended fuse	13 A
Leakage current	≤ 6 mA
Dimensions (WxHxD)	1910 x 474 x 916 mm

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

ELECTRIC HEATING SURFACE	PRE-HEATER	COMFORT HEATER
Heat output	1500 W	1000 W
Thermal circuit breaker, aut. reset	75°C	75°C
Thermal circuit breaker, man. reset	120°C	120°C

WATER HEATING SURFACE	COMFORT HEATER
Max. operating temperature	90°C
Max. operating pressure	10 bar
Heat output	1379 W*
Connection dimension	1/2" (DN 15)
Materials pipes/fins	copper/aluminium
Open/close time, motor valve	< 60 s

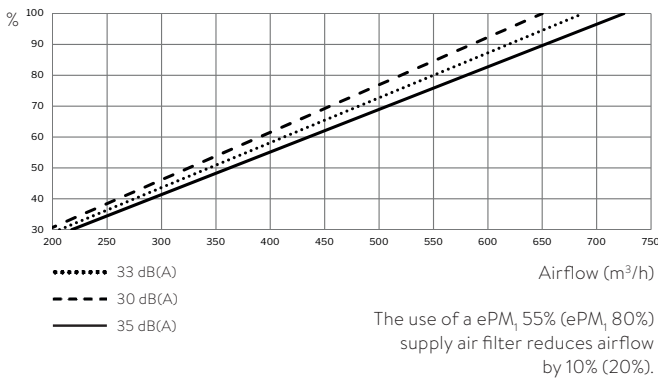
* Capacity at: supply/return temperature 60/40°C, water volume 32 l/h

STANDARD AND OPTIONS	AM 800 V	AM 800 H
Bypass	X	X
Electric preheating surface	•	•
Electric comfort heating surface	•	•
Water heating surface	•	•
CO ₂ sensor (wall-mounted)	•	•
CO ₂ sensor (built-in)	•	•
PIR/motion sensor (wall-mounted)	•	•
PIR/motion sensor (built-in)	•	•
Hygrostat	•	•
Condensate pump	•	•
Insulated condensate tray	•	•
Cooling module		•
Motor driven exhaust air damper	X	X
Motor driven supply air damper	X	X
Capacitive return for motor driven damper	•	•
Countercurrent heat exchanger (aluminium)	X	X
Energy meter	•	•
Wall / Ceiling frame	•	•
Mini B USB (on front of unit)	•	•

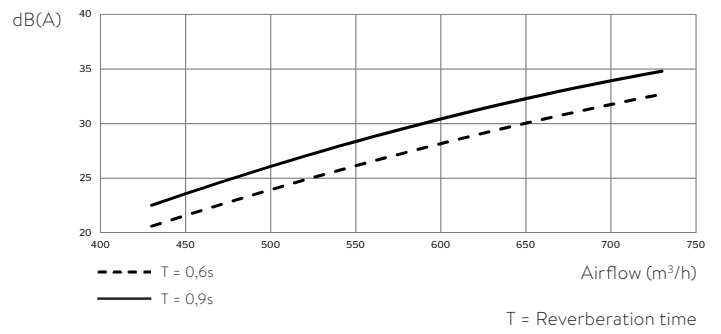
X : standard • : option

AM 800

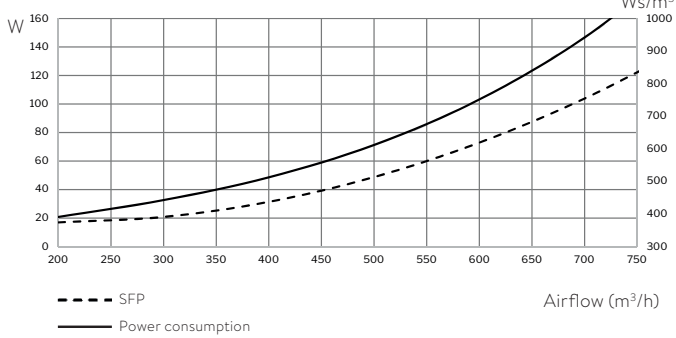
CAPACITY



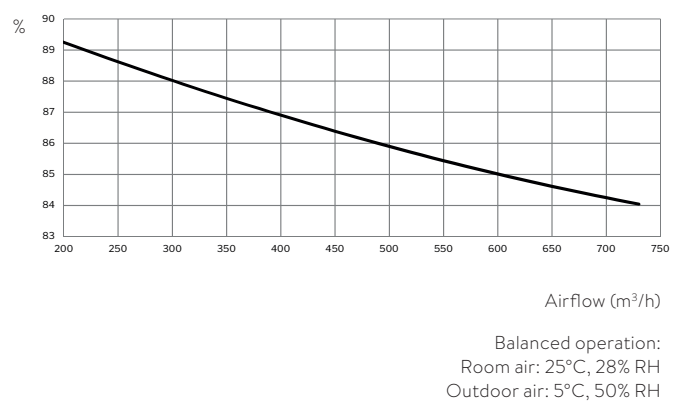
SOUND PRESSURE



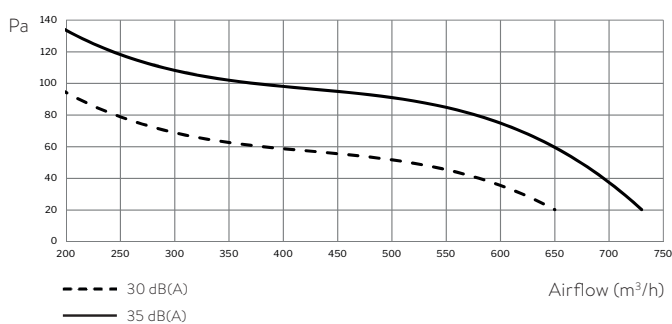
POWER CONSUMPTION / SFP



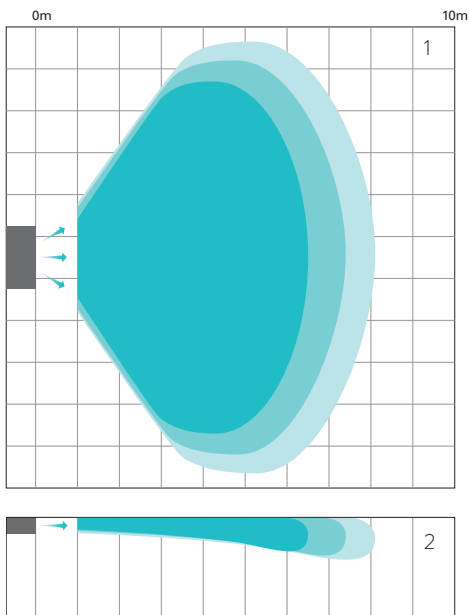
TEMPERATUREFFEKTIVITET



EXTERNAL PRESSURE LOSS



Sound pressure level data can be downloaded from our website:



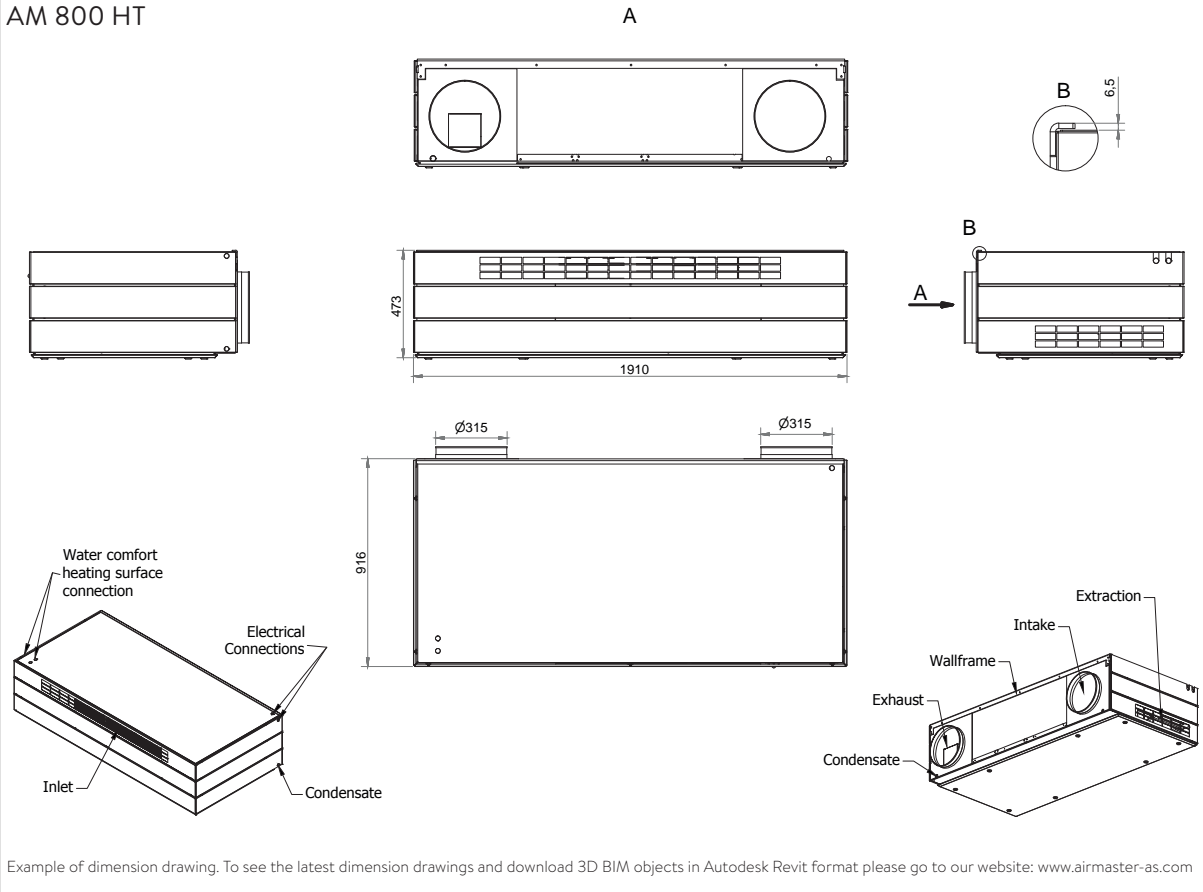
THROW LENGTH

The illustration on the left shows how an AM 800 air handling unit spreads inlet air differently depending on the given airflow. The blue shading indicates throw length for three different airflows.

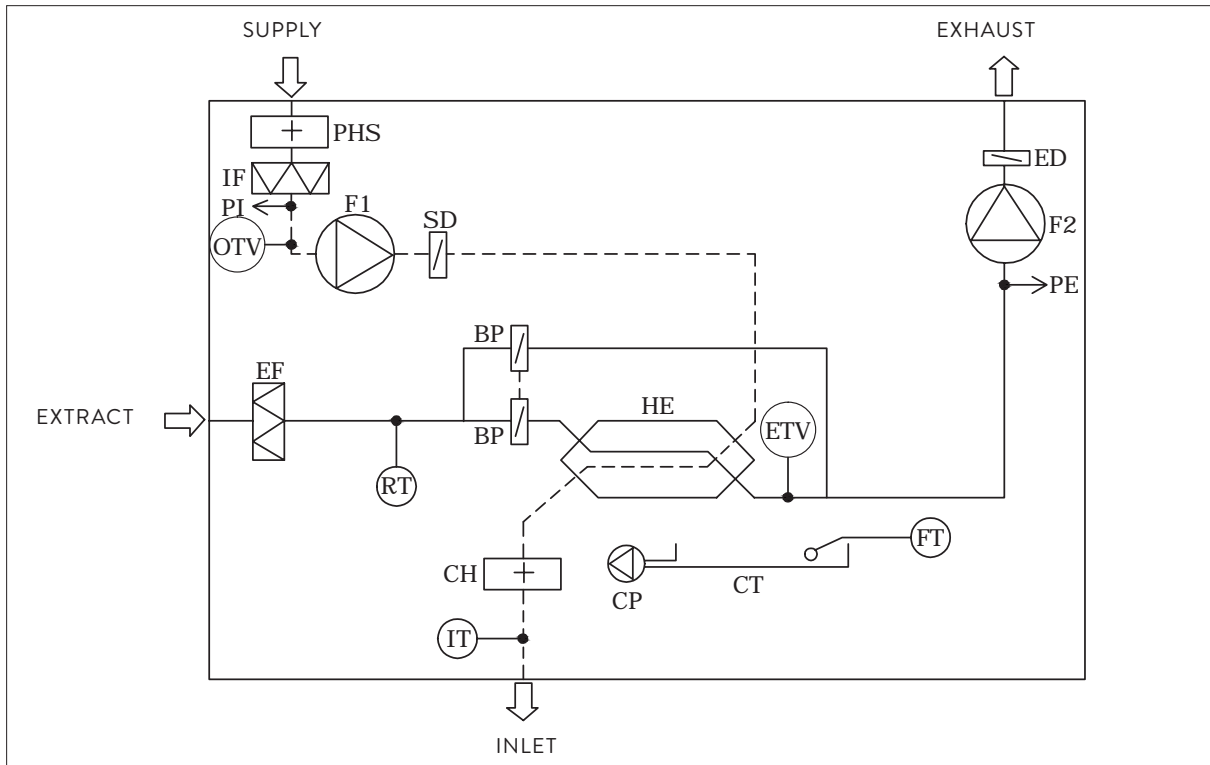
- ¹ Throw length seen from above
- ² Throw length seen from the side

AM 800

AM 800 HT



SCHEMATIC SKETCH



NAME OF COMPONENT

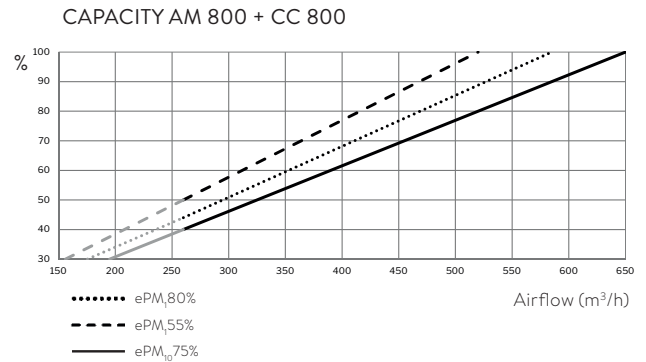
BP	Bypass (motor driven)	FT	Float	PE	Flow Meter, extracted air (option)
CH	Comfort Heating Surface (option)	F1	Supply Air Fan	PHS	Preheater Surface (option)
CP	Condensate Pump (option)	F2	Extract Air Fan	PI	Flow Meter, supply air (option)
CT	Condensate Tray	HE	Countercurrent Heat Exchanger	RT	Room Temperature Sensor
ED	Exhaust Air Damper (motor driven)	IF	Supply Air Filter	SD	Supply Air Damper (motor driven)
EF	Extract Air Filter	IT	Inlet Air Temperature Sensor		
ETV	Exhaust Temperature Sensor	OTV	Outside Temperature Sensor		

CC 800 COOLING MODULE

Read more about our inverter-controlled cooling modules on page 22.

TECHNICAL DATA

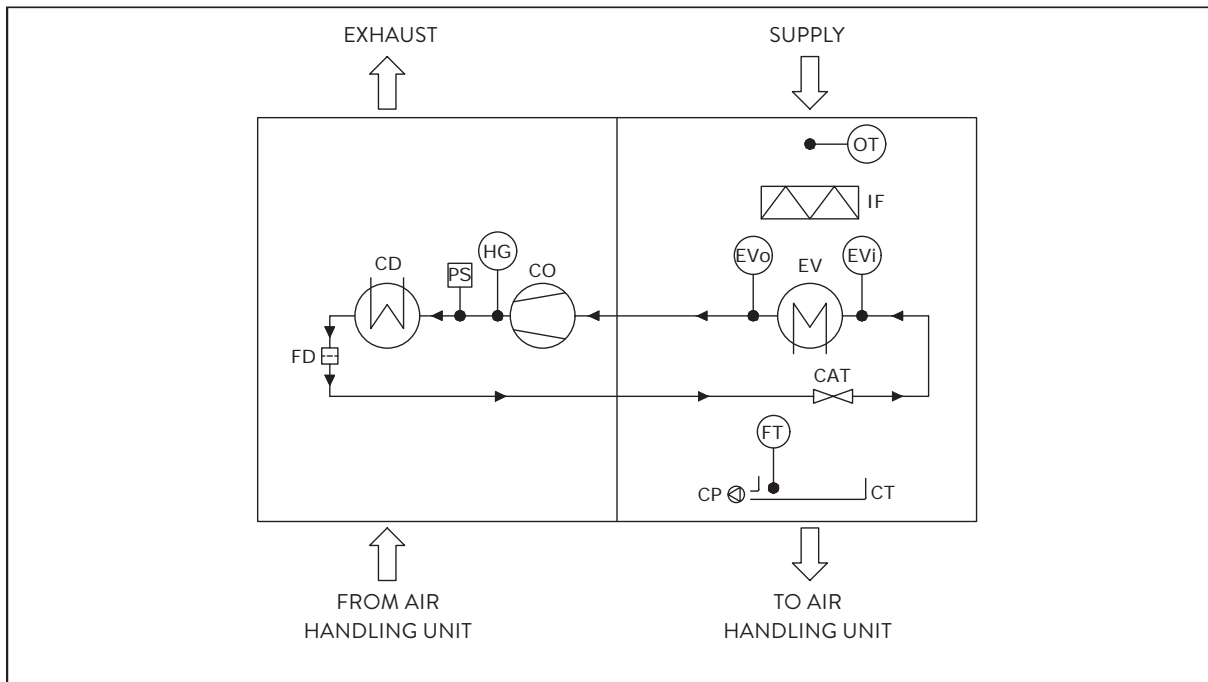
Nominal cooling capacity*	5240 W
Min. cooling capacity*	990 W
Nominal EER	4,72
Max. airflow	650 m ³ /h
Min. airflow**	260 m ³ /h
Electricity supply	1 x 230 V + AC / 50 Hz
Nominal electrical output	1110 W
Nominal current strength	6,8 A
Electrical output factor	0,71
Max. leakage current	2,0 mA
Coolant	R410a
Filling	740 g
Duct connection	315 mm dia.
Drain hose, internal/external diameter	8/12 mm dia.
Energy class (SEC class)	A+++
Weight	100,7 kg
Dimensions incl. unit (WxHxD)	1910 x 474 x 1321 mm



* Measured according to EN308 and EN14825 at max. airflow with ePM_{1,75%} filter.

** Cooling module activation.

SCHEMATIC SKETCH CC



NAME OF COMPONENT

CAT	Capillary Tube	CT	Condensate Tray	FT	Float
CD	Condenser	EV	Evaporator	HG	Hot Gas Temperature
CO	Compressor, inverter-controlled	EVi	Evaporator, temperature inlet	OT	Outside Temperature
CP	Condensate Pump	EVo	Evaporator, temperature output	PS	Pressure Switch
		FD	Dry Filter		





The AM 1000 comes in four sections. The unit is therefore easy to transport, handle and install.

AM 1000

AM 1000 is a highly competitive solution developed for ventilation in classrooms, but can of course be used anywhere there are high requirements for comfort and healthy indoor climate.

Active noise control

The active noise control technology is excellent at damping low-frequency noise, which normally requires a large damper area.



TECHNICAL DATA

Maximum capacity at 30 dB(A)*	950 m ³ /h
Maximum capacity at 35 dB(A)*	1100 m ³ /h
Throw length (0,2 m/s)*	10,5 m
Nominal current*	2,2 A
Maximum power consumption*	305 W
Electrical connection	3 x 400 V + N + PE / 50 Hz
Duct connection	315 mm dia.**
Condensate drain, int./ext.	8/12 mm dia.
Weight, standard unit complete	286,5 kg
Heat exchanger	Countercurrent heat exchanger (aluminium)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	Panels RAL 9010 (white)
Power cable	1,5 mm ²
Recommended fuse	3 x 13 A
Leakage current	≤ 4 mA
Dimensions (WxHxD)	2325 x 561 x 1283 mm

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

** Horizontal supply/exhaust using Airmaster's new specially designed Ø315 mm wall grille, available from Q2 2019

WATER HEATING SURFACE

Max. operating temperature	90°C
Max. operating pressure	10 bar
Heat output	2540 W*
Connection dimension	1/2" (DN 15)
Materials pipes/fins	copper/aluminium
Open/close time, motor valve	60 s

ELECTRIC HEATING SURFACE

	PREHEATER	COMFORT HEATER
Heat output	2300 W	1500 W
Thermal circuit breaker, aut. reset	75°C	75°C
Thermal circuit breaker, man. reset	120°C	120°C

* Capacity at supply/return temperature 60/40°C. Water volume 101 l/h.

AM 1000

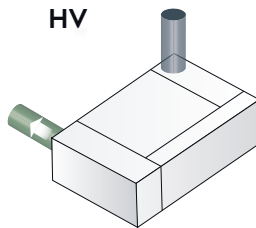
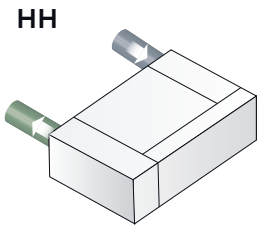
STANDARD AND OPTIONS	AM 1000
Bypass	X
Adaptive Airflow™	•
Electric preheating surface 2300 W	•
Electric comfort heating surface 1500 W	•
Water heating surface	•
CO ₂ sensor (built-in)	•
PIR/motion sensor (built-in)	•
Condensate pump	•
Motor driven exhaust air damper	X
Motor driven supply air damper	X
Countercurrent heat exchanger (aluminium)	X
Energy meter	•
Wall / Ceiling frame	X

X : standard • : option

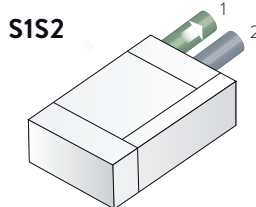
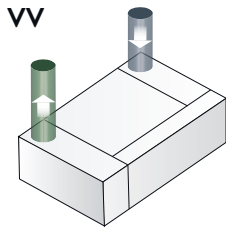


AM 1000 VERSIONS

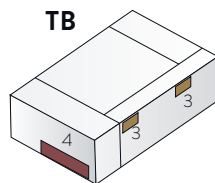
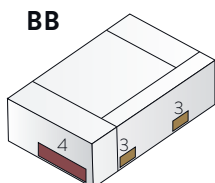
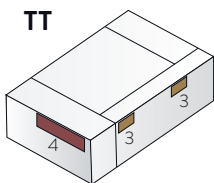
Versions exhaust / supply



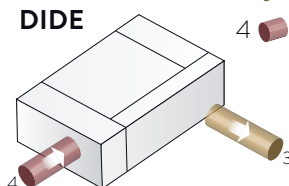
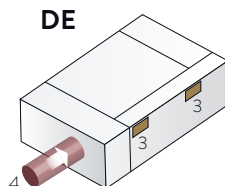
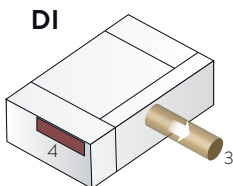
- H Horizontal
- V Vertical
- S1 Side (towards the rear)
- S2 Side (towards the front)
- 1 Exhaust
- 2 Supply



Versions inlet / extract



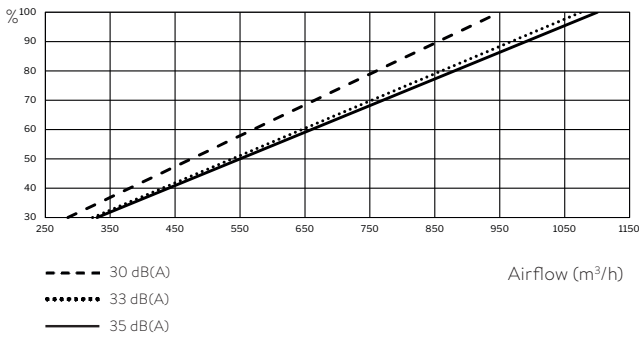
- TT Inlet / extract on top
- BB Inlet / extract at the bottom
- TB Inlet on top / extract at the bottom
- DI Inlet ducted / extract on top
- DE Inlet on top / extract ducted
- DIDE Inlet / extract ducted



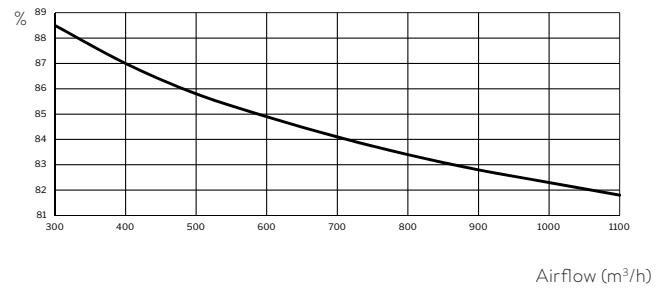
- 3 Inlet
- 4 Extract

AM 1000

CAPACITY WITH ePM₁₀ 75% / ePM₁₀ 75% FILTERS ¹

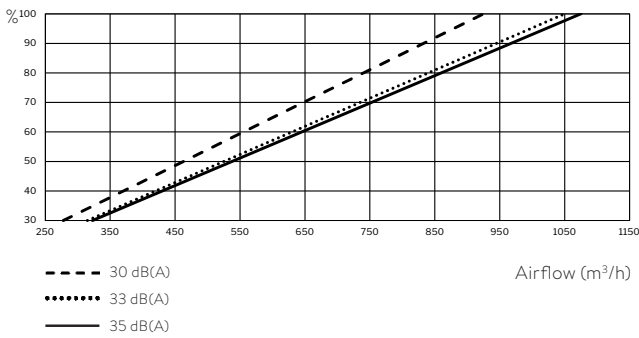


TEMPERATURE EFFICIENCY

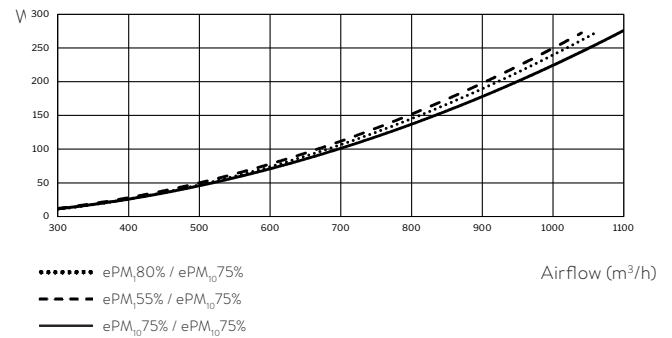


EN308 conditions: Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH

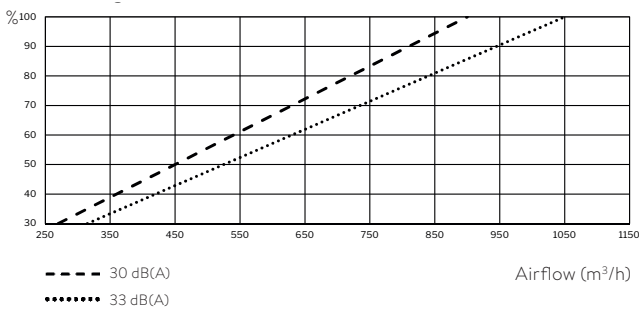
CAPACITY WITH ePM₁ 55% / ePM₁₀ 75% FILTERS ¹



POWER CONSUMPTION ¹



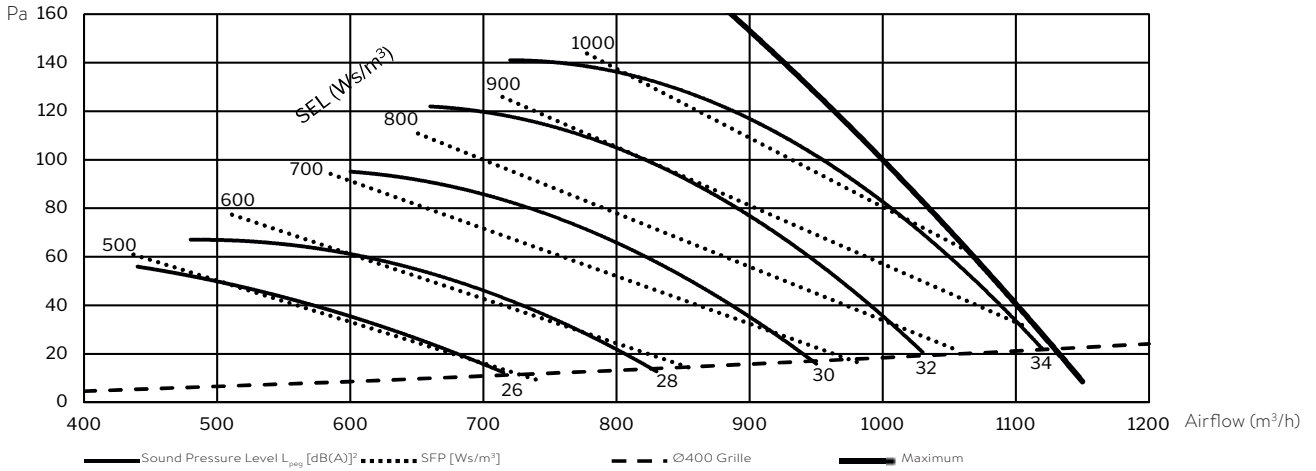
CAPACITY WITH ePM₁ 80% / ePM₁₀ 75% FILTERS ¹



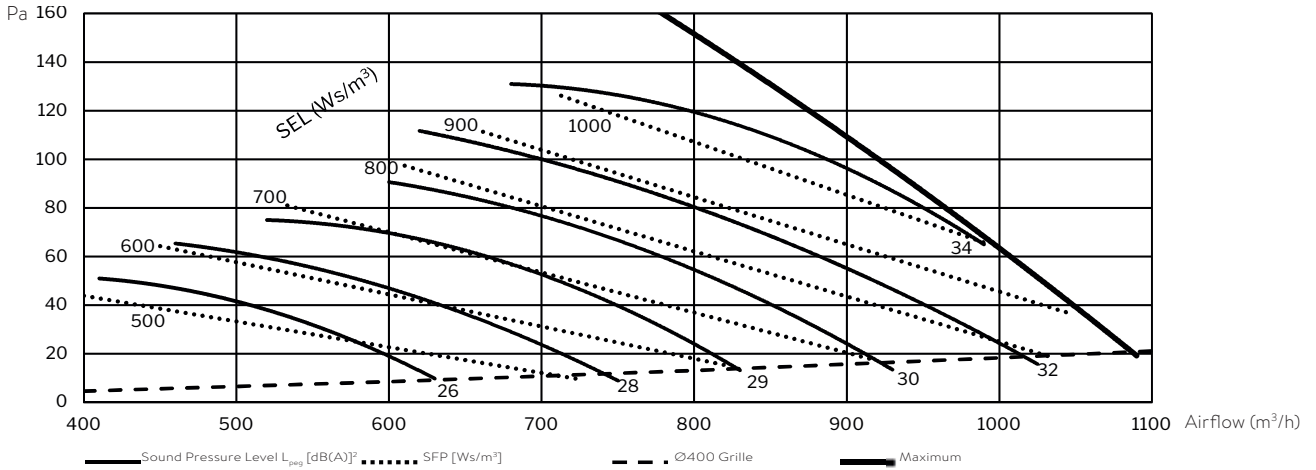
¹ Measurements taken with unit model AM 1000 HHT built-in as standard using Airmaster's recommended wall grille 400 mm dia. with room damping of 9 dB(A).

AM 1000

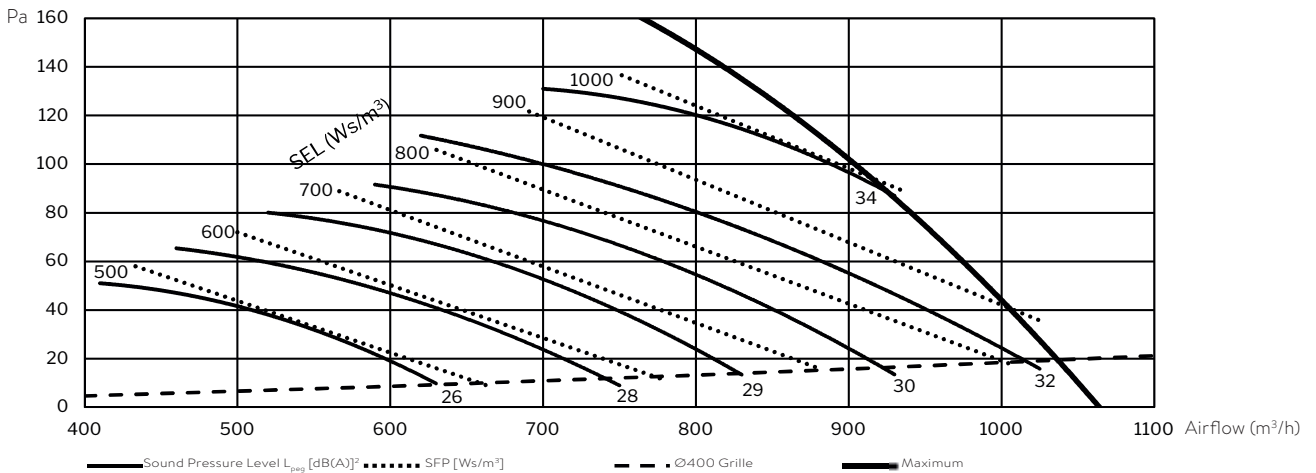
SFP WITH ePM₁₀ 75% / ePM₁₀ 75% FILTERS (W/(m³/s))¹



SFP WITH ePM₁ 55% / ePM₁₀ 75% FILTERS (W/(m³/s))¹



SFP WITH ePM₁ 80% / ePM₁₀ 75% FILTERS (W/(m³/s))¹



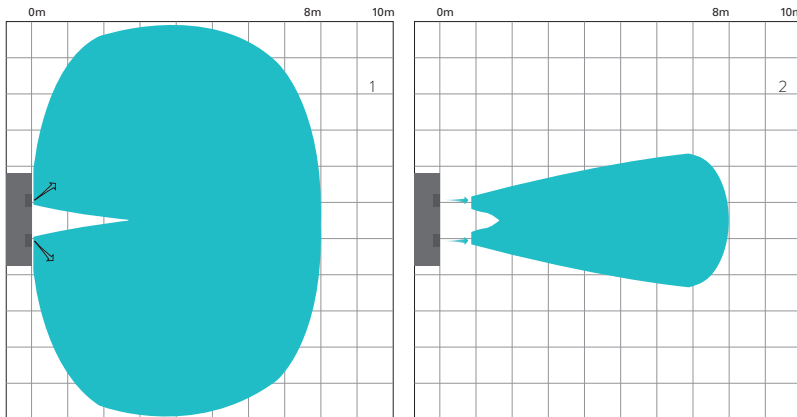
¹ Measurements taken with unit model AM 1000 HHT built-in as standard using Airmaster's recommended wall grille 400 mm dia. with room damping of 9 dB(A).
² Sound pressure L_{p,eq} measured at a height of 1.2 m with 1 m horizontal distance from unit with room damping of 9 dB(A).

AM 1000

THROW LENGTH

Variable inlet with AM 1000. Inlet divided via two separate inlet grilles, each of which forms a stream. Both grilles have variable louvres. The streams achieve maximum spread at full airflow. This tends to cause a short throw length. The streams are concentrated together when a small airflow is used, which tends to cause a long throw length. Adjustment is gradual and automatic, based on the built-in flow metering. This method ensures an almost constant throw length adapted to the length of the room.

SYMMETRIC MOUNTING IN THE ROOM WITH ADAPTIVE AIRFLOW™

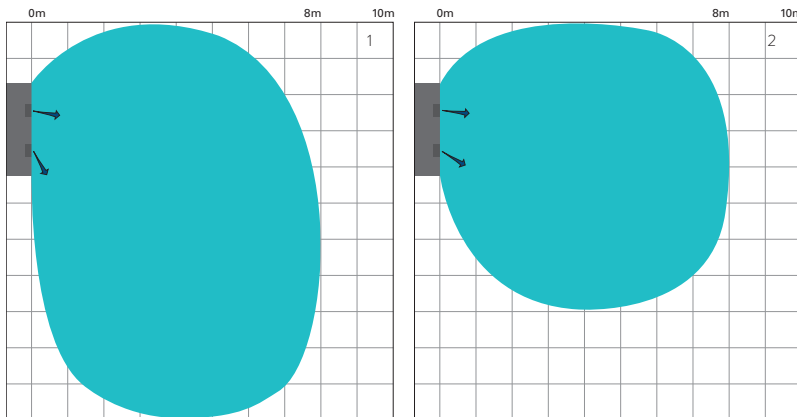


¹ At maximum air volume with separate streams.

² At minimum air volume with concentrated streams.

ASYMMETRIC MOUNTING IN THE ROOM WITH ADAPTIVE AIRFLOW™

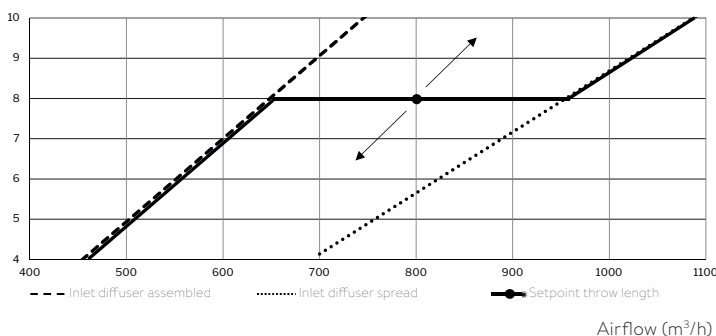
If the type of room or building only makes asymmetric mounting possible, we recommend to order a directional inlet grille. Use the following sketches as a guideline.



¹ At maximum air volume with separate streams.

² At minimum air volume with concentrated streams.

THROW LENGTH (M) ¹

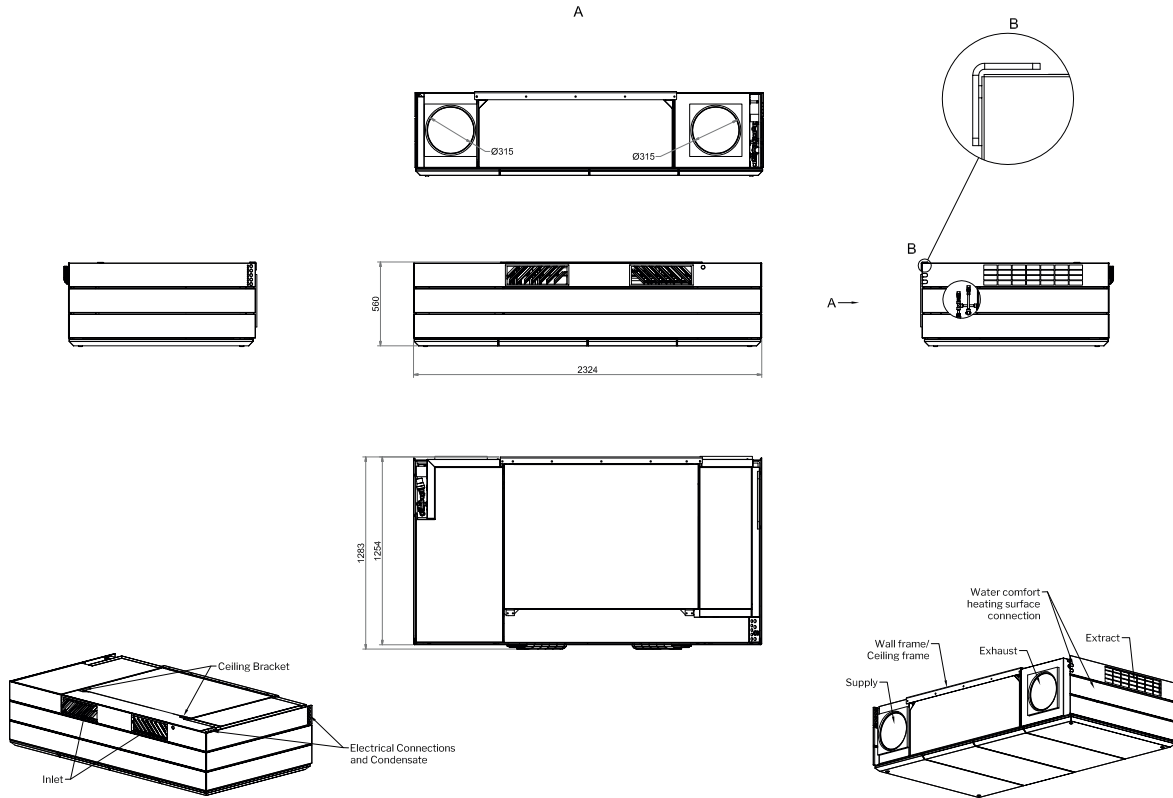


Throw length set as standard to 8 m. Set point for throw length can be adjusted using a PC with Airlinq Service Tool installed.

¹ The throw length is measured with 2°C subcooled inlet.

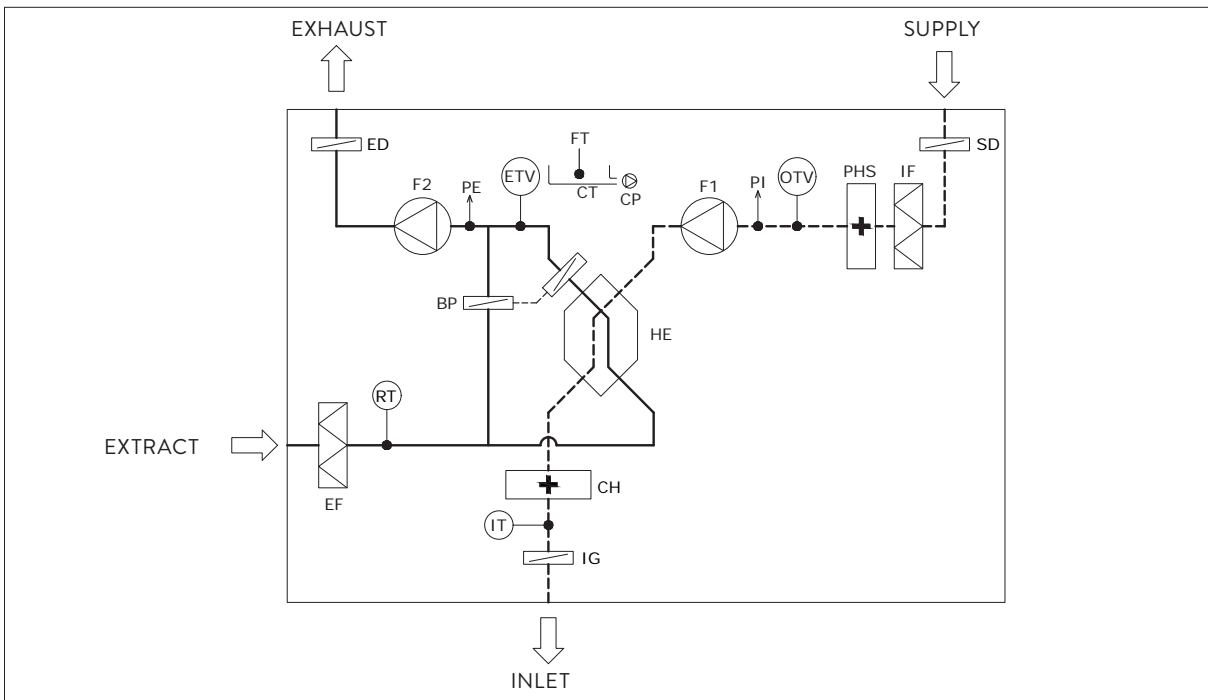
AM 1000

AM 1000 HHT



Example of dimension drawing. To see the latest dimension drawings and download 3D BIM objects in Autodesk Revit format please go to our website: www.airmaster-as.com

SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass (motor driven)	FT	Float	OTV	Outside Temperature Sensor
CH	Comfort Heating Surface (option)	F1	Supply Air Fan	PE	Flow Meter, extracted air
CP	Condensate Pump (option)	F2	Extract Air Fan	PHS	Preheating Surface (option)
CT	Condensate Tray	HE	Countercurrent Heat Exchanger	PI	Flow Meter, supply air
ED	Exhaust Air Damper (motor driven)	IF	Supply Air Filter	RT	Room Temperature Sensor
EF	Extract Air Filter	IG	Inlet Grille (motor driven)	SD	Supply Air Damper (motor driven)
ETV	Exhaust Temperature Sensor	IT	Inlet Air Temperature Sensor		

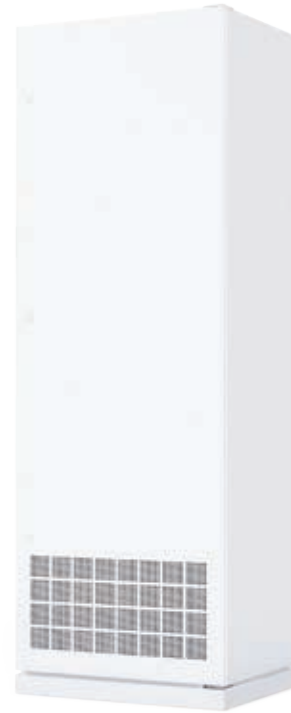


Decentralised ventilation gives freedom of choice. Airmaster's air handling units make adjustment easy and flexible to adapt ventilation to the room.

AM 900

The AM 900 air handling unit is available in two model types: mixed and displacement ventilation. The unit is designed to either act as a mixed or displacement air handling unit, depending on room configuration and use. The unit can be placed on the floor or discreetly between cupboards, as an integrated part of the room.

The AM 900 is ideal for larger rooms, such as classrooms, meeting rooms and open plan offices.



TECHNICAL DATA

Maximum capacity, mixed*	690 m ³ /h at 30 dB(A) 830 m ³ /h at 35 dB(A)
Maximum capacity, displacement*	650 m ³ /h at 30 dB(A) 800 m ³ /h at 35 dB(A)
Mixed, throw length (0,2 m/s)*	7,2 m at 830 m ³ /h 6 m at 690 m ³ /h
Displacement ventilation, adjacent zone (0,2 m/s)*	Adjacent zone to outlet, approx. 1,5 m at 800 m ³ /h Adjacent zone to outlet, approx. 1,2 m at 650 m ³ /h
Nominal current*	1,8 A
Maximum power consumption*	240 W
Electrical connection	1 x 230 V + N + PE / 50 Hz
Duct connections	315 mm dia.
Condensate drain	16 mm dia.
Weight	180 kg
Heat exchanger	3 x Countercurrent heat exchanger (PET)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	Ral 9010 (white)
Power cable	1,5 mm ²
Leakage current	≤ 6 mA
Dimensions (WxHxD)	Mixed: 800 x 2323 x 588 mm Displ.: 800 x 2323 x 687 mm
Minimum ceiling height	2490 mm

* Filter type: ePM₁₀ 75% / ePM₁ 75%

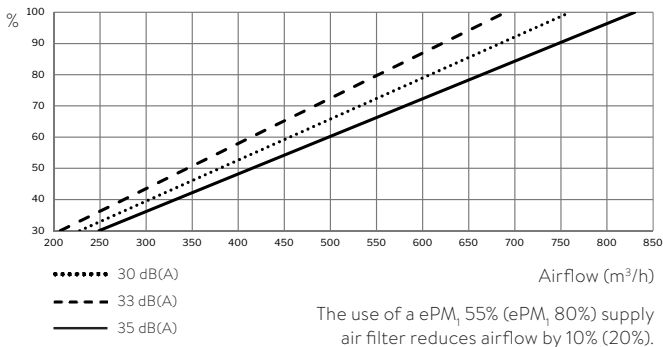
ELECTRIC HEATING SURFACE	PRE-HEATER	COMFORT HEATER	STANDARD AND OPTIONS	AM 900
Heat output	1500 W	1050 W	Bypass	X
Thermal circuit breaker, aut. reset	75°C	75°C	Electric preheater	•
Thermal circuit breaker, man. reset	120°C	120°C	Electric comfort heater	•
			Water comfort heater	•
			CO ₂ sensor (built-in)	•
			PIR/motion sensor (wall-mounted)	•
			Condensate pump	•
			Motor driven exhaust air damper	X
			Motor driven supply air damper	X
			Capacitive return for motorised damper	•
			Countercurrent heat exchanger (PET)	X
			Energy meter	•

* Capacity at: supply/return temperature 60/40°C, water volume 33 l/h

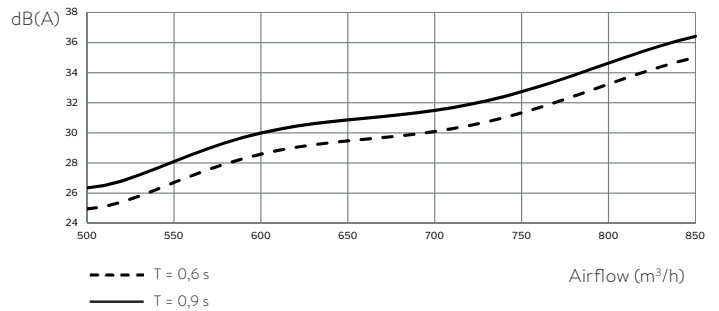
X: standard •: option

AM 900

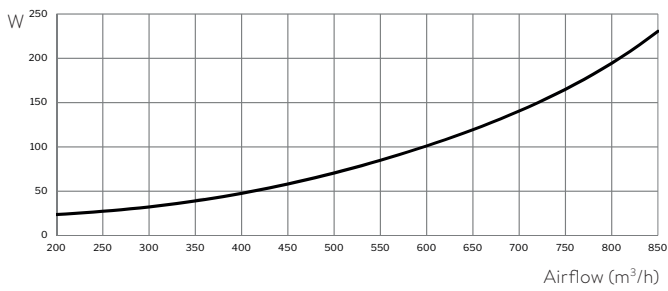
MIXED - CAPACITY



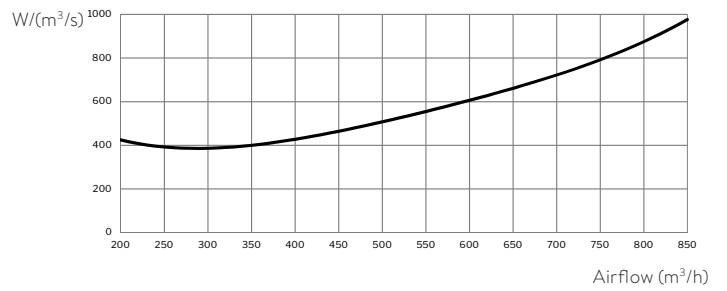
MIXED - SOUND PRESSURE



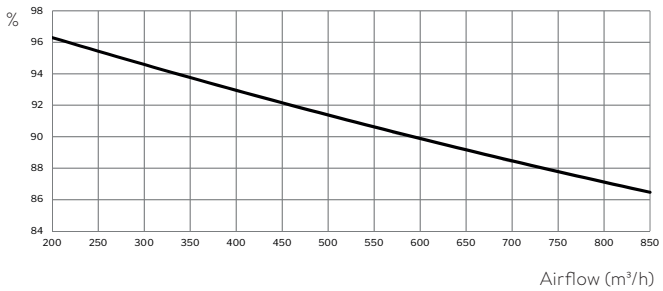
MIXED - POWER CONSUMPTION ¹



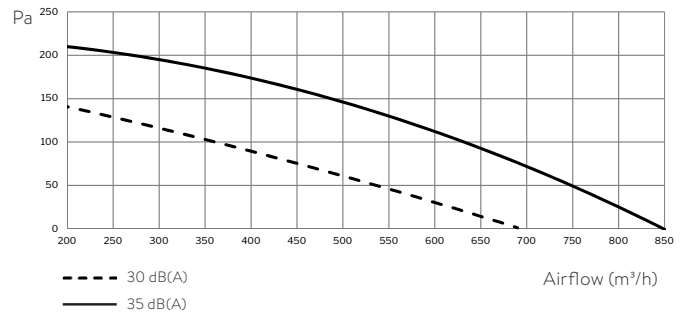
MIXED - SFP ¹



MIXED - TEMPERATURE EFFICIENCY



MIXED - EXTERNAL PRESSURE LOSS

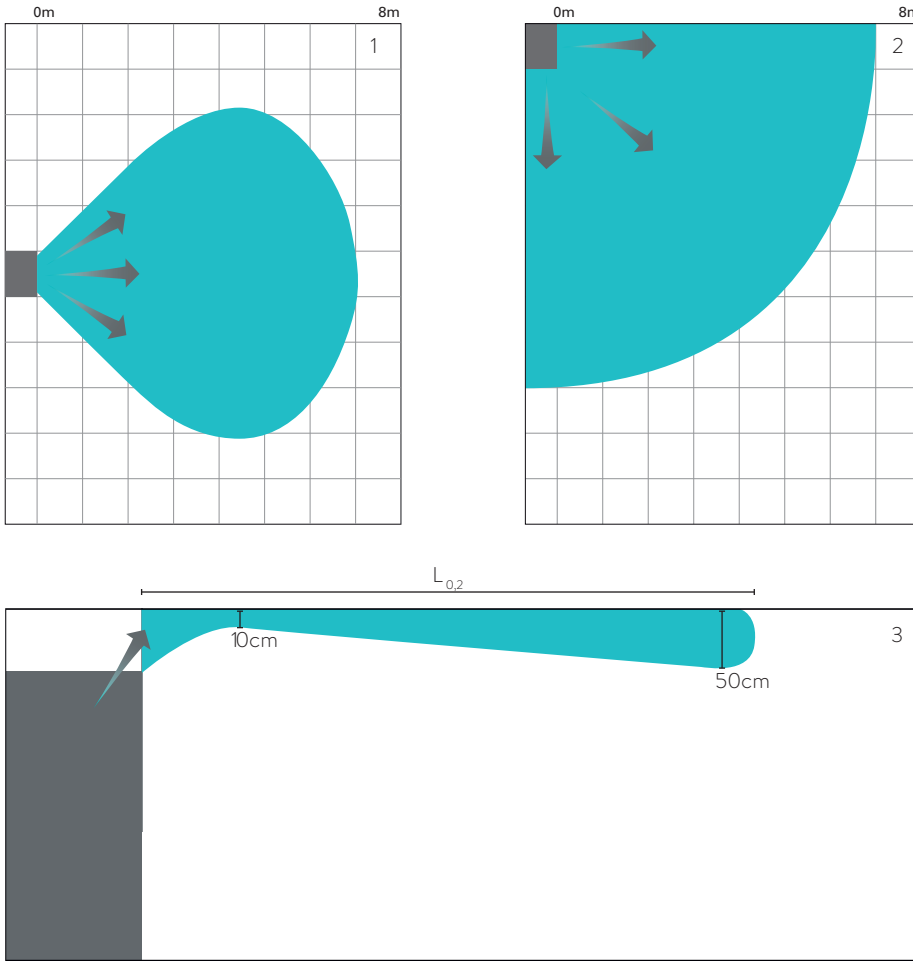


Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH

¹ Measurements were taken using an AM 900 HM air handling unit in a standard installation situation with the recommended Airmaster Ø315 mm wall grille and with a room sound attenuation of 7.5 dB.

AM 900

THROW LENGTH - MIXED



Throw length illustrated for volume flow rate 830 m³/h. At other volume flow rates the throw can be extrapolated $L_2 = L_1 \times q_2 / q_1$.

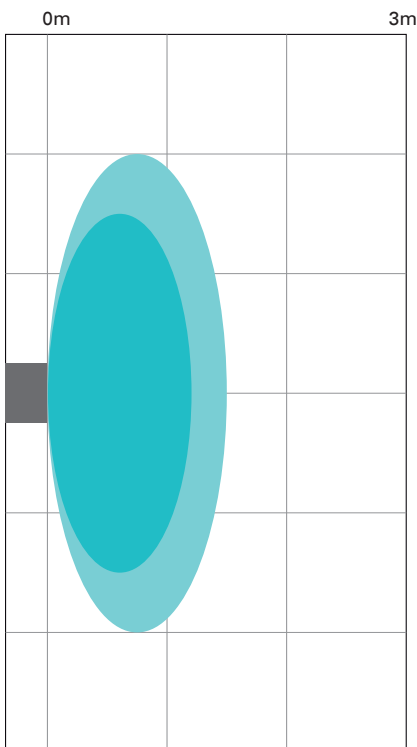
The AM 900 unit spreads an air stream below the ceiling depending on the given flow rate.

Blue shading in the illustration indicates spread pattern and throw.

1. Spread pattern seen from above, symmetric inlet (default).
2. Spread pattern seen from above, asymmetric inlet.
3. Spread pattern seen from the side.

Throw length and spread of the supply air in the room can be adjusted to the geometry of the room by adjusting the inlet opening with a pair of pliers (see operator's manual).

THROW LENGTH - DISPLACEMENT



ADJACENT ZONE - DISPLACEMENT

The result applies to an under-temperature of the inlet air of 3-5°C.

- 650m³/h
- 800m³/h

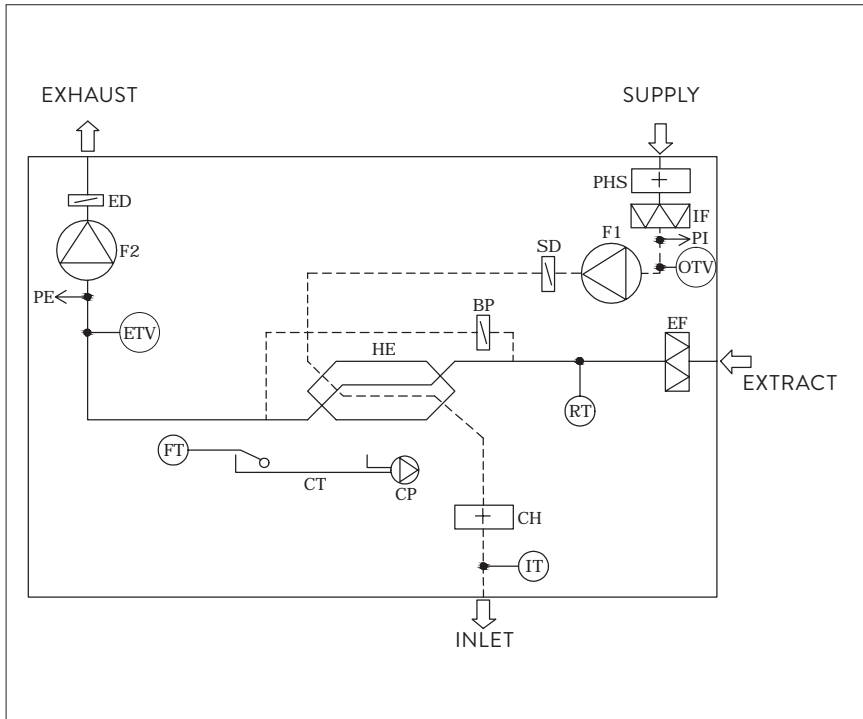
Notes regarding ceiling height

The AM 900 will fit into a room with minimum ceiling height of 2,4 m. The illustrated throw will manifest itself in these circumstances.

The AM 900 will also work with larger ceiling heights, up to 4,50 m has been tested. Height above 2.50 m should be subtracted from the length of the throw.

AM 900

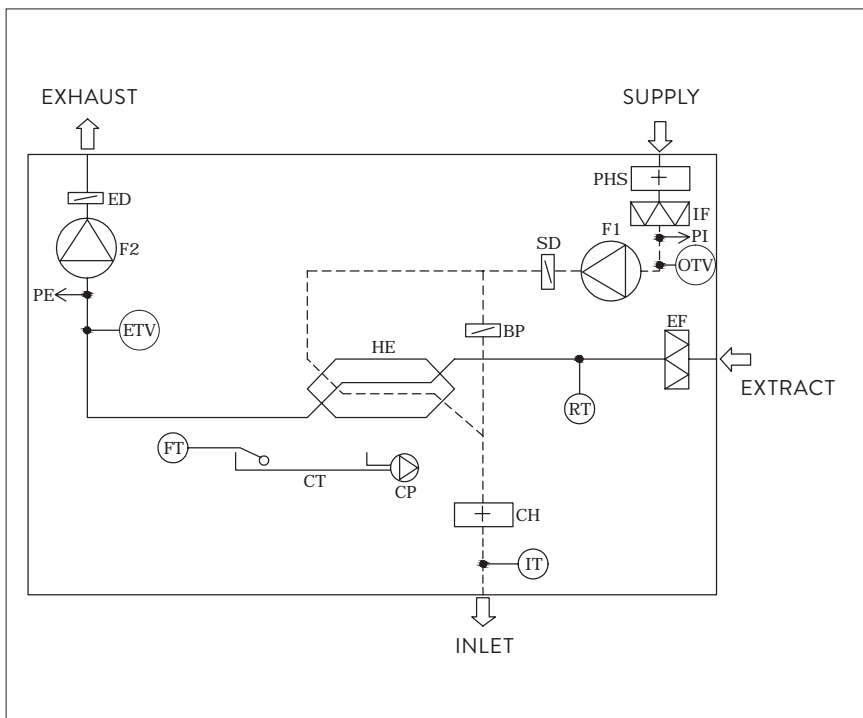
SCHEMATIC SKETCH - MIXED



NAME OF COMPONENT

- BP Bypass (motor driven)
- CH Comfort Heater (option)
- CP Condensate Pump (option)
- CT Condensate Tray
- ED Exhaust Air Damper (motor driven)
- EF Extract Air Filter
- ETV Exhaust Temperature Sensor
- FT Float
- F1 Supply Air Fan
- F2 Extract Air Fan
- HE Countercurrent Heat Exchanger
- IF Supply Air Filter
- IT Inlet Air Temperature Sensor
- OTV Outside Temperature Sensor
- PE Flow Meter, return air
- PHS Preheating Surface (option)
- PI Flow Meter, supply air
- RT Room Temperature Sensor
- SD Supply Air Damper (motor driven)

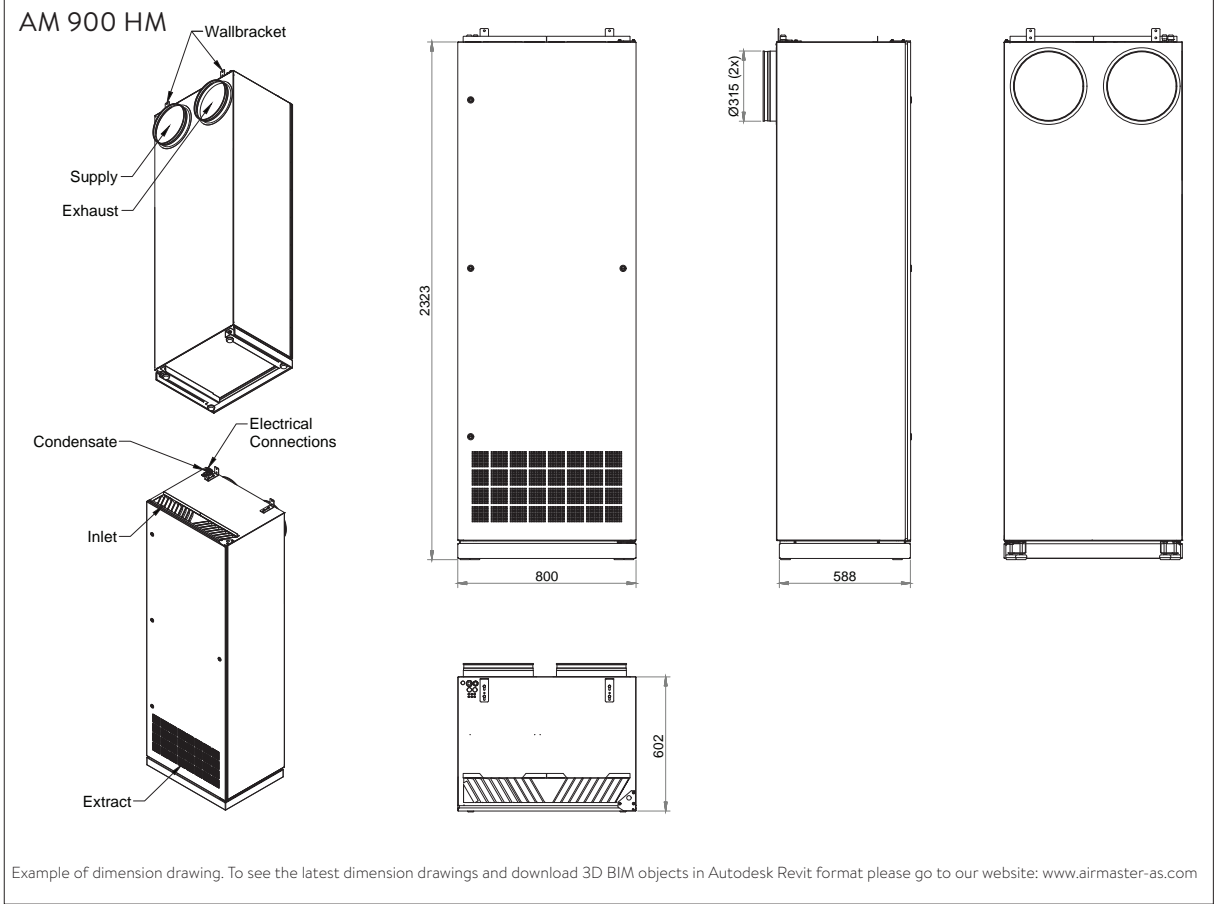
SCHEMATIC SKETCH - DISPLACEMENT



NAME OF COMPONENT

- BP Bypass (motor driven)
- CH Comfort Heater (option)
- CP Condensate Pump (option)
- CT Condensate Tray
- ED Exhaust Air Damper (motor driven)
- EF Extract Air Filter
- ETV Exhaust Temperature Sensor
- FT Float
- F1 Supply Air Fan
- F2 Extract Air Fan
- HE Countercurrent Heat Exchanger
- IF Supply Air Filter
- IT Inlet Air Temperature Sensor
- OTV Outside Temperature Sensor
- PE Flow Meter, return air
- PHS Preheating Surface (option)
- PI Flow Meter, supply air
- RT Room Temperature Sensor
- SD Supply Air Damper (motor driven)

AM 900



**By choosing Airmaster
you choose an advanced
and responsible solution.**



AM 1200

Featuring function and design

Ventilation should not always just be a technical necessity. It can also play a part in the function of a room.

The AM 1200 is a concept within decentralised ventilation which combines fresh air with elegant design, which can be used for a lot more than you might believe.

The AM 1200 is a floor-standing unit, available in horizontal and vertical models. It can be mounted against a wall (right/left variant) or freestanding (central variant).

Different design panels mean the front can be used as a notice board, mirror or whiteboard for example, and it can also be fitted with acoustic panels.



TECHNICAL DATA

Maximum capacity:*	35 dB(A)	30 dB(A)
Horizontal model, 400 mm dia.		
right/left	1180 m ³ /h	930 m ³ /h
centre	1310 m ³ /h	1050 m ³ /h
Vertical model, 400 mm dia.		
right/left	1130 m ³ /h	870 m ³ /h
centre	1260 m ³ /h	980 m ³ /h
Vertical model, 315 mm dia.**		
right/left	1060 m ³ /h	820 m ³ /h
centre	1170 m ³ /h	920 m ³ /h
Throw length (0,2 m/s)** - centre		
	min. 3 m at 1000 m ³ /h	
	max. 6,5 m at 1000 m ³ /h	
	min. 4 m at 1300 m ³ /h	
	max. 8 m at 1300 m ³ /h	
Throw length (0,2 m/s)** - right/left		
	min. 4 m at 1000 m ³ /h	
	max. 9 m at 1000 m ³ /h	
	min. 5,5 m at 1300 m ³ /h	
	max. 11 m at 1300 m ³ /h	
Nominal current*	Unit without electric heating surface 1,4 A	
Maximum power consumption*	254 W	
Electrical connection - with preheating surface	3 x 400 V + N + PE / 50 Hz (preheating surface fitted with own phase)	
Duct connection	400 mm dia.	
Condensate drain	16 mm dia.	
Weight	Right/left variant: 545 kg Centre variant: 630 kg	
Heat exchanger	4 x countercurrent heat exchangers (aluminium)	
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%	
Leakage current	≤ 9 mA	
Dimensions (WxHxD)	Horizontal: 496 x 2098 x 2427 mm Vertical: 496 x 2406 x 2427 mm	

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

** With roof cap module

AM 1200

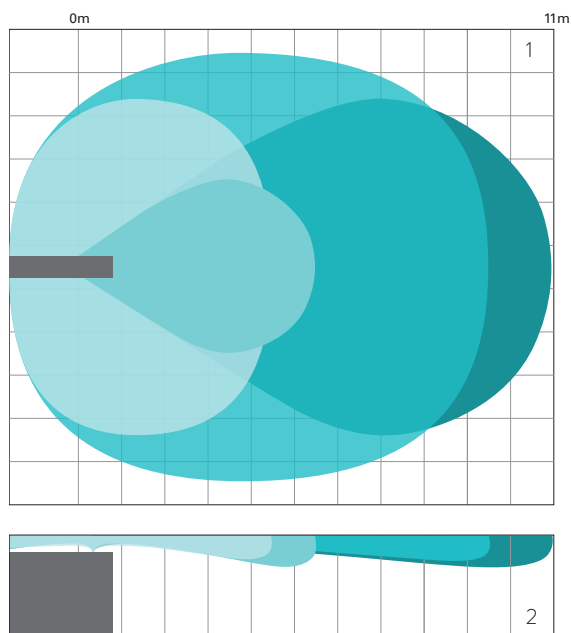
ELECTRIC HEATING SURFACE	PREHEATING FUNCTION	COMFORT HEATING FUNCTION
Heat output	2500 W	1670 W
Thermal circuit breaker, aut. reset	75°C	75°C
Thermal circuit breaker, man. reset	120°C	120°C

WATER HEATING SURFACE	COMFORT HEATING FUNCTION
Max. operating temperature	90°C
Max. operating pressure	10 bar
Heat output	2454 W*
Connection dimension	1/2" (DN 15)
Materials pipes/fins	copper/aluminium
Open/close time, motor valve	<60 s

* Capacity at: supply/return temperature 60/40°C, water volume 72 l/h

STANDARD AND OPTIONS	AM 1200
Bypass	X
Electric preheating surface	•
Electric comfort heating surface	•
Water heating surface	•
CO ₂ sensor (wall-mounted)	•
CO ₂ sensor (built-in)	•
PIR/motion sensor	•
Hygrostat	•
Condensate pump	•
Spring-return motor on main air damper (supply and exhaust)	X
Countercurrent heat exchanger (aluminium)	X
Energy meter	•

X : standard • : option



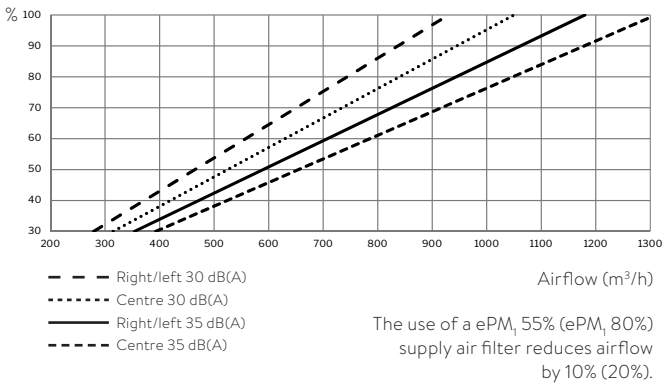
The AM 1200 unit spreads an air stream in different directions, depending on the given airflow. This can be seen in the illustration on the left, in which the blue shading indicates throw length the different airflows.

¹ Throw length seen from above

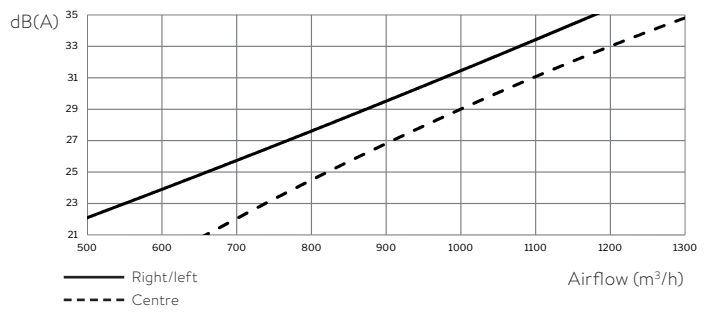
² Throw length seen from the side

AM 1200 H

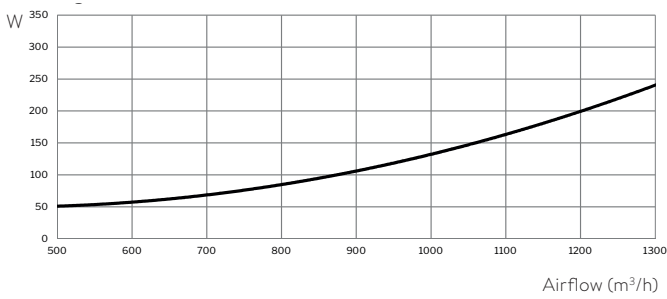
H CAPACITY



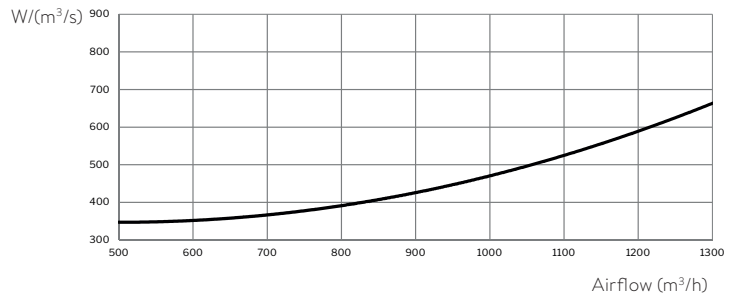
H SOUND PRESSURE



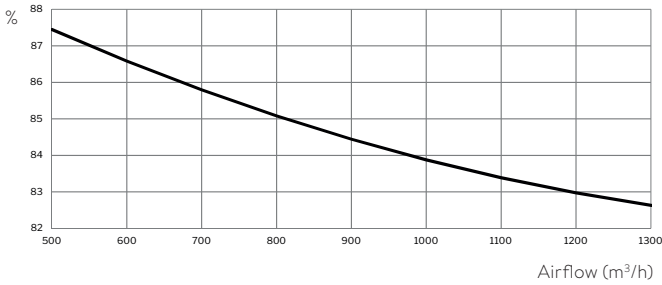
H POWER CONSUMPTION



H SFP

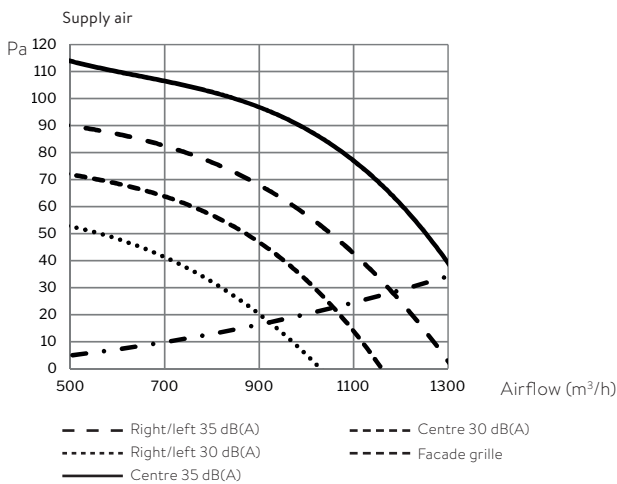


H TEMPERATURE EFFICIENCY

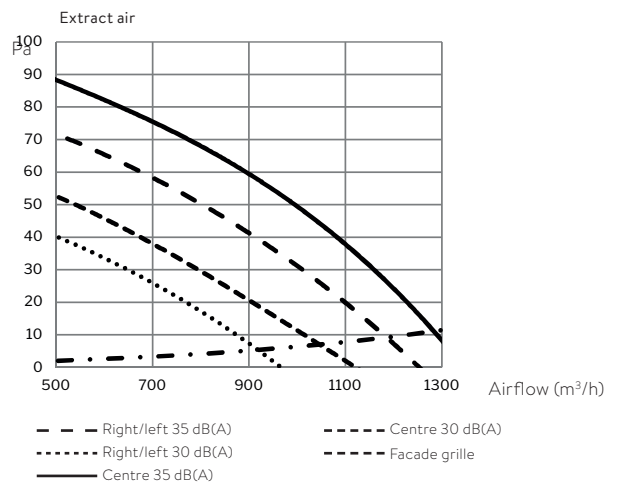


Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH

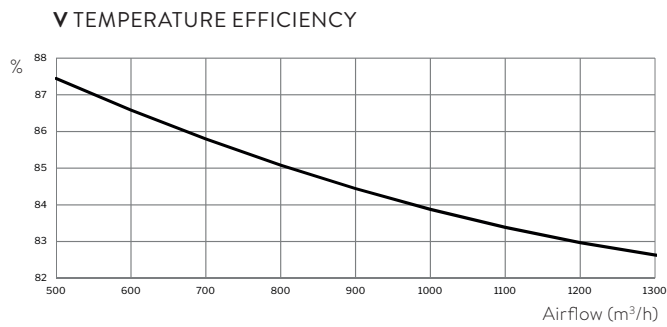
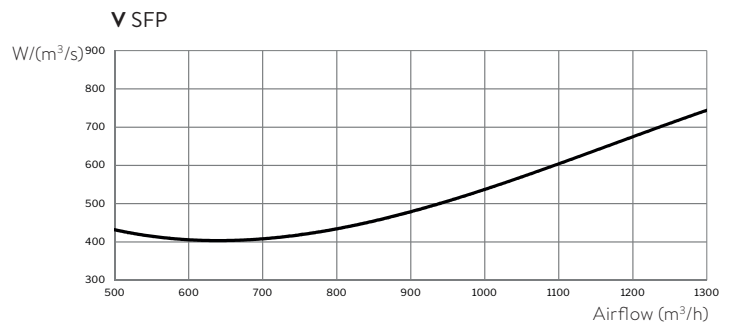
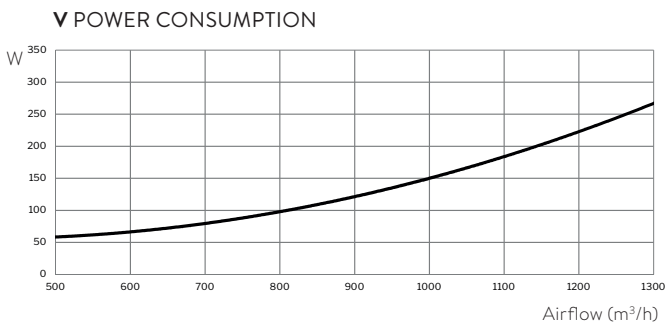
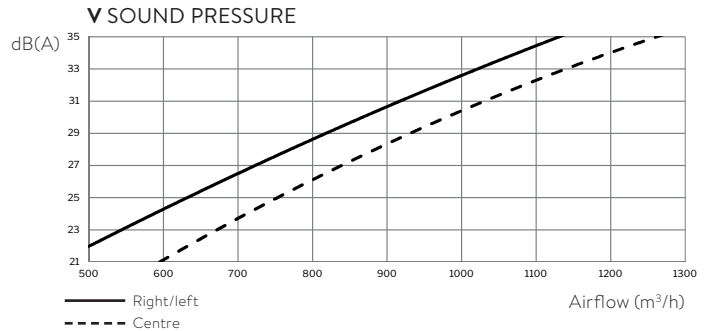
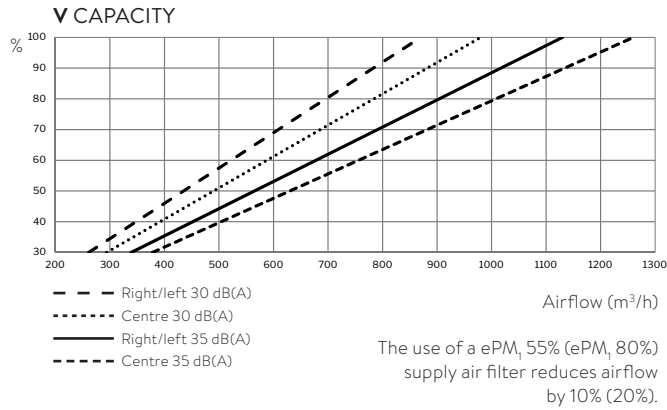
H EXTERNAL PRESSURE LOSS



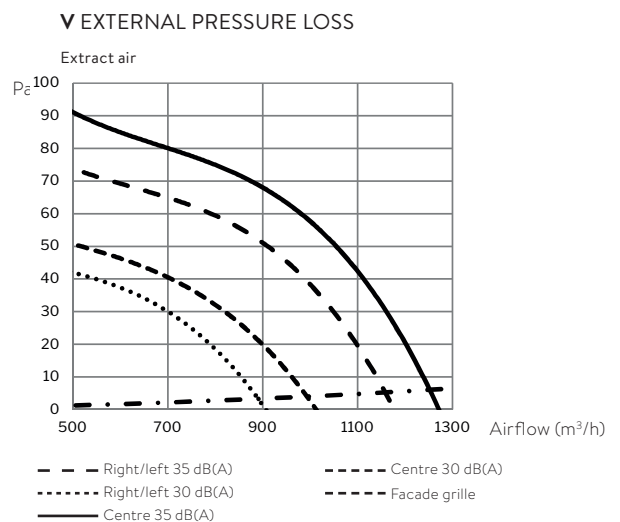
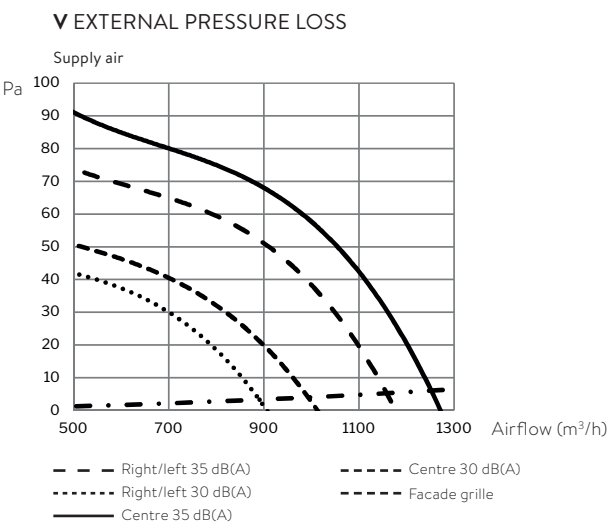
H EXTERNAL PRESSURE LOSS



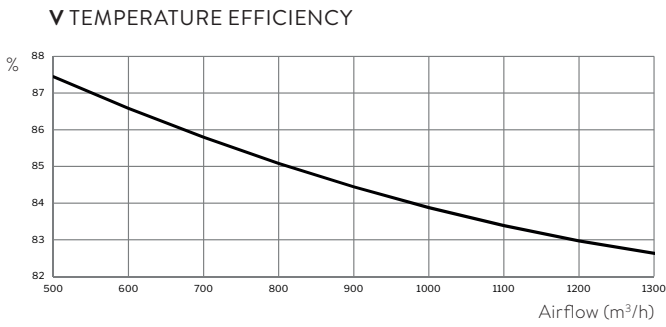
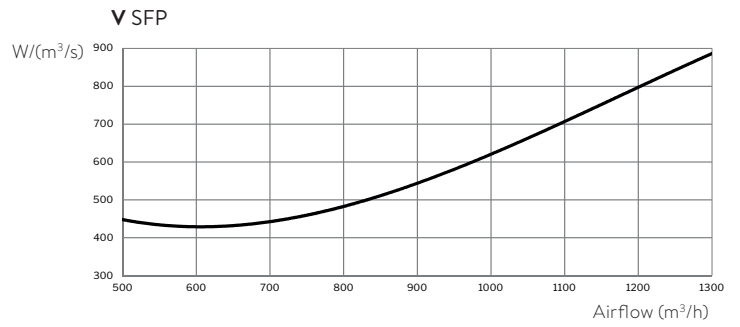
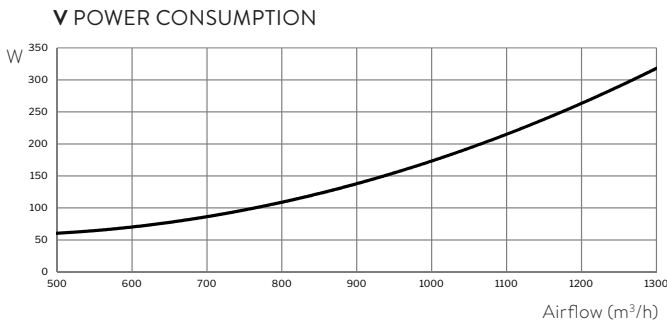
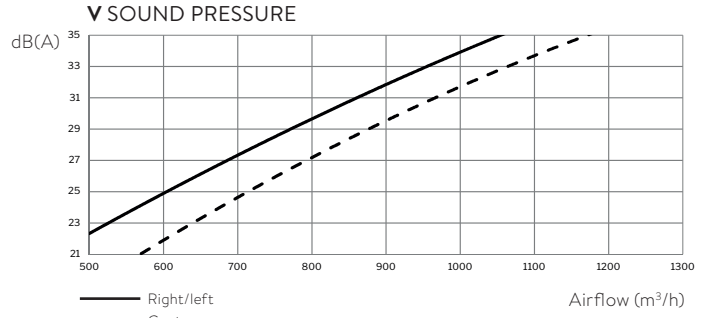
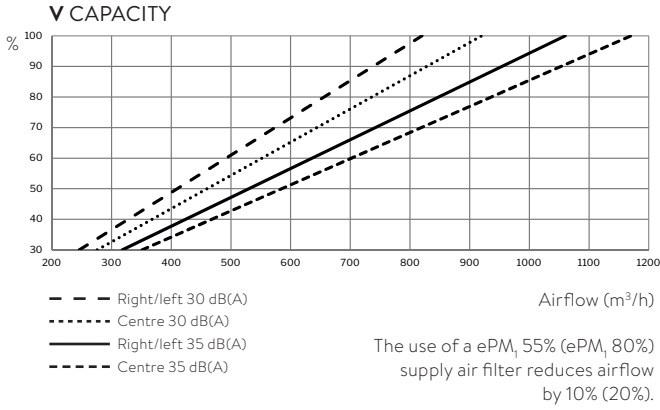
AM 1200 V (400 MM DIA.)



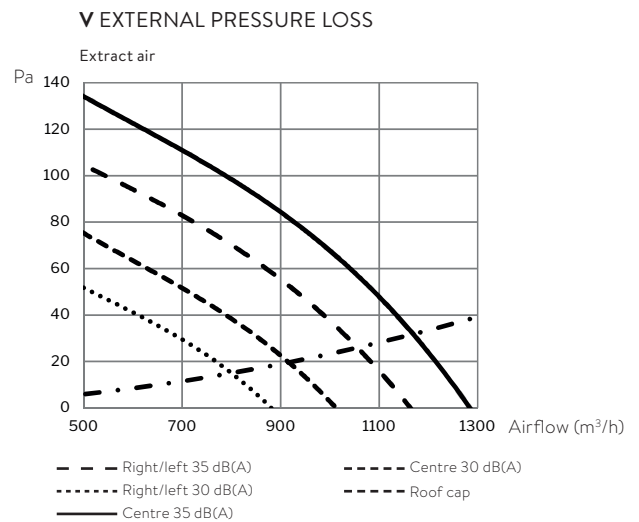
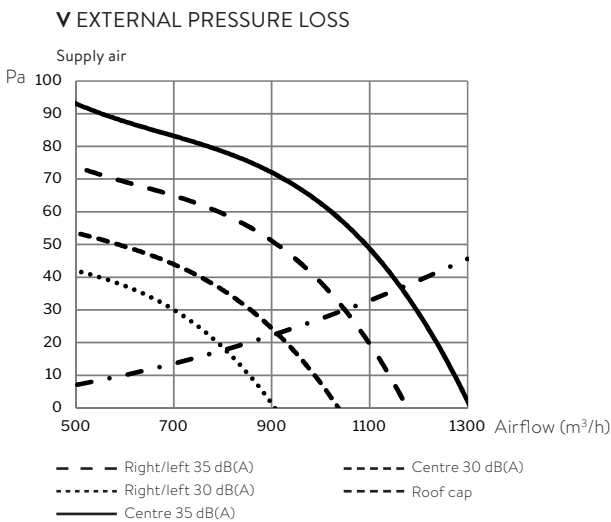
Balanced operation:
 Room air: 25°C, 28% RH
 Outdoor air: 5°C, 50% RH



AM 1200 V (315 MM DIA.) - WITH ROOF CAP MODULE

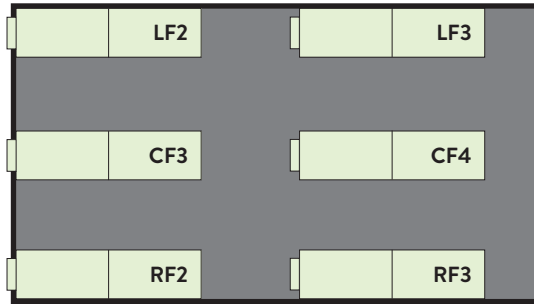
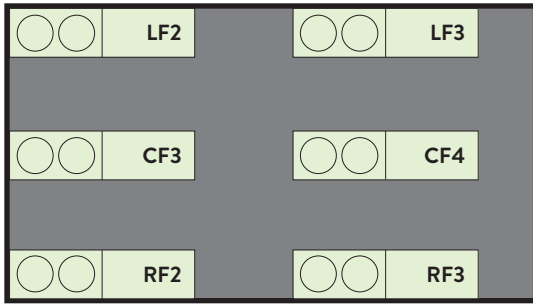


Balanced operation:
Room air: 25°C, 28% RH
Outdoor air: 5°C, 50% RH



AM 1200

VARIANTS



AM 1200 **VRF2** (right, with 2 open sides)
 AM 1200 **VRF3** (right, with 3 open sides)
 AM 1200 **VCF3** (centre, with 3 open sides)
 AM 1200 **VCF4** (centre, with 4 open sides)
 AM 1200 **VLf2** (left, with 2 open sides)
 AM 1200 **VLf3** (left, with 3 open sides)

AM 1200 **HRF2** (right, with 2 open sides)
 AM 1200 **HRF3** (right, with 3 open sides)
 AM 1200 **HCF3** (centre, with 3 open sides)
 AM 1200 **HCF4** (centre, with 4 open sides)
 AM 1200 **HLf2** (left, with 2 open sides)
 AM 1200 **HLf3** (left, with 3 open sides)

DESIGN PANELS

COLOUR

SIZE

DESIGN PANELS	COLOUR	SIZE
MDF	Painted (standard colours)	1200 x 1000
MDF with whiteboard laminate*	White	1200 x 1000
MDF with noticeboard surface	Black	1200 x 1000
Mirror glued on MDF	Mirror	1200 x 1000

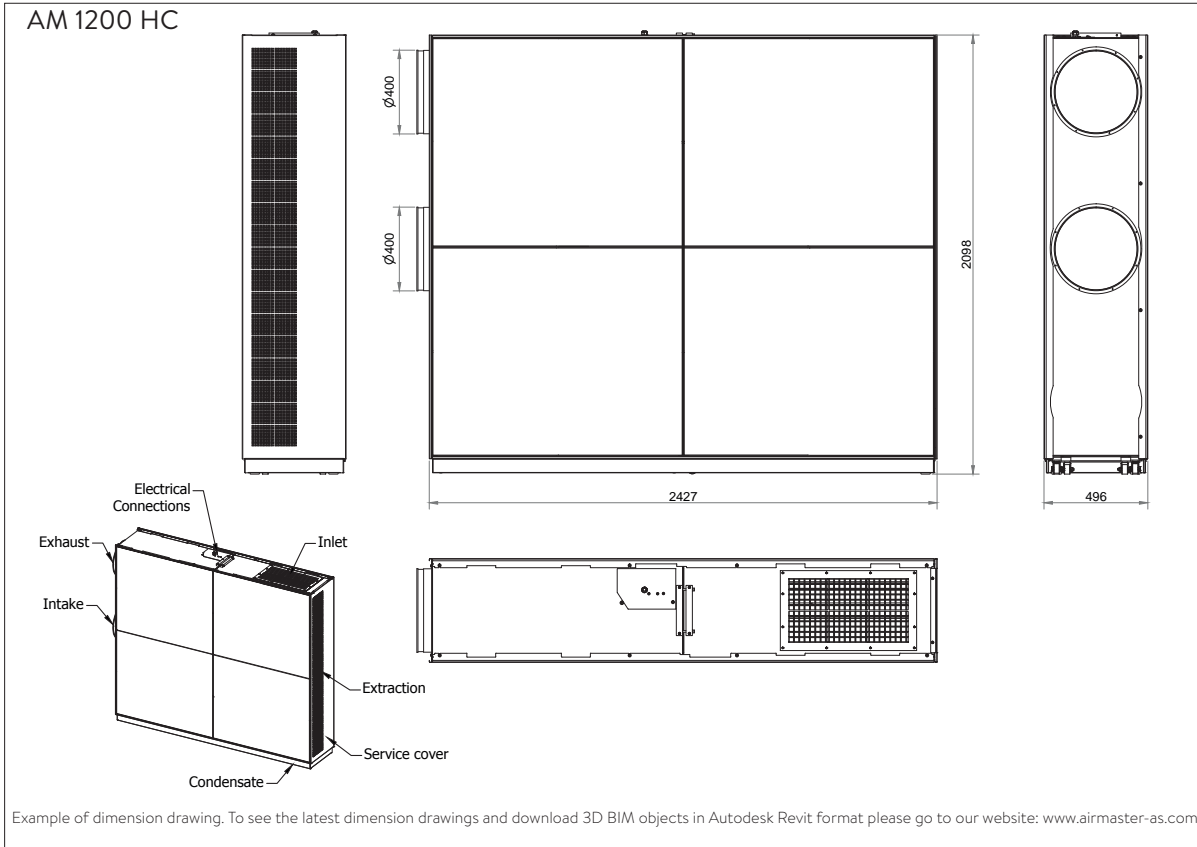
* We are offering the best quality of whiteboards with a surface of ceramic enamel. Ceramic enamel forms a completely closed surface and is therefore also extremely easy to clean.

Colour options

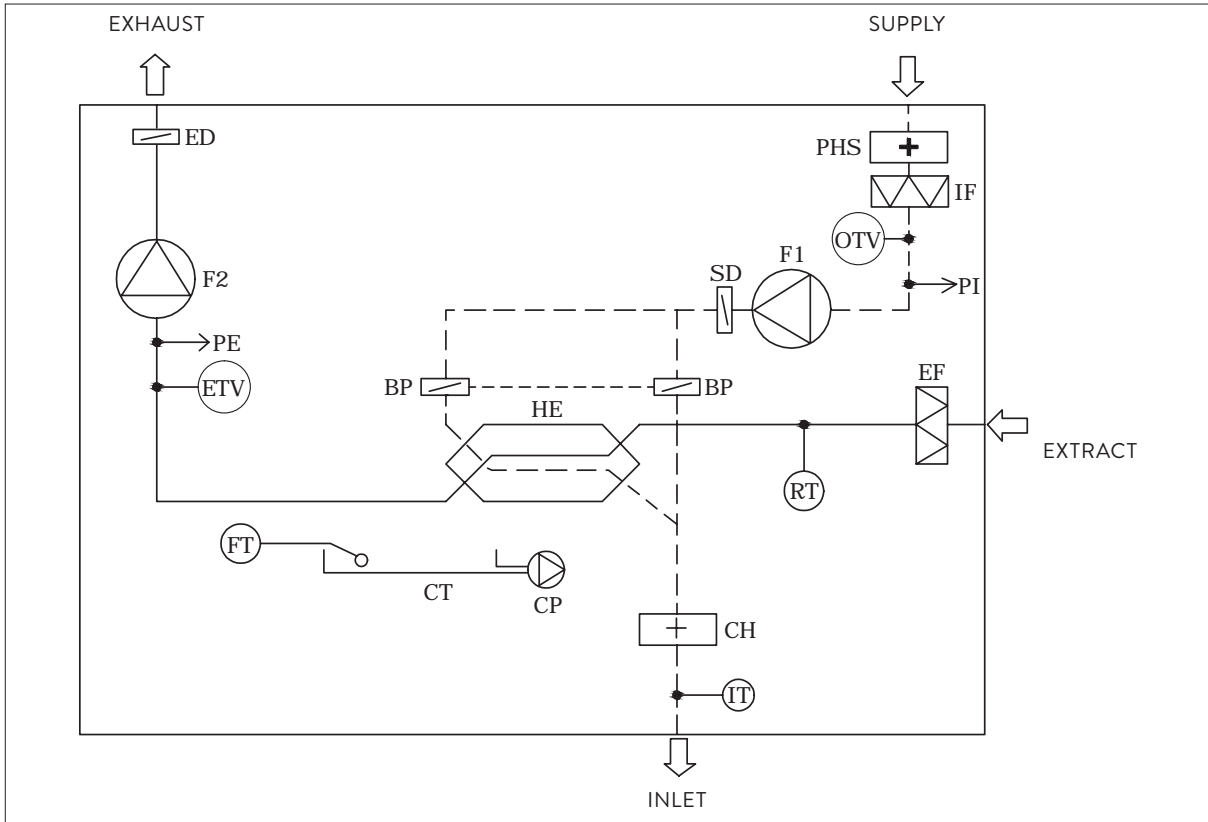
Painted MDF boards are supplied in the following 8 standard colours.
 Other RAL colours are available at extra cost.



AM 1200



SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass (motor driven)	ETV	Exhaust Temperature Sensor	OTV	Outside Temperature Sensor
CH	Comfort Heating Surface (option)	FT	Float	PE	Flow Meter, return air
CP	Condensate Pump (option)	F1	Supply Air Fan	PHS	Preheating Surface (option)
CT	Condensate Tray	F2	Extract Air Fan	PI	Flow Meter, supply air
ED	Exhaust Air Damper (motor driven, spring return)	HE	Countercurrent Heat Exchanger	RT	Room Temperature Sensor
EF	Extract Air Filter	IF	Supply Air Filter	SD	Supply Air Damper (motor driven, spring return)
		IT	Inlet Air Temperature Sensor		

INTELLIGENT CONTROL WITH AIRLINQ®

Airmaster focuses not only on the air handling unit, but also on the control system and operation.

All Airmaster decentralised air handling units are controlled by our intelligent, fully automatic control system - Airlinq.

Airlinq makes it possible to use units immediately after installation, as all basic functions are preprogrammed at the factory.

The Airlinq control system is able to automatically counter high and low inlet temperatures, to ensure the room temperature set is maintained. Effective protection functions prevent the heat exchanger from icing up, drain off condensation and automatically stop the unit if necessary. Unnecessary damage to the unit is therefore prevented.

The system is easy to set and program to individual requirements from customers or for local conditions. The software controls the options installed automatically, such as bypass, heating surfaces, cooling module and sensors (CO₂, humidity, motion etc.) whenever required.

CONTROL FUNCTIONS WITH AIRLINQ®:



DATA LOG

Unique log function for all key operating and room data such as:

- Inlet temperature
- Room temperature
- Outside temperature
- CO₂ level
- Air humidity
- Airflow
- Damper position



AIRLINQ PC TOOLS

User-friendly monitoring and setting of air handling units via PC with Airlinq User Tool.

Service engineers can use the more advanced Airlinq Service Tool.



DOWNLOAD TO PC

The unit's operating data can be downloaded to a PC to provide rapid overview of operation, and to generate operating documentation. This allows full optimisation of the unit.



ALL-IN-ONE

All intelligence is concentrated in the unit, which means that it can run fully automatically without having to be connected to a control panel.



MONITORING, WARNING AND ALARM SYSTEM

The advanced warning and alarm system helps minimise operating and service costs. Errors are quickly detected, making the unit more reliable.



FLEXIBILITY WITH DIGITAL BMS

Airlinq can be fitted with a network module (optional PCB) to provide flexible connection to one of the following network systems:

- KNX®
- BACnet™/IP
- BACnet™ MS/TP
- LON®
- MODBUS® RTU RS485
- Airlinq® Online



AIRLINQ BMS

Up to 20 different and individually equipped air handling units can be controlled using a single control panel in an Airlinq BMS. The system has a lot more features than the Master-Slave system in current use.



AIRMASTER SENSORER FOR BMS

Airmaster's motion sensor (PIR) and CO₂ sensors can be used on network systems. The result is very simple and inexpensive connection to a BMS system.

AIRLINQ[®] VIVA CONTROL PANEL

The Airlinq Viva is designed to be perfect for any requirement for optimal ventilation with minimal manual control.

THE EASIEST CONTROL INTERFACE ON THE MARKET

Control functions are simple and user-friendly. Operation is automatic to minimise the risk of incorrect use.

OPERATION VIA PC

The control panel can be connected to a PC via a USB port to set other operating parameters. Airlinq User Tool and Airlinq Service Tool (programs used by service engineers) provide complete details of the unit's performance. See the following description of options for the two programs.



AIRLINQ USER TOOL

The control panel can be easily connected to a PC, providing access to operating data using the Airlinq User Tool.

- Options include setting airflow, inlet-temperature and maximum room temperature
- Downloadable data log and send function for the same via mail
- Filter status display
- Setting CO₂ range
- Setting, activating and deactivating timer programs
- Additional functions on the Airlinq Orbit control panel are available



AIRLINQ SERVICE TOOL

The control panel can be easily connected to a PC, providing access to operating data using the Airlinq Service Tool.

- Setting and programming the control program can be performed
- Downloadable data log and graphic display
- Downloadable and uploadable control system setup
- Updating control system software
- Automatic synchronisation of the built-in timer via PC date and time

Airlinq User Tool and Airlinq Service Tool can be downloaded from www.airlinq.eu

CONTROL FUNCTIONS WITH AIRLINQ® VIVA



Manual start, stop and standby.



Setting airflow via touch function on the front.



Display of warnings and alarms by red or yellow symbols.



Holiday mode - a function to ensure basic ventilation with reduced airflow.



Automatic operation lock.



Child lock.



The control panel allows the user to adjust airflow easily.

AIRLINQ® ORBIT CONTROL PANEL

Operation using Airlinq Orbit is perfect when more comprehensive and easier access is required to control normal ventilation operation.

WIDE RANGE OF OPTIONS

Operating functions provide a wide range of options for controlling ventilation. The Airlinq Orbit control panel with touch function is user-friendly for navigation and setting operating parameters. The menu layout makes operation easy and simple, and reduces the risk of error.



Data cable

OPERATION

Settings can be made directly on the control panel touch screen.



USB cable



AIRLINQ SERVICE TOOL

The control panel can be easily connected to a PC, providing access to operating data using the Airlinq User Tool.

- Setting and programming control system
- Download a data log and graphic record of operation
- Download or upload a control system setup
- Monitor energy consumption using a built-in energy meter
- Update control system software
- Automatic synchronisation of the built-in timer via PC date and time



OPERATION VIA PC

A PC can be connected via the USB port on the control panel, and Airlinq Service Tool used to set all operating parameters. (Airlinq Service Tool is for the use of service engineers).

Airlinq User Tool and Airlinq Service Tool can be downloaded from www.airlinq.eu

CONTROL FUNCTIONS WITH AIRLINQ® ORBIT



Manual start, stop and standby. Manual start and stop of an individual group or entire system for Airlinq BMS.



Setting of all major operating parameters using an automatic startup guide. The start-up guide can be restarted at any time.



Display and setting air flow via touch function on the front.



Displays warnings and alarms with text description (for all Airlinq BMS units).



Holiday mode - a function to ensure basic ventilation with reduced airflow.



Displays CO₂ level when a CO₂ sensor is connected (for all CO₂ sensors on Airlinq BMS.)



Easy, simple control of Airlinq BMS.



Automatic operating lock.



Screen lock with security code.



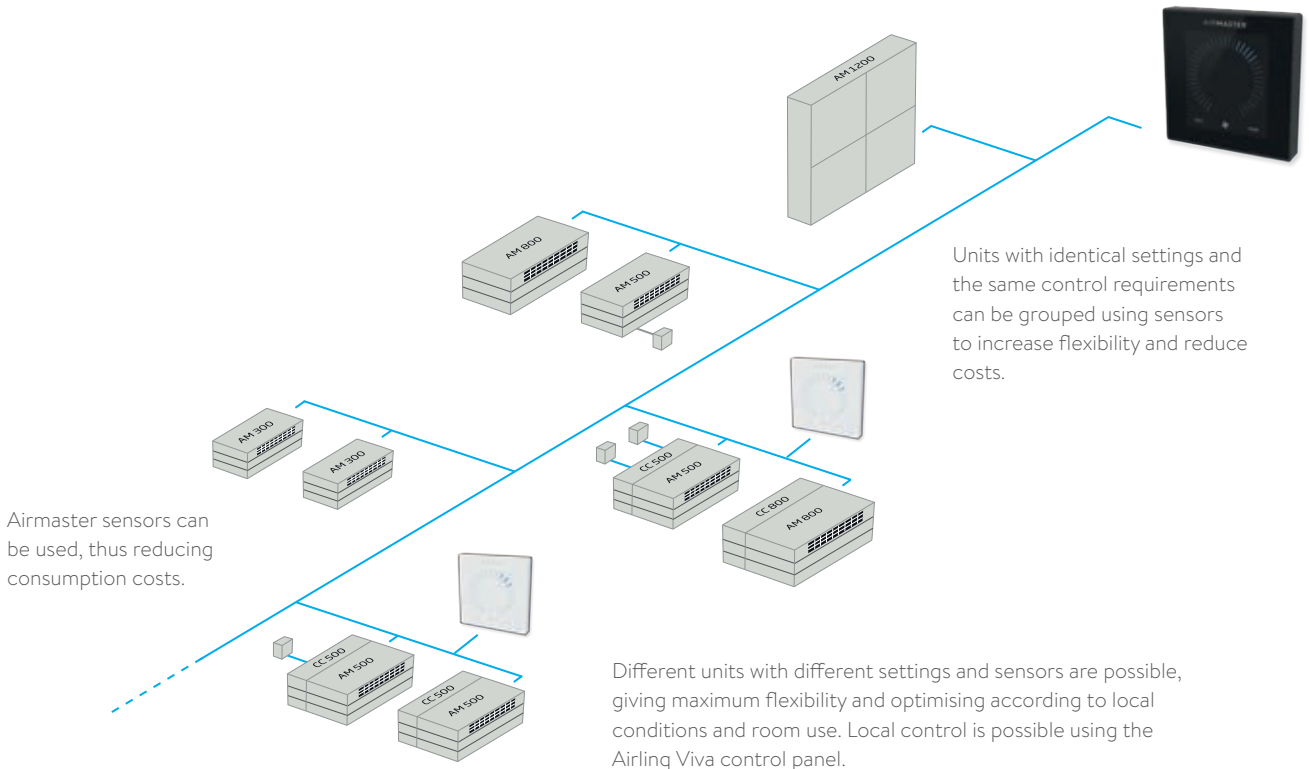
SET OPERATING PARAMETERS:

- Display operating status for up to 40 operating parameters (for all units with Airlinq BMS)
- Overview and settings for all timed programs, including night time cooling
- Inlet temperature and standard airflow
- Set date and time
- Cancel service
- Modify data log



NETWORK WITH AIRMASTER

Network control can be performed using Airlinq BMS, with which up to 20 units can be controlled from a single Airlinq Orbit control panel.



AIRLINQ BMS

Flexibility is the order of the day for the Airlinq BMS system. BMS stands for "Building Management System".

Up to 20 different air handling units can be controlled by the system from a single control panel. The units can be different types and fitted with different options.

Cooling modules can also be attached to individual units as and when required. Such a degree of flexibility means that units with different levels of performance and options can be connected to a single system, whilst meeting the requirements of any individual room.

Dividing the system into groups of one or more units with a common control system optimises use of their size and sensors.

Control using a single sensor (e.g. CO₂ sensor) or a combination (e.g. a motion sensor and a CO₂ sensor) is also possible. Using sensors overrides the basic operating parameters for individual units, whole groups or all units.

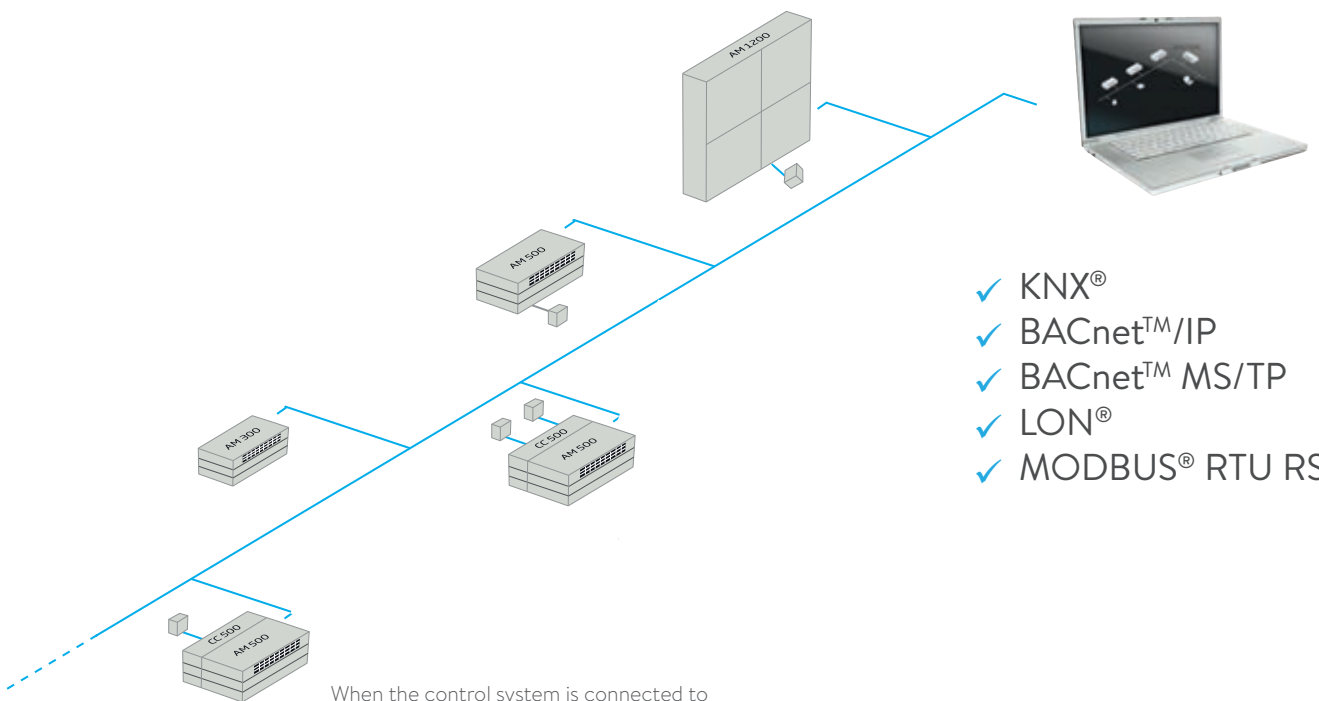
Individual operation, monitoring and programming - plus programming of common parameters - are performed from a single control panel. Connection to an analogue building network (BMS system) is of course also possible.

DIGITAL BMS

A BMS (Building Management System) network makes it possible to keep all the benefits of decentralised ventilation, whilst utilising the administrative benefits of central control.

Airmaster air handling units are easy integrate with other building automation. Creating a full overview of operations and programmable air handling units in relation to local use is easy with a Building Management System (BMS).

The units can also run fully automatically, but can be monitored using a BMS network. Airmaster motion sensor and CO₂ sensors can be connected, for data from the units and sensors can be transferred to the BMS network. This reduces installation, operation and maintenance costs.



- ✓ KNX®
- ✓ BACnet™/IP
- ✓ BACnet™ MS/TP
- ✓ LON®
- ✓ MODBUS® RTU RS485

When the control system is connected to BMS, all individual air handling units can be controlled and/or monitored by BMS.

AIRMASTER AIRLINQ® ONLINE

Airmaster Airlinq® Online is a cloud based WEB portal, where the user is able to control, monitor, and manage all of the installed Airmaster air handling units (AHU) of a project. The WEB portal is accesable from both PC, smarthphone, and tablet.



The Airlinq Online WEB portal gives the user an overview and access to operation and monitoring of installed Airmaster AHU of a project.

Airmaster Airlinq Online is much more than just a web service. It is a total package, which includes that Airmaster in cooperation with the customer makes the setup of the project and ensures correct connection and setup for each AHU on the WEB portal. Furthermore, Airmaster provides fundamental instructions and training in using the system. Hereby ensuring maximum user satisfaction. Airmaster Airlinq Online includes 3 years, free of charge, software update of the firmware for the air handling unit.

The setup of each AHU includes, besides setup of operating parameters, also the fundamental setup of user groups and registration of authorised users with associated permissions and rights.

The setup of each AHU ensures that the customer gets the overview and availability of the project customized to his needs. Furthermore, the operation of each AHU is individually adjusted to the project.

This way the energy consumption can be kept at a minimum by ensuring an efficient operation setup.

AIRMASTER AIRLINQ® ONLINE

Airlinq Online covers all of your needs for centralised administration yet retains all of the benefits of a decentralised ventilation system. The system provides an immediate overview of all of your ventilation solutions, whether you are a local authority, housing association, property manager, caretaker or end user.

- Online control
- Online operation
- Online monitoring of operations

SECURITY

Even though transparency is important, the security has our top priority. This means that all communication is safely encrypted. This applies to both between the user and the server, and between the AHU's and the servers.

CONNECTING TO AIRLINQ ONLINE

It is possible to connect to Airlinq Online in two different ways.

Connecting to Airlinq Online can be done using a standard network cable (min. Cat 5e) for each Airmaster air handling unit. This requires a network outlet for all air handling units or, alternatively, a switch can be used.

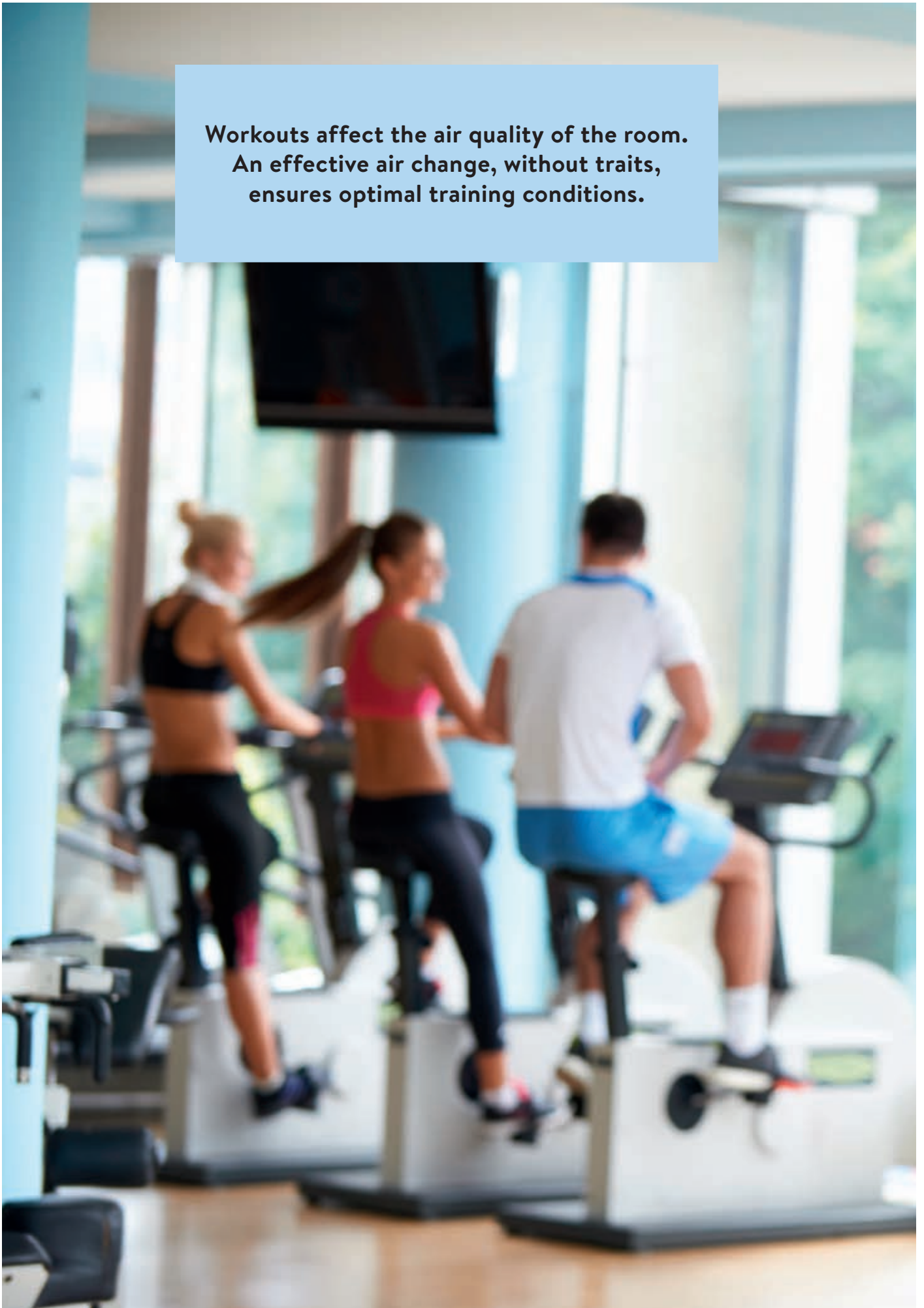
Or, connecting to Airlinq Online can be done using a standard network cable (min. Cat 5e) for one Airmaster air handling unit that is part of an Airlinq BMS system.

Through the RS485 bus connection that is set up for the Airlinq BMS system, the units can communicate with Airlinq Online. This solution only requires one of the air handling units to be an Airlinq BMS system. An Airlinq BMS system can handle up to 20 air handling units.

For further information about Airlinq® Online please see our brochure on our website:
www.airmaster-as.com/download/brochures



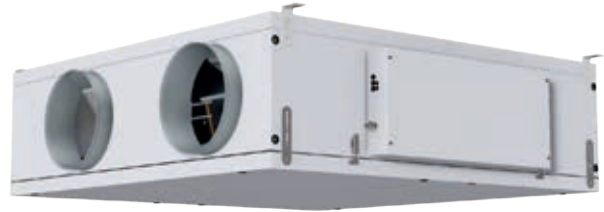
**Workouts affect the air quality of the room.
An effective air change, without traits,
ensures optimal training conditions.**



DV 1000

The DV 1000 is a compact, high pressure unit with low SFP value.

It is available in two variants - hinged (**H**) or sliding doors (**S**). The option makes it suitable for either vertical or horizontal opening, depending on the type of ceiling and space available.



TECHNICAL DATA

Nominal capacity*	1000 m ³ /h
Current*	2,6 A
Maximum power consumption*	333 W
Electrical connection with electric heating surface	3 x 400 V + N + PE / 50 Hz
Duct connections	315 mm dia.
Condensate drain, int. / ext.	8/12 mm dia.
Weight	210 kg
Heat exchanger	Countercurrent heat exchanger (aluminium)
Supply air filter	Standard: ePM ₁₀ 75%, Option: ePM ₁ 55% or ePM ₁ 80%
Colour	RAL 9010 (white)
Power cable without electric heating surface	1,5 mm ²
Leakage current	≤ 7 mA
Dimensions (WxHxD)	H: 1498 x 424 x 1384 mm S: 1512 x 501 x 1385 mm

* Filter type: ePM₁₀ 75% / ePM₁₀ 75%

ELECTRIC HEATING SURFACE

Heat output	2500 W
Thermal circuit breaker, aut. reset	75°C
Thermal circuit breaker, man. reset	120°C

WATER HEATING SURFACE*

Max. operating temperature	90°C
Max. operating pressure	10 bar
Heat output	4099 W**
Connection dimension	1/2" (DN 15)
Materials pipes/fins	copper/aluminium
Open/close time, motor valve	< 60 s

* Duct heating surface (pipe-based)

** Capacity at: supply/return temperature 60/40°C, water volume 125 l/h

STANDARD AND OPTIONS

	DV 1000
Bypass	x
Electric heating surface/VPH	•
Water heating surface/VPH	•
CO ₂ sensor (wall-mounted)	•
CO ₂ sensor (built-in)	•
PIR/motion sensor (wall-mounted)	•
Hygrostat	•
Condensate pump	x
Cooling module	•
Motor driven exhaust air damper	•
Spring-return actuator on exhaust air damper	•
Motor driven supply air damper	•
Spring-return actuator on supply air damper	•
Countercurrent heat exchanger (aluminium)	x
Energy meter	•

x : standard • : option

DV 1000 IN USE

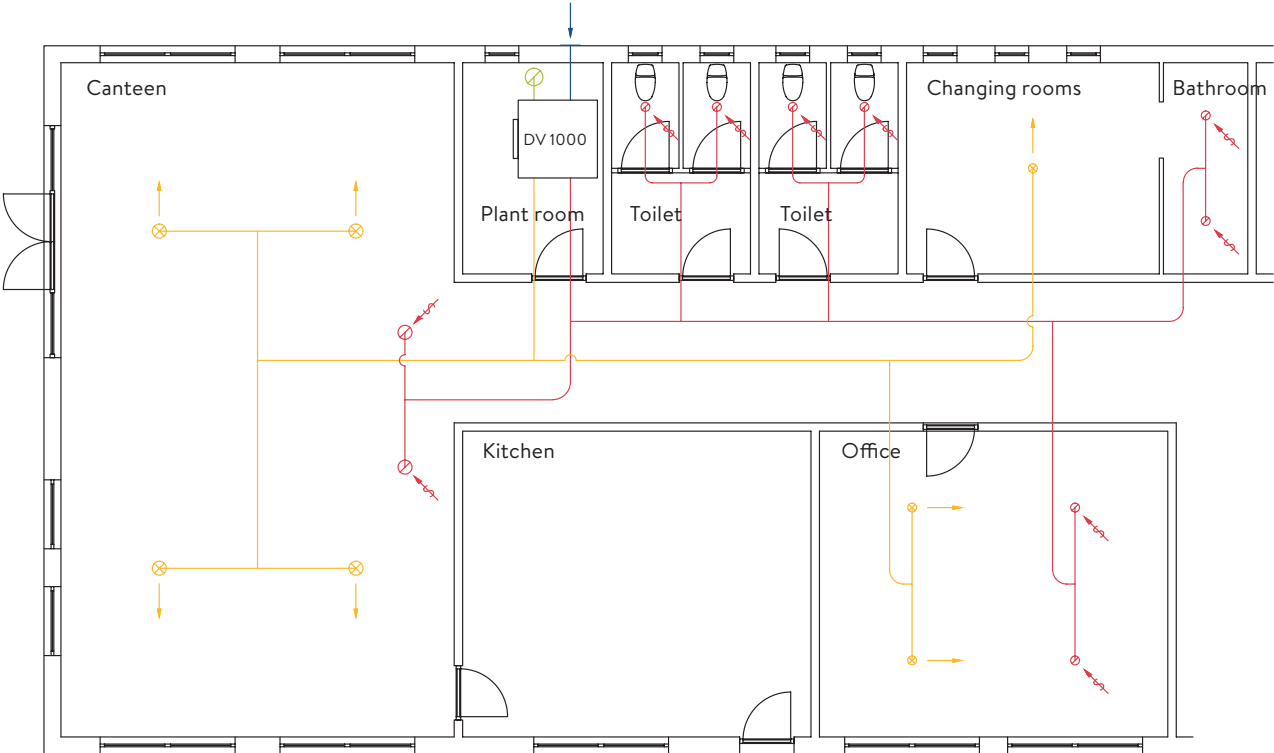
The DV 1000 is the perfect air handling unit for ventilating large buildings, such as office buildings, schools or fitness centres.

EXAMPLE: DV 1000 IN OFFICE BUILDING

DV 1000 mounted on the ceiling in a plant room. Intake runs through a facade grille in the outer wall, with exhaust above roof level.

Air is supplied to canteen, offices and changing rooms, and extraction from offices, canteen, showers and toilets.

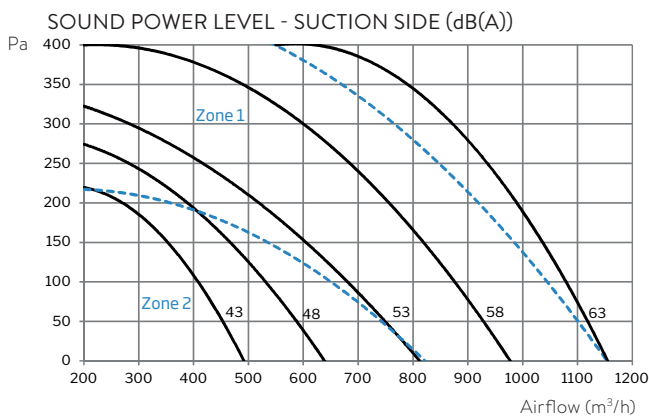
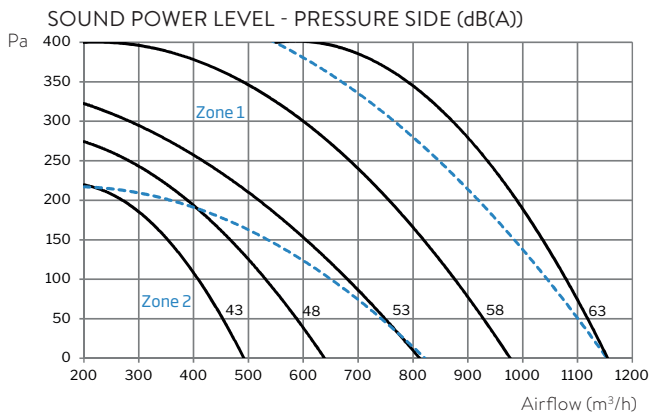
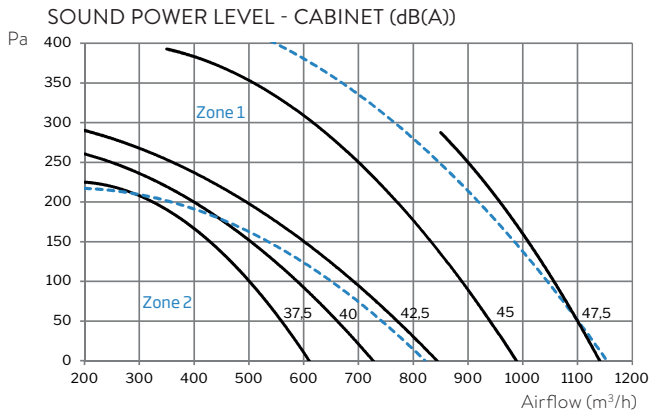
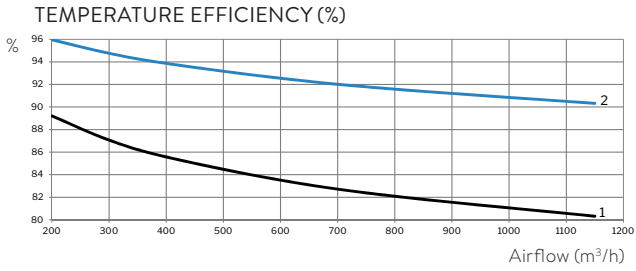
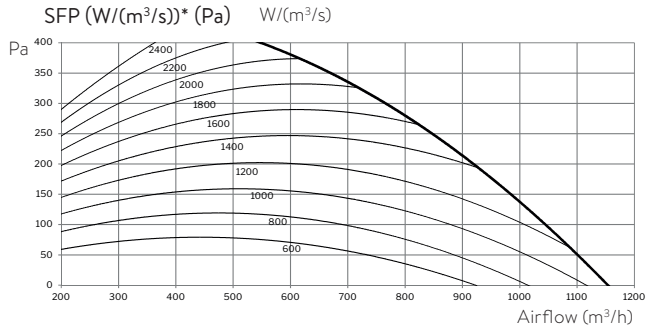
- Intake
- Inlet
- Exhaust
- Extraction



Duct dimensions, damper and silencers are not illustrated above.



DV 1000



Add extra pressure loss for ePM₁ 55% Supply air filter.

$\Delta P = 0,0222 \cdot q_v$ [Pa]; (q_v = flow in m^3/h)
 Pressure loss (p) incl. ePM₁ 55% filter: $p = p_s + \Delta p$ [Pa]

Power consumption (P):

$P = SFP \cdot q_v / 3600$ [W];
 (SFP from diagram and q_v = airflow in m^3/h)

* Specific fan power for air transport.
 Measured for both fans and control system.

1: According to: EN308 (without condensation)

Conditions: Indoor air: 25°C 28% RH
 Outdoor air: 5°C 50% RH

2: With condensation

Conditions: Indoor air: 25°C 55% RH
 Outdoor air: -10°C 50% RH

HZ	SOUND POWER LEVEL - CABINET	
	ZONE 1 K_w	ZONE 2 K_w
63	13	13
125	8	11
250	6	6
500	-7	-9
1000	-12	-16
2000	-14	-16
4000	-20	-18
8000	-20	-17

Sound power level from the cabinet is measured according to: EN ISO 3744

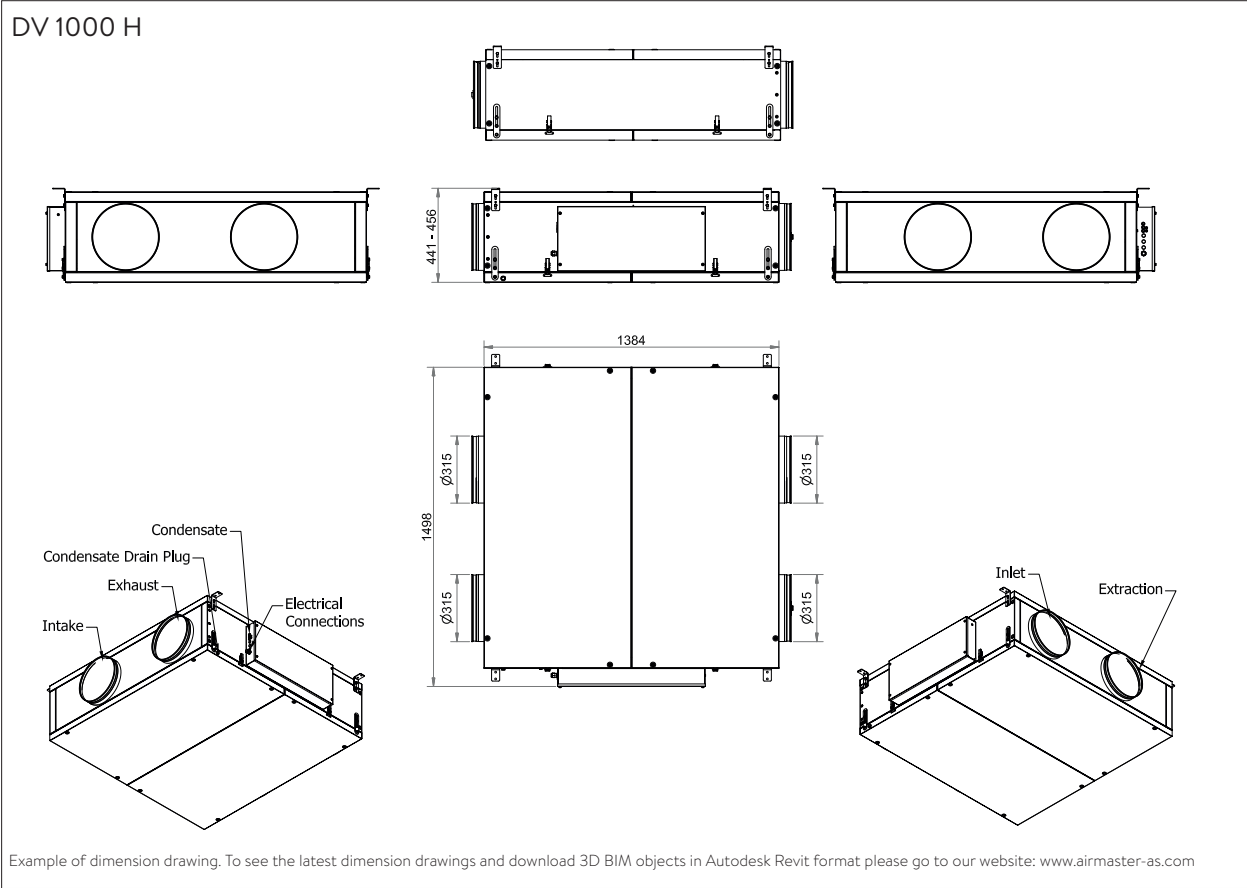
HZ	SOUND POWER LEVEL - PRESSURE SIDE	
	ZONE 1 K_w	ZONE 2 K_w
63	-4	-5
125	-9	-4
250	-5	-7
500	-12	-13
1000	-15	-16
2000	-13	-15
4000	-20	-22
8000	-20	-29

Sound power level for ducts is measured according to: EN ISO 5136

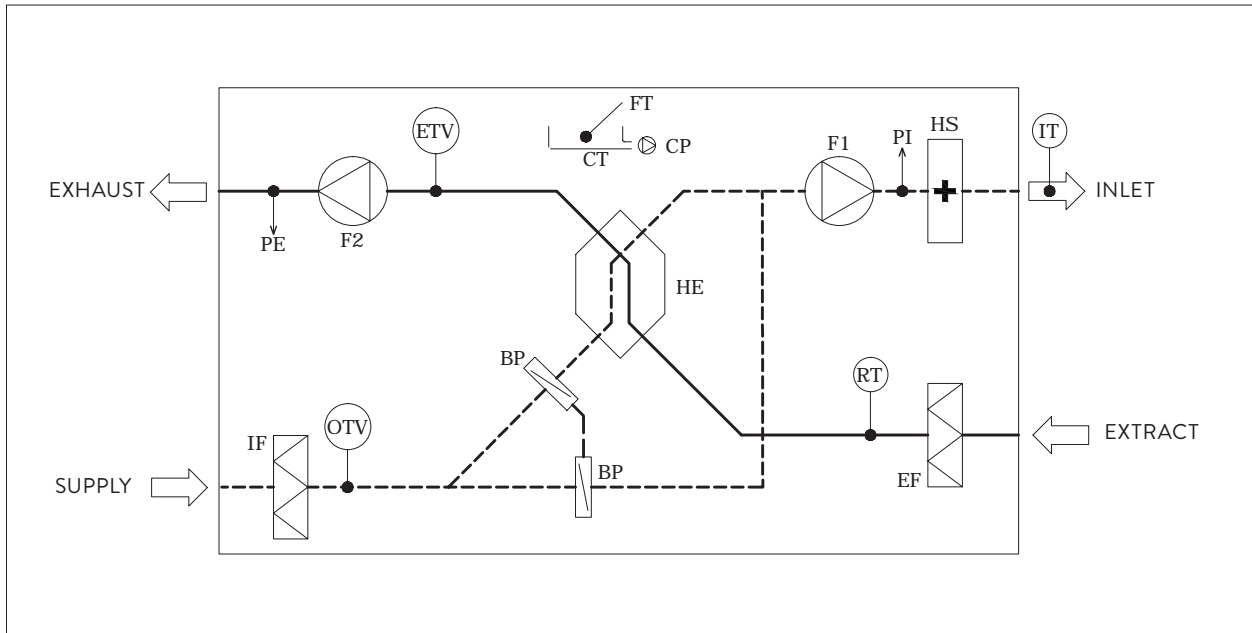
HZ	SOUND POWER LEVEL - SUCTION SIDE	
	ZONE 1 K_w	ZONE 2 K_w
63	-2	-2
125	-9	-7
250	-8	-9
500	-18	-19
1000	-21	-22
2000	-25	-28
4000	-36	-38
8000	-42	-49

Sound power level for ducts is measured according to: EN ISO 5136

DV 1000



SCHEMATIC SKETCH



NAME OF COMPONENT

BP	Bypass (motor driven)	F1	Supply Air Fan	OTV	Outside Temperature Sensor
CP	Condensate Pump	F2	Extract Air Fan	PE	Flow Meter, extracted air
CT	Condensate Tray	HE	Countercurrent Heat Exchanger	PI	Flow Meter, supply air
EF	Extract Air Filter	HS	Electric Heating Surface (option)	RT	Room Temperature Sensor
ETV	Exhaust Temperature Sensor	IF	Supply Air Filter		
FT	Float	IT	Inlet Air Temperature Sensor		

CC 1000 COOLING MODULE

Read more about our inverter-controlled cooling modules on page 22.

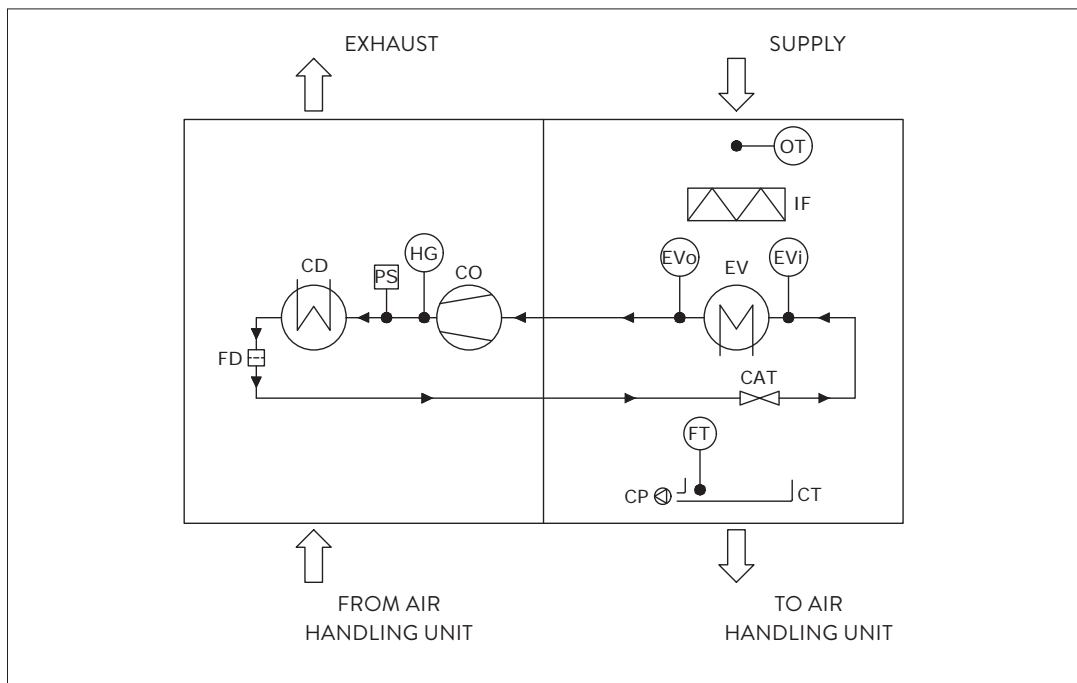
TECHNICAL DATA

Nominal cooling capacity*	6450 W
Min. cooling capacity*	1120 W
Nominal EER	4,45
Max. airflow	900 m ³ /h
Min. airflow**	360 m ³ /h
Electricity supply	1 x 230 V + AC / 50 Hz
Nominal electrical output	1449 W
Nominal current strength	8,9 A
Electrical output factor	0,71
Max. leakage current	2,0 mA
Coolant	R410a
Filling	900 g
Duct connection	315 mm dia.
Drain hose, internal/external diameter	8/12 mm dia.
Energy class (SEC class)	A+++
Weight	85 kg
Dimensions incl. ulti (wxHxD)	2325 x 555 x 1207 mm

* Measured according to EN308 and EN14825 at max. airflow with ePM₁₀ 75% filter.

** Cooling module activation.

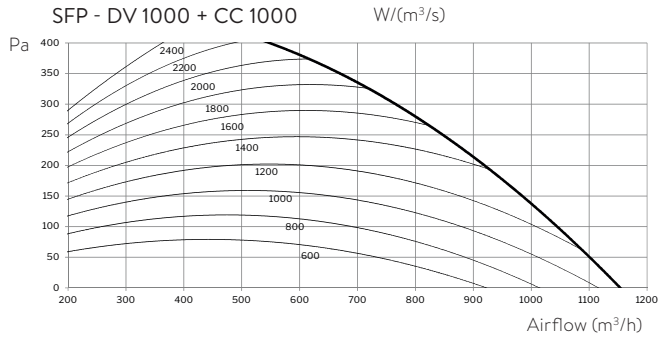
SCHEMATIC SKETCH CC



NAME OF COMPONENT

CAT	Capillary Tube	EV	Evaporator	HG	Hot Gas Temperature
CD	Condenser	EVi	Evaporator, temperature inlet	OT	Outside Temperature
CO	Compressor, inverter-controlled	EVo	Evaporator, temperature output	PS	Pressure Switch
CP	Condensate Pump	FD	Dry Filter		
CT	Condensate Tray	FT	Float		

CC 1000 COOLING MODULE



Add extra pressure loss for ePM₁ 55% Supply air filter.

$$\Delta P = 0,0222 \cdot q_v \text{ [Pa]; } (q_v = \text{flow in m}^3/\text{h})$$

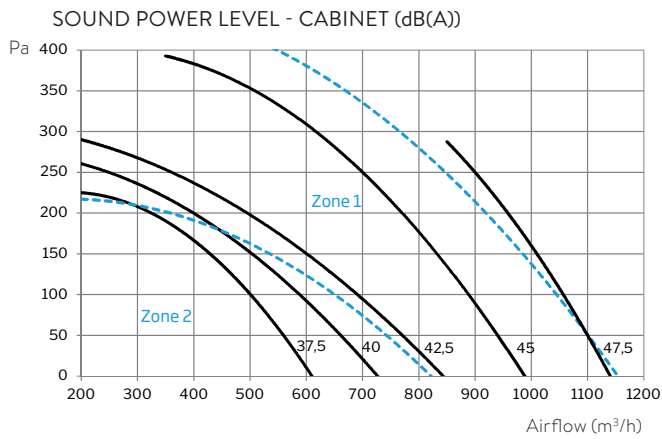
$$\text{Pressure loss (p) incl. ePM}_1 \text{ 55\% filter: } p = p_s + \Delta p \text{ [Pa]}$$

Power consumption (P):

$$P = \text{SFP} \cdot q_v / 3600 \text{ [W];}$$

(SFP from diagram and q_v = airflow in (m³/h))

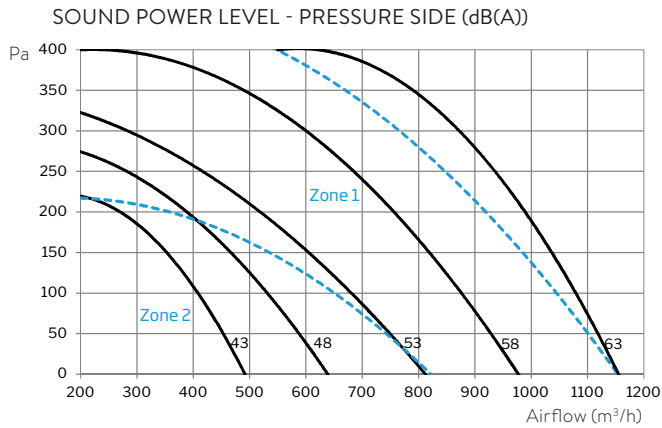
* Specific fan power for air transport.
Measured for both fans and control system.



SOUND POWER LEVEL - CABINET $L_w = L_{WA} + K_w$

HZ	ZONE 1 K_w	ZONE 2 K_w
63	13	13
125	8	11
250	6	6
500	-7	-9
1000	-12	-16
2000	-14	-16
4000	-20	-18
8000	-20	-17

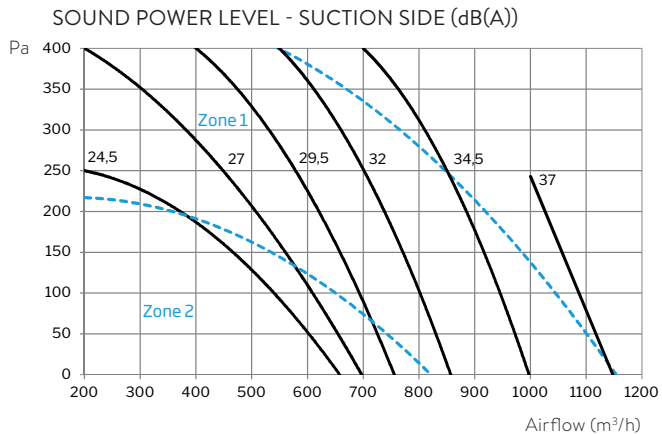
Sound power level from the cabinet is measured according to: EN ISO 3744



SOUND POWER LEVEL - PRESSURE SIDE $L_w = L_{WA} + K_w$

HZ	ZONE 1 K_w	ZONE 2 K_w
63	-4	-5
125	-9	-4
250	-5	-7
500	-12	-13
1000	-15	-16
2000	-13	-15
4000	-20	-22
8000	-20	-29

Sound power level for ducts is measured according to: EN ISO 5136



SOUND POWER LEVEL - SUCTION SIDE $L_w = L_{WA} + K_w$

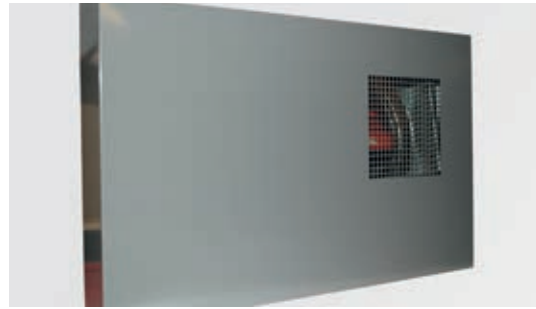
HZ	ZONE 1 K_w	ZONE 2 K_w
63	-2	-2
125	-9	-7
250	-8	-9
500	-18	-19
1000	-21	-22
2000	-25	-28
4000	-36	-38
8000	-42	-49

Sound power level for ducts is measured according to: EN ISO 5136

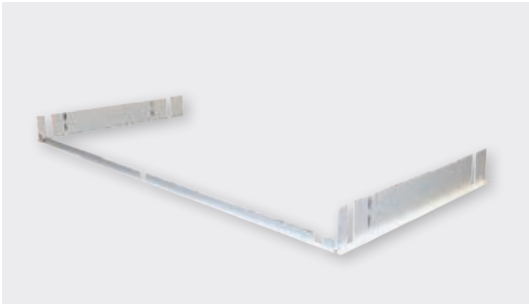
INSTALLATION AND FITTINGS



FACADE GRILLE supplied with built-in bird net, and protects against driving rain.



WALL COVER for the AM 900 - used when supply and exhaust have to be close together and prevents external short circuit.



CEILING FRAME for AM 150, AMC 150, AM 300, AM 500 and AM 800.



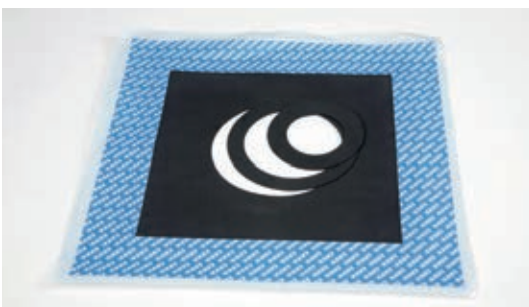
WALL FRAME for AM 150, AMC 150, AM 300, AM 500, AM 800 and AM 1000.



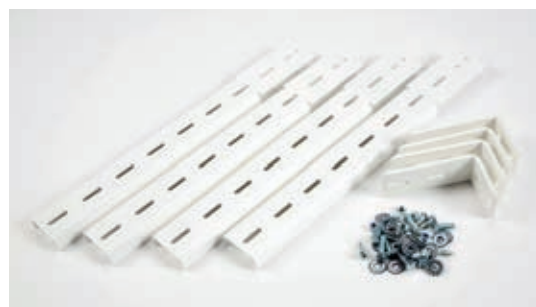
CEILING BRACKETS for mounting direct on ceiling as support if a wall provides an unsatisfactory mounting point.



CEILING BRACKET for DV 1000.



VAPOUR BARRIER MEMBRANE used around pipes penetrating walls or roofs. Ensures tight vapour membrane after ducting.



ADJUSTABLE CEILING BRACKETS height adjustable.

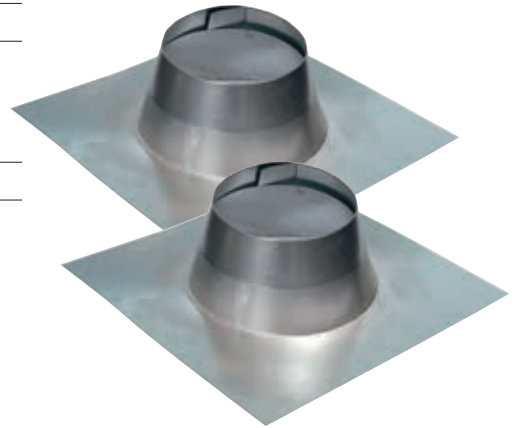
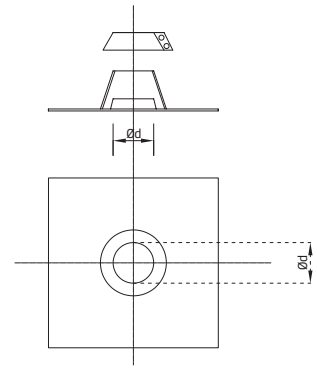
ROOF COVERS

	Ød
AM 150 / AMC 150	250
AM 300	315
AM 500	355
AM 800	
AM 900 / AM 1200	450
DV 1000	
AM 1000	
AM 1200	500

Int. dia. = internal diameter.

Roof covers are available in galvanised or grey preformed sheet metal, both with a galvanised sheet metal pipe collar.

Also available in black at extra charge.



INSULATED PENETRATION DUCTING

	Ød	ØD
AM 150 / AMC 150	125	250
AM 300	200	315
AM 500	250	355
AM 800		
AM 900	315	450
DV 1000		
AM 1000		
AM 1200	400	500

Int. dia. = internal diameter · Ext. dia. = external diameter.

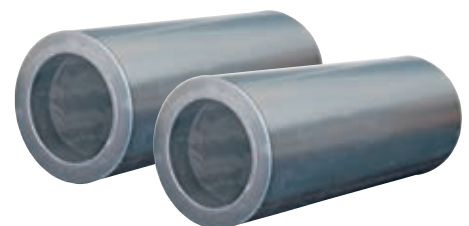
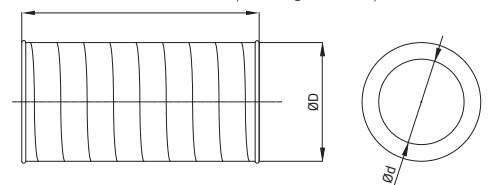
Insulated penetration ducting with minimum 50 mm insulation.

Length depends on roof pitch:

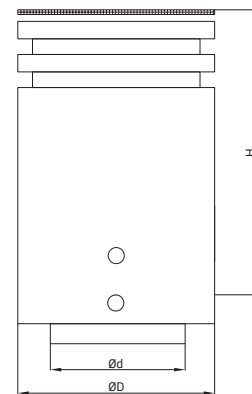
Pitch 0° - 30° = length 900 mm · Pitch 31° - 45° = length 1200 mm

Also available in black at extra charge.

L = AM 900 / AM 1200 depending on roof pitch.



EXHAUST CAP

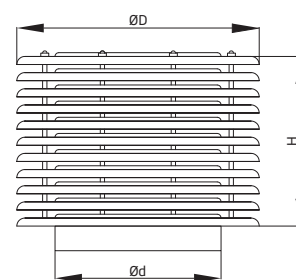


	Ød	ØD	H
AM 150 / AMC 150	125	250	230
AM 300	200	315	380
AM 500	250	355	437
AM 800			
AM 900			
DV 1000	315	450	540
AM 1000			
AM 1200	400	500	700

Int. dia. = internal diameter · Ext. dia. = external diameter · H = height
 NB: the height measurements stated are to the upper edge of the lowest hole.
 The exhaust cap has the same external dimensions as Airmaster's insulated pipes to ensure a good fit.
 Also available in black at extra charge.



LOUVRED CAP



	Ød	ØD	H
AM 150 / AMC 150	125	250	130
AM 300	200	315	160
AM 500	250	355	191
AM 800			
AM 900			
DV 1000	315	450	222
AM 1000			
AM 1200	400	500	284

Int. dia. = internal diameter · Ext. dia. = external diameter · H = height
 The louvred cap has the same external dimensions as Airmaster's insulated pipes to ensure a good fit.
 Also available in black at extra charge.



ROOF PENETRATION SET



A complete roof penetration set consists of
 2 insulated penetration ductings,
 2 roof covers,
 1 exhaust cap,
 1 louvred cap,
 2 bushings and
 3 metres spiral pipe.

ROOF CAP MODULE

AM 900 / AM 1200	Ød	ØD	H	H x B x D
Exhaust cap	315	450	540	-
Louvred cap	315	450	540	-
Box housing AM 900	-	-	-	1000 x 950 x 500
Box housing AM 1200	-	-	-	1004 x 884 x 434

Int. dia. = internal diameter · Ext. dia. = external diameter · H = height

A roof cap module is used on roofing felt roofs with a pitch of 0-30° for AM 900 V and AM 1200 V. Exhaust and louvred caps are integrated into a box housing.

Please remember to state roof pitch when ordering.



TECHNICAL DATA

	AM	150	AMC 150	300	500	800
Maximum capacity at 30 dB(A)	m ³ /h	115	115	240	430	650
Maximum capacity at 33 dB(A)	m ³ /h	-	-	270	490	688
Maximum capacity at 35 dB(A)	m ³ /h	147	147	300	550	725
Throw length (max.)	m	3,4	3,4	6,5	7,5	8,1
Weight, air handling unit (excl. options)	kg	47	75	50	108	155
Colour, panel	RAL	-	-	9010	9010	9010
Colour, cabinet	RAL	9010	9010	7024	7024	7024
Dimensions (WxHxD)	mm	1170 x 261 x 572	1170 x 261 x 846	1274 x 333 x 578	1600 x 439 x 779	1910 x 474 x 916
Voltage, unit	V	1 x 230	1 x 230	1 x 230	1 x 230	1 x 230
Frequency	Hz	50	50	50	50	50
Maximum power consumption	W	38	48	100	132	156
Current	A	0,3	0,4	0,6	1,1	1,1
Output factor		0,55	0,52	0,56	0,58	0,56
Leakage current (max.)	mA	≤0,5	≤ 0,5	≤3	≤6	≤6
Fuse (max.)	A	13	13	13	16	16

ELECTRIC HEATING SURFACE

Thermal circuit breaker, aut. reset	°C	75	75	75	75	75
Thermal circuit breaker, man. reset	°C	90	90	120	120	120
Electric comfort heater output	W	-	-	-	630	1000
Current	A	-	-	-	2,6	4,4
Electric preheater output	W	-	-	-	1000	1500
Current	A	-	-	-	4,4	6,5
Heating surface (VPH)*	W	600	600	750/1500	-	-
Current	A	2,6	2,6	3,3/6,5	-	-

WATER HEATING SURFACE

Output at 60/40°C supply/return	W	-	-	505	858	1379
Operating temperature (max.)	°C	-	-	90	90	90
Operating pressure (max.)	bar	-	-	10	10	10
Connections		-	-	3/8"(DN10)	3/8"(DN10)	1/2" (DN 15)
Materials		-	-	Copper / Aluminium	Copper / Aluminium	Copper / Aluminium
Motor valve, opening and closing times	s	-	-	60	60	60

CONDENSATE PUMP

Maximum capacity	l/h	10	10	10	10	10
Maximum lift height	m	6	6	6	6	6

* VPH: Virtual Preheat

TECHNICAL DATA

	AM	900 (mixing)	900 (displ.)	1000	1200
Maximum capacity at 30 dB(A)	m ³ /h	690	650	950	1050
Maximum capacity at 33 dB(A)	m ³ /h	760	725	1075	1180
Maximum capacity at 35 dB(A)	m ³ /h	830	800	1100	1310
Throw length	m	12	1,5	10,5	11,0
Weight, air handling unit (excl. options)	kg	180	180	286,5	545/630
Design panel dimensions	mm	-	-	-	1200 x 1000
Colour, panel	RAL	9010	9010	9010	9010
Colour, cabinet	RAL	7024	7024	7024	7024
Dimensions (WxHxD)	mm	800 x 2323 x 588	800 x 2323 x 688	2325 x 558 x 1244	496 x 2098 x 2427
Min. ceiling height for horizontal supply/exhaust	mm	2490	2490	-	2400
Min. ceiling height for vertical supply/exhaust	mm	2490	2490	-	2500
Voltage, unit	V	1 x 230	1 x 230	3 x 400	3 x 400
Frequency	Hz	50	50	50	50
Maximum power consumption	W	240	240	305	254
Current	A	1,8	1,8	2,2	1,4
Output factor		0,60	0,60	0,60	0,60
Leakage current (max.)	mA	≤6	≤6	≤4	≤9
Fuse (max.)	A	16	16	3x16	3x16

ELECTRIC HEATING SURFACE

Thermal circuit breaker, aut. reset	°C	75	75	75	75
Thermal circuit breaker, man. reset	°C	120	120	120	120
Electric comfort heater output	W	1050	1050	1500	1670
Current	A	4,4	4,4	6,5	7,3
Electric preheater output	W	1500	1500	2300	-/ 2500
Current	A	6,5	6,5	10	-/10,9

WATER HEATING SURFACE

Output at 60/40°C supply/return	W	2345	2345	2540	2454
Operating temperature (max.)	°C	90	90	90	90
Operating pressure (max.)	bar	10	10	10	10
Connections		1/2" (DN 15)	1/2" (DN 15)	1/2" (DN 15)	1/2"(DN 15)
Materials		Copper / Aluminium	Copper / Aluminium	Copper / Aluminium	Copper / Aluminium
Motor valve, opening and closing times	s	60	60	60	60

CONDENSATE PUMP

Capacity	l/h	10	10	10	10
Lift height	m	6	6	6	6

TECHNICAL DATA

DV

1000

Nominal capacity	m ³ /h	1000
Weight, air handling unit (excl. options)	kg	210
Colour, cabinet	RAL	9010
Dimensions (WxHxD)	mm	H:1498 x 424 x 1384 S:1512 x 501 x 1385
Voltage, unit	V	3 x 400
Frequency	Hz	50
Nominal power consumption	W	333
Current	A	2,6
Output factor	Cos (phi)	0,6
Leakage current	mA	≤7
Fuse (max.)	A	3x16

ELECTRIC HEATING SURFACE

Thermal circuit breaker, aut. reset	°C	75
Thermal circuit breaker, man. reset	°C	120
Electric heating surface output	W	2500
Current	A	10,9

WATER HEATING SURFACE

Max. operating temperature	°C	90
Max. operating pressure	bar	10
Heat output	W	4099
Connection dimension		1/2"(DN 15)
Materials pipes/fins		copper/aluminium
Open/close time, motor valve	s	< 60

CONDENSATE PUMP

Capacity	l/h	10
Lift height	m	6

TECHNICAL DATA CC

CC COOLING MODULE		300	500	800	1000
Nominal cooling capacity*	W	2450	3280	5240	6450
Min. cooling capacity*	W	421	820	990	1120
Nominal EER		4,01	3,16	4,72	4,45
Max. airflow	m ³ /h	260	500	650	900
Min. airflow**	m ³ /h	150	250	260	360
Supply voltage for all cooling:		1 x 230 V + AC / 50 Hz			
Nominal electrical output	W	617	1038	1110	1449
Nominal current strength	A	3,8	6,4	6,8	8,9
Electrical output factor		0,7	0,71	0,71	0,71
Max. leakage current	mA	3,0	2,0	2,0	2,0
Coolant		R134a	R410a	R410a	R410a
Filling	g	300	480	740	900
Duct connection	dia.	200 mm	250 mm	315 mm	315 mm
Drain hose, internal/external diameter	dia.	8/12 mm	8/12 mm	8/12 mm	8/12 mm
Weight	kg	49	82,8	100,7	85
Dimensions incl. unit (WxHxD)	mm	1274 x 333 x 972	1600 x 439 x 1185	1910 x 474 x 1321	2325 x 555 x 1207

* Measured according to EN308 and EN14825 at max. airflow with ePM₁₀ 75% filter.

** Cooling module activation.

FILTER STANDARD - ISO 16890

As of July 1st 2018, dust air filters for ventilation must be compliant with the filter standard EN ISO 16890, which replace DS/EN 779:2012. The filter standard is introduced with the vision to create one global filter standard. All Airmaster air handling units are delivered with filters in compliance with the standard ISO 16890.

The EN ISO 16890 test method focus on the performance of filtering in proportion to specific particle sizes.

The old test method only focused on the efficiency of filtration, without taking into consideration which specific particle size it could filtrate. The new standard makes it more manageable to compare with particulate pollution in other contexts.

Table 1 shows the old classifications for DS/EN 779:2012 compared to the new classification for EN ISO 16890.

It is not possible to translate the new classifications directly, but the table shows how Airmaster translate the classification in proportion to each other.

EN ISO 16890 use new descriptions which classify the efficiency of the filtration in proportion to the particle size. PM_1 , $PM_{2,5}$ and PM_{10} indicates the particulate matter size in μm . 10 μm is the largest particle and 1 μm is the smallest particle. In front of the PM an e is given (ePM) which indicate the efficiency of the filtration in proportion to the specific particle size and is given in %. For example, a filter which is classified as $ePM_1 (>55\%)$ capture more than 55% of particle size 1 μm .

Classification cf. DS/EN 779:2012	Classification cf. EN ISO 16890
M5	ISO $ePM_{10} (>75\%)$
F7	ISO $ePM_1 (>55\%)$
F9	ISO $ePM_1 (>80\%)$

Tabel 1 - Filter classifications

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