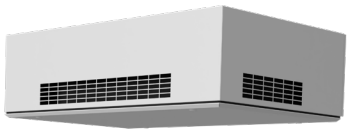
AIRMASTER

Data Sheet AM 300



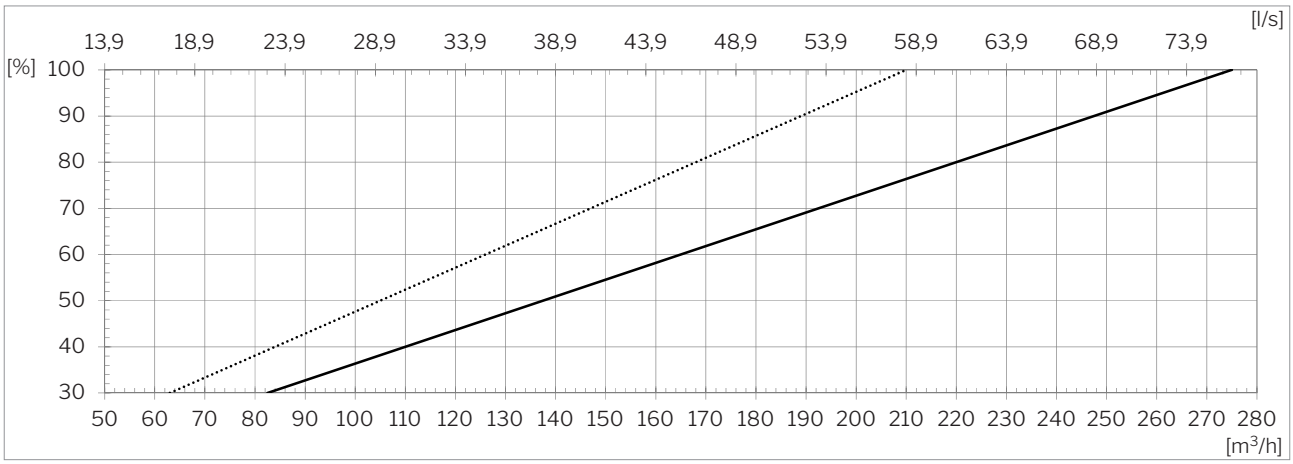
Technical data	Filter class	30 dB(A)	35 dB(A)	Boost
Maximum capacity [1]	ePM_{10} 50%	210 m^3/h	275 m^3/h	315 m^3/h
	ePM_1 55%	205 m^3/h	270 m^3/h	315 m^3/h
	ePM_1 80%	180 m^3/h	240 m^3/h	305 m^3/h
Throw (0,2 m/s) [2]	ePM_{10} 50%	4,25 m	6 m	7 m
	ePM_1 55%	4,25 m	6 m	7 m
	ePM_1 80%	3,5 m	5 m	6,75 m
Supply air filter		ePM_{10} 50%, ePM_1 55% or ePM_1 80%		
Extract air filter		ePM_{10} 50%		
Dimensions (WxHxD)		1180 x 344 x 705 mm		
Weight, standard air handling unit, complete		85 kg		
Weight, casing		70 kg		
Weight, service cover		15 kg		
Colour, casing		RAL 9010 (white)		
Counterflow heat exchanger		Aluminium		
Air leakage classification cf. EN1886/EN13141-7		Class L2 / A1		
Air leakage classification, main damper, cf. EN1751		Class 3		
IP code		10		
Duct connection		Ø160 mm		
Condensate pump (capacity/lifting height at 5 l/h)		10 l/h / 6 m		
Condensate drain hose int./ext. diameter		Ø4 mm / Ø6 mm		
Supply voltage		220-240V/50Hz, ~1N+PE		
Maximum power consumption[1]		204 W		
Maximum current[1]		1,87 A		
Power factor		0,48		
Maximum fuse		13 A (1 phase, type B)		
Leakage current AC / DC		≤ 0,7 mA / ≤ 0,005 mA		
Recommended residual current circuit breaker (RCCB)		Type B		

Electrical heating surfaces	Preheating surface	Comfort heating surface
Heat output	1000 W	500 W
Nominal current	4,35 A	2,17 A
Thermal circut breaker, manual reset	100 °C	100 °C

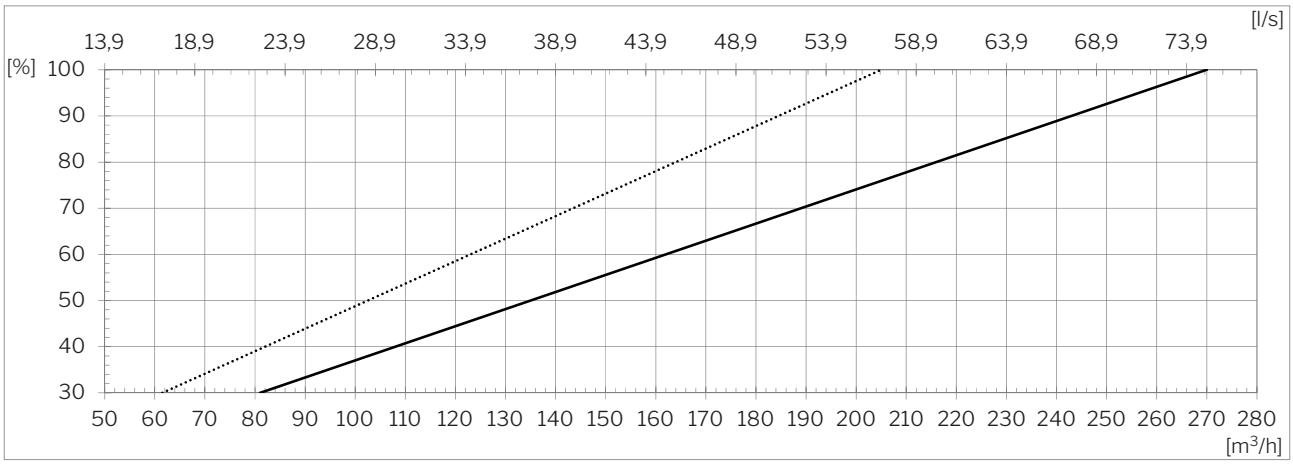
Water heating surface	
Nominel heat output [3]	1593 W
Connection dimension	1/2" (DN 15)
Materials pipes/fins	copper/aluminium
Opening/closing time, motor valve	60 s
Maximum operating temperature	90 °C
Maximum operating pressure	5 bar

[1] All measurements were performed in normal operating mode in a standard installation using the facade grills recommended by Airmaster: Airmaster Boomerain® Ø160, in a test room dimensioned 8.0 m x 10.0 m x 2.5 m with room attenuation of 7.5 dB.
[2] The throw is measured with a 2 °C subcooled supply air at the standard setting of the inlet diffuser. The setting is adaptable, see page 6.
[3] Heat output for maximum capacity at 35 dB(A), delivery/return temperature 60/40°C and a liquid flow of 87 l/h.

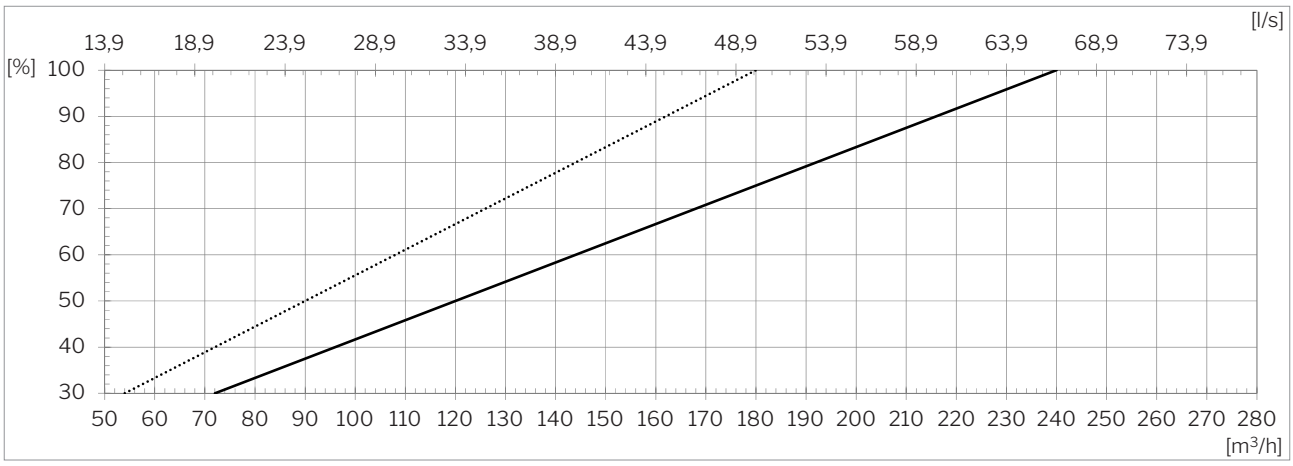
Capacity with ePM_{10} 50% / ePM_{10} 50% filters [4]



Capacity with ePM_1 55% / ePM_{10} 50% filters [4]

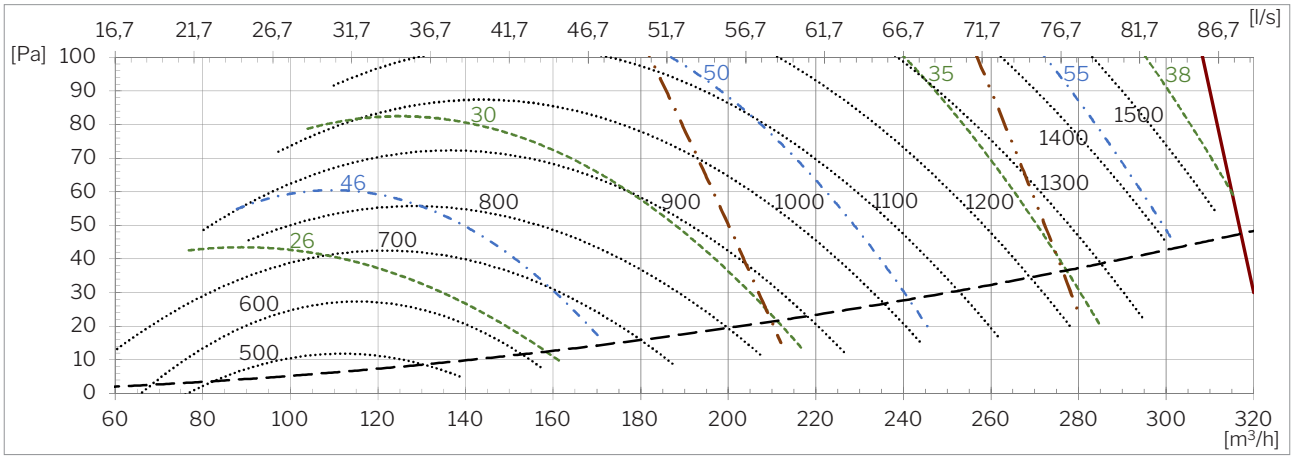


Capacity with ePM_1 80% / ePM_{10} 50% filters [4]



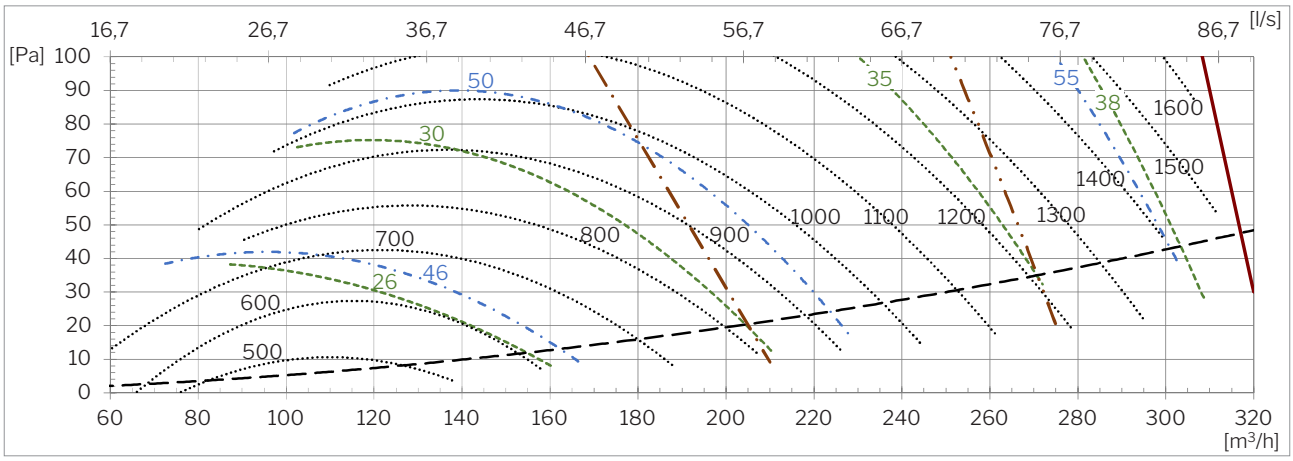
[4] AM 300 HH, SS and variants of this, including DI and DE variants.
Calculate air flow for AM 300 VV variants as follows
$q_{VV,@30dB(A)} = 0{,}928*q_v$ or $q_{VV,@35dB(A)} = 0{,}928*q_v$; q_v = air flow from graph in [m³/h].

SFP with ePM_{10} 50% / ePM_{10} 50% filters



Sound pressure level [5] $L_{pA,eq}$ [dB(A)]
Sound pressure level [5] $L_{pA,eq}$ [dB(C)]
SFP [Ws/m³]
Facade grille, Airmaster Boomerain® Ø160
Max. normal operation @ 30 dB(A)
Max. normal operation @ 35 dB(A)
Max. operation @ Boost

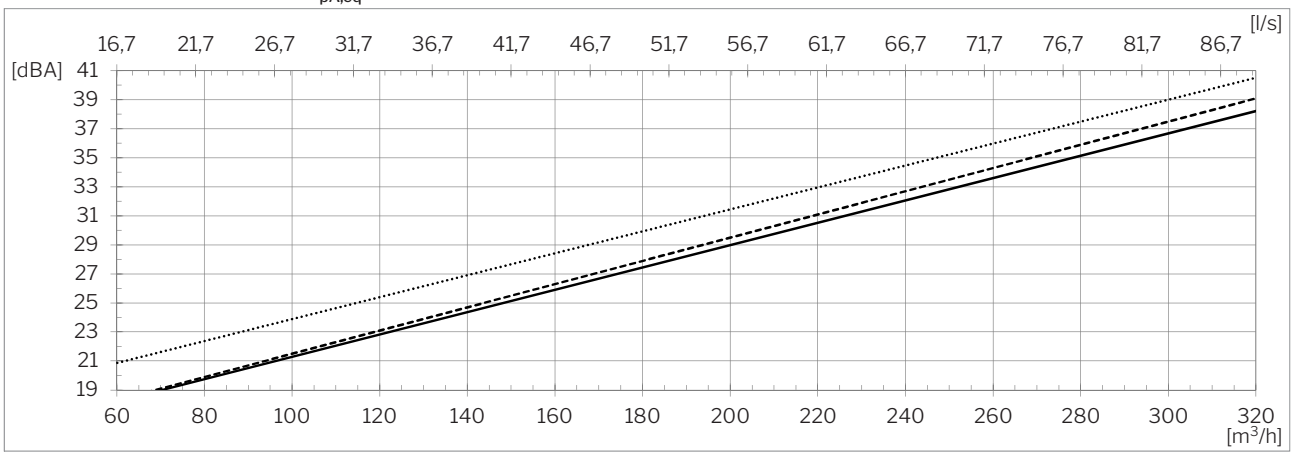
SFP with ePM_1 55% / ePM_{10} 50% filters



Sound pressure level [5] $L_{pA,eq}$ [dB(A)]
Sound pressure level [5] $L_{pA,eq}$ [dB(C)]
SFP [Ws/m³]
Facade grille, Airmaster Boomerain® Ø160
Max. normal operation @ 30 dB(A)
Max. normal operation @ 35 dB(A)
Max. operation @ Boost

[5] The sound pressure level $L_{pA,eq}$ is measured at a height of 1,2 m at a horizontal distance of 1 m from the air handling unit.

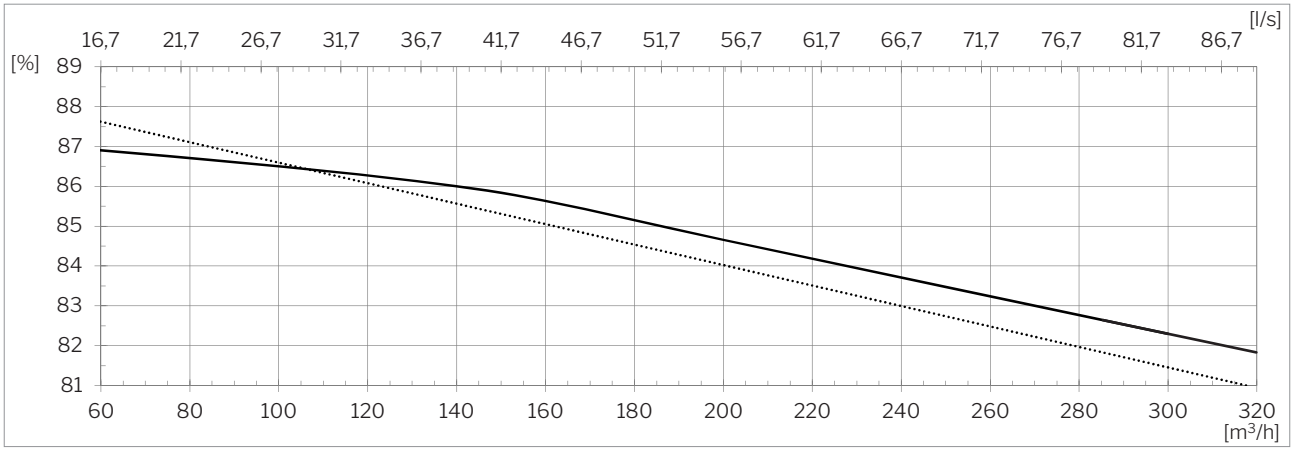
Sound pressure level [6, 7] $L_{pA,eq}$ acc. to Airmaster reference situation



ePM$_1$ 80% / ePM$_{10}$ 50% — ePM$_1$ 55% / ePM$_{10}$ 50% — ePM$_{10}$ 50% / ePM$_{10}$ 50%

For AM 300 VV variants, add a sound pressure of ΔL_p = 0.00965*qv - 0.4 to the sound pressure $L_{pA,eq}$ from the graph (qv: Air flow, [m³/h]).

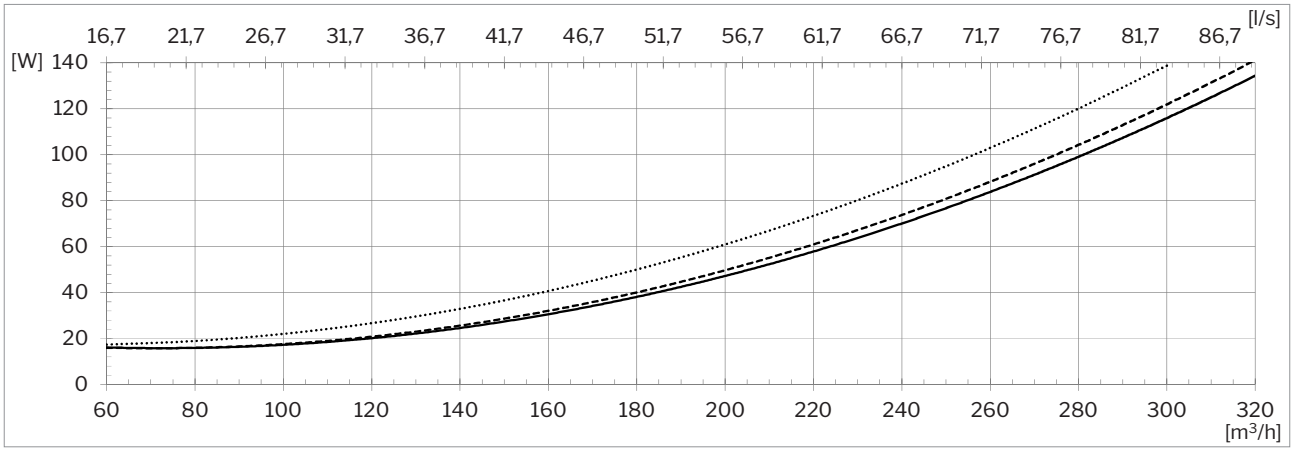
Temperature efficiency acc. to EN 308 and EN 13141-7



EN 308 conditions: Balanced operation; room air: 25 °C, 28 % RH; outdoor air: 5 °C.

EN 13141-7 conditions: Balanced operation; room air: 20 °C, 38 % RH; outdoor air: 7°C.

Power consumption [7]

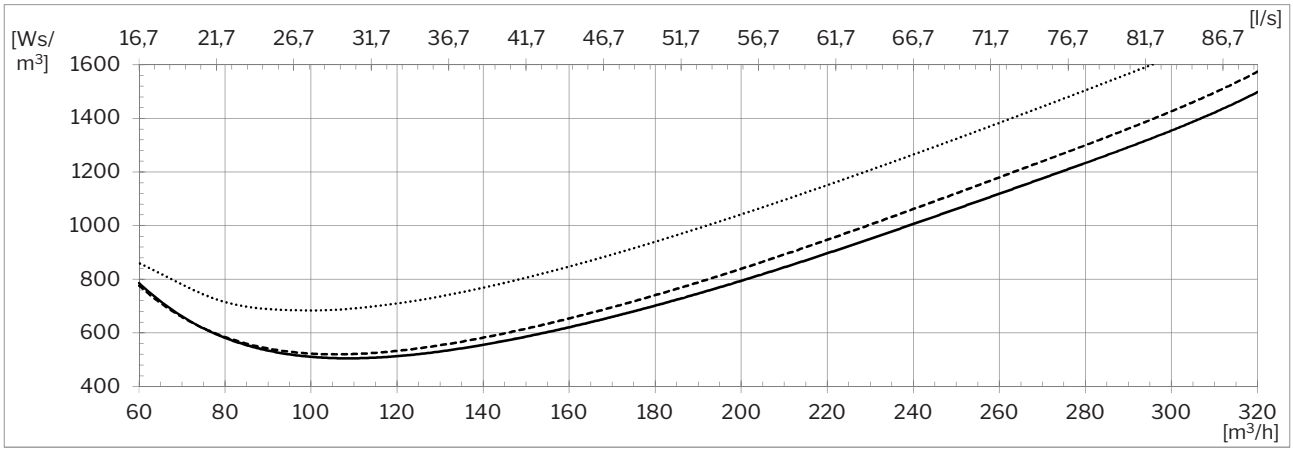


ePM$_1$ 80% / ePM$_{10}$ 50%	For AM 300 VV variants, calculate $P_{VV, ePM1\ 80\%}$	= 1,07*P ; P = power consumption in [W].
ePM$_1$ 55% / ePM$_{10}$ 50%	For AM 300 VV models, calculate $P_{VV, ePM1\ 55\%}$	= 1,09*P ; P = power consumption in [W].
ePM$_{10}$ 50% / ePM$_{10}$ 50%	For AM 300 VV variants, calculate $P_{VV, ePM10\ 50\%}$	= 1,12*P ; P = power consumption in [W].

[6] The sound pressure level $L_{pA,eq}$ is measured at a height of 1.2 m at a horizontal distance of 1 m from the air handling unit.

[7] AM 300 HH, SS and variants of this, including DI and DE variants.

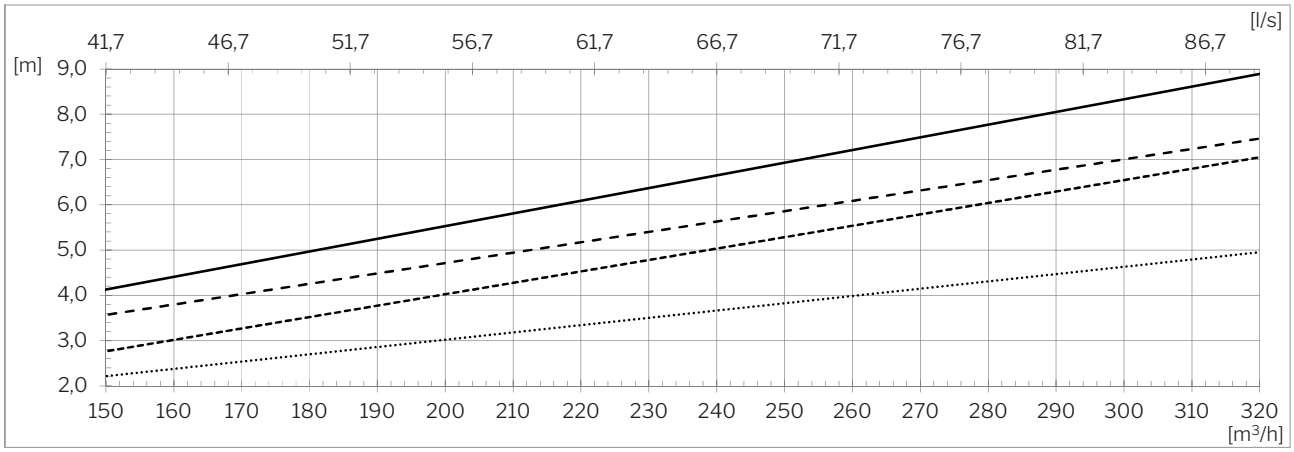
SFP [8]



·····	ePM_1 80% / ePM_{10} 50%	For AM 300 VV variants, calculate $SFP_{VV, ePM1\ 80\%}$ = 1,07*SFP ; SFP i [Ws/m³].
- - - -	ePM_1 55% / ePM_{10} 50%	For AM 300 VV variants, calculate $SFP_{VV, ePM1\ 55\%}$ = 1,09*SFP ; SFP i [Ws/m³].
——	ePM_{10} 50% / ePM_{10} 50%	For AM 300 VV variants, calculate $SFP_{VV, ePM10\ 50\%}$ = 1,12*SFP ; SFP i [Ws/m³].

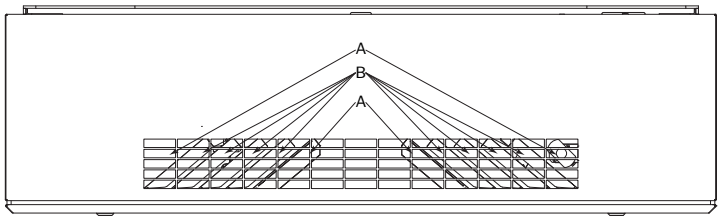
[8] AM 300 HH, SS and variants of this, including DI and DE variants.
The calculation of SFP includes the power consumption for operating fans but not for controls, display panel, etc.

Throw [9] (0,2 m/s)



Small inlet diffuser opening, 5° blade angle.
Small inlet diffuser opening, 30° blade angle.
Large inlet diffuser opening, 45° blade angle.
Large inlet diffuser opening, 60° blade angle.

Small and large inlet diffuser opening

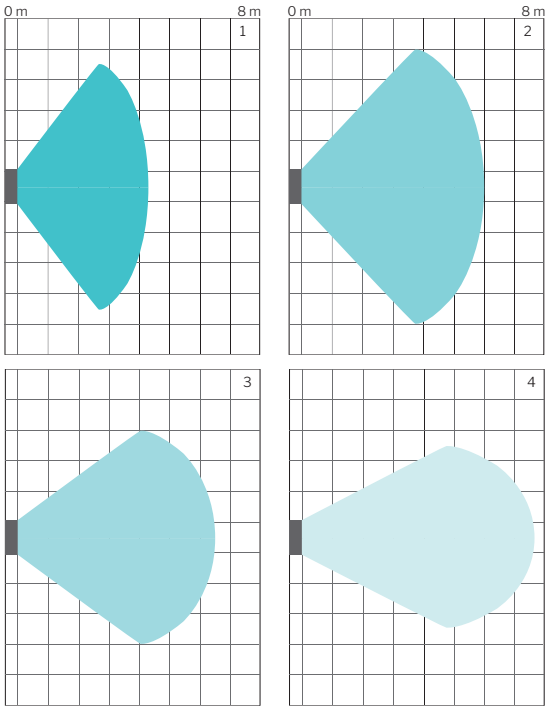


Small inlet diffuser opening:
A is closed, B is open at x°.

Large inlet diffuser opening:
A and B are open at x°.

Default delivery state:
Large inlet diffuser opening, 45° blade angle.

Throw and dispersion, top view.



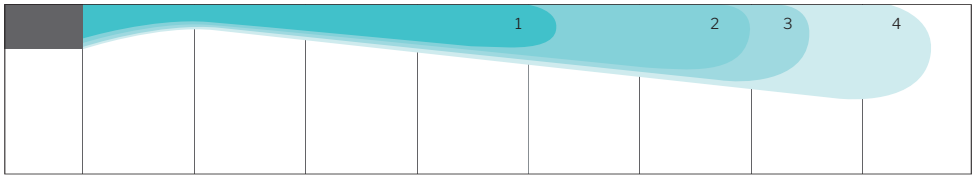
The air handling unit disperses inlet air depending on the blade angle settings.

The illustrations show the dispersion pattern and throw for the various blade angle settings at an air flow of 275 m³/h:

1. Large inlet diffuser opening, 60° blade angle.
2. Large inlet diffuser opening, 45° blade angle.
3. Small inlet diffuser opening, 30° blade angle.
4. Small inlet diffuser opening, 5° blade angle.

Changing the air flow also affects the throw length.

Throw, side view.



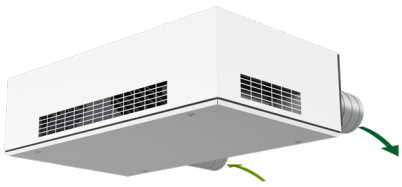
[9] The throw is measured with a 2 °C subcooled inlet air supply.

Version overview

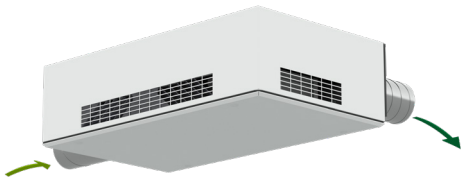
Exhaust/supply position

» Back (**H**orizontal)
» Top (**V**ertical)
» Side (**S**ide)
» Combinations

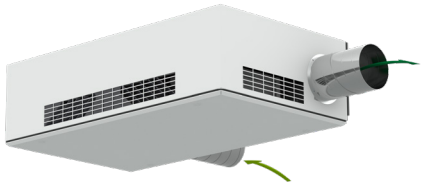
HH



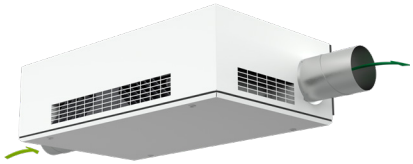
HS



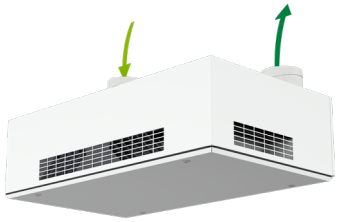
SH



SS



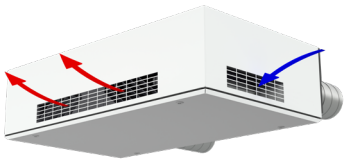
VV



Inlet/extract position

» Bottom (**B**)
» Ducted Inlet (**DI**)
» Ducted Extract (**DE**)

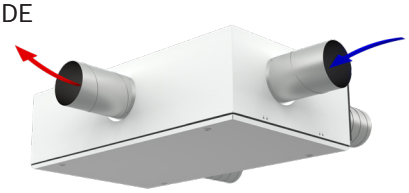
BB



BDE

DIB

DIDE



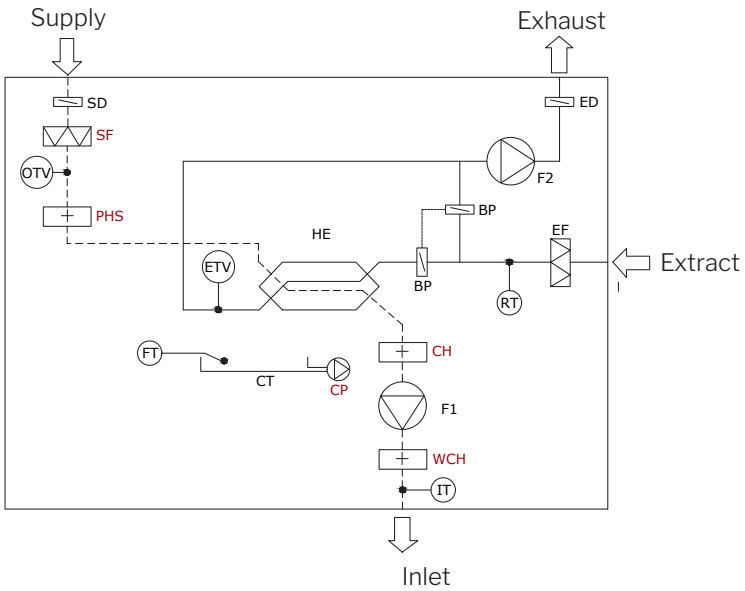
Standards and options

Counterflow heat exchanger (aluminium)	x
Enthalpy counterflow heat exchanger (polymer membrane)	o
Combination counterflow heat exchanger (polymer membrane)	o
Motor-driven bypass	x
Motor-driven supply air damper	x
Motor-driven extract air damper	x
Electric preheating surface	•
Electric comfort heating surface	•
Water heating surface	•
Condensate pump	•
Service power switch	•
Electronic humidity sensor (built-in)	•
PIR/motion sensor (wall mounted)	•
PIR/motion sensor (integrated)	•
CO_2 sensor (wall mounted)	•
CO_2 sensor (integrated)	•
TVOC (integrated)	•
CO_2-/TVOC sensor (integrated)	•
Humidity sensor (integrated)	o

Hygrostat (wall mounted)	o
Energy meter	•
Supply air filter ePM_{10} 50%	•
Supply air filter ePM_1 55%	•
Supply air filter ePM_1 80%	o
Extract air filter ePM_{10} 50%	x
LED (operating mode indicator)	x
Wall/ceiling bracket	•
Ceiling frame	•
Operating button	•
Control panel, Viva	•
Control panel, Orbit	•
Airmaster Airlinq® Online	•
Airlinq® Online API	•
Airlinq® BMS	•
LON® module	o
KNX® module	o
MODBUS® RTU RS485 module	•
BACnet™ MS/TP module	•
BACnet™ /IP module	•

X : Standard • : Optional o : Special item (not stock item)

Schematic sketch



Component designation

BP	Bypass damper (motor-driven)	ETV	Exhaust temperature sensor, ventilation	OTV	Supply air temperature sensor, ventilation
CH	Electric comfort heating surface (option)	FT	Float	PHS	Electric preheating surface (option)
CP	Condensate pump (option)	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	Counterflow heat exchanger	SF	Supply air filter (option)
EF	Extract air filter	IT	Inlet-air temperature sensor	WCH	Water heating surface (option)