CEILING- AND WALL-MOUNTED

ENERGY-EFFICIENT VENTILATION SOLUTIONS FOR:
HOMES, APARTMENTS, NEW-BUILDS AND RENOVATIONS

QUICK GUIDE

HCC 2 PLA

HCC 260$_{P1}$

HCC 360$_{P2}$
HCC 360$_{E1}$

INSTALLATION

WALL-MOUNTED

ATTIC-MOUNTED

CEILING

CEILING AND WALL-MOUNTED

HCC RANGE

PAINTED IN RAL 9016

SURFACE IN ALUZINC

Model range

The HCC range is available in a variant with an Aluzinc surface, standard filter resetting capability as well as easy PCB access to connect accessories. Delivered four units on a pallet at a time, it also minimises the use of packaging in consideration of the environment.

Overview

The HCC residential ventilation unit is primarily designed for new constructions or retrofitting into multiple apartment buildings. The outer dimensions and design allow easy installation into a suspended ceiling or onto a wall, hidden inside a closet.

The unit is supplied as a basic unit, with the option of fitting a wide range of accessories into the unit, thus extending the comfort and reducing the energy consumption.

The residential ventilation unit is equipped with a highly efficient plastic counter-flow heat exchanger, which is optimised to a high efficiency level. This, combined with a low headroom, results in a very slim ventilation unit, easily hidden in a suspended ceiling, together with the duct system.

HCC enclosure

The unit enclosure is designed to fit low headroom suspended ceilings, and yet still with easy service access. The outer surface is 0.8mm Aluzinc powder coated sheet, which comes in options painted with white in RAL 9010 or not, with two external lids covering the two filter slots.

All inside air paths and insulation, is made of EPS (Polystyrene). This has a high insulation level, and good air tightness, which permits location of the units in spaces with temperatures down to +12°C .

Because of their ability to be either ceiling- or wall-mounted, the units will fit into almost any residential area without being visible.

Function

The unit ventilates residential homes by extracting the inside humid air, and replacing it with fresh outside air, which has been heated with the heat energy of the extracted air. This reduces energy consumption.

CEILING AND WALL-MOUNTED

HCC RANGE

When very humid inside air is extracted, the humidity will condensate inside the heat exchanger, and be collected by the embedded drip tray. This water is drained from the unit through the enclosed hose and then disposed of in the nearest drainage.

Mirroring all duct connections

The air flow direction can be electronically swapped, providing ability to route the connected ducts, either to the right or to the left. This means that the supply air duct connections can be either to the right or to the left hand side of the unit. (Supply air and extract air duct connections always towards the inside of the house and outside air and exhaust air ducts always towards the outside of the house).

All electrical cables can be connected from either the left or the right hand side, regardless of fan direction.

Filters

Requiring no tools, users can change the filter on their own and then reset the filter timer using the standard filter resetting button (HCC 260 and HCC 360) or the optional HCP 11 wired control. If no controls are available, the filter is to be changed by an installer with the appropriate PC Tool on his laptop for resetting the filter timer.

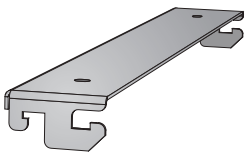
Apart from changing the air filters and cleaning the outside of the unit, any other form of service will have to be carried out by qualified personnel. Local Dantherm technicians and Dantherm partners are always available to solve any problem with the unit that might arise.

Removing the front cover gives access to all types of service and repair.

Installation parts

The enclosed mounting bracket is designed to conduct a safe installation process, and is suitable for both wall and ceiling installation.

The mounting bracket will tilt the unit slightly towards the drainage spigot, ensuring correct drainage of any condensed water inside the unit when used for ceiling installation. It will also offer a easy wall installation process.



UNIVERSAL MOUNTING BRACKET

FILTER CHANGE

ILLUSTRATION OF DUCT CONNECTIONS IN FAN DIRECTION MODE A

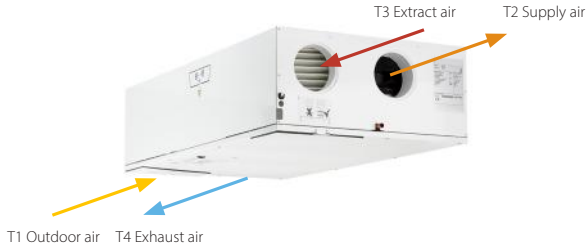
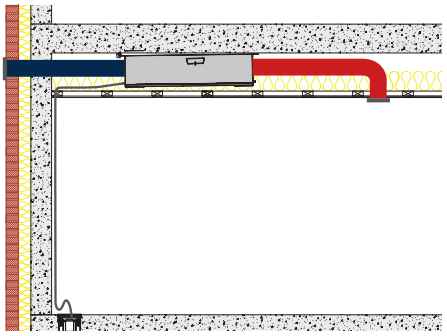
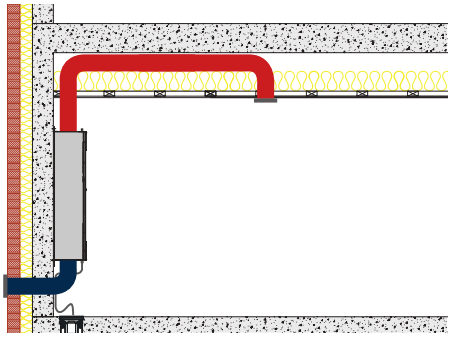


ILLUSTRATION OF DUCT CONNECTIONS IN FAN DIRECTION MODE B



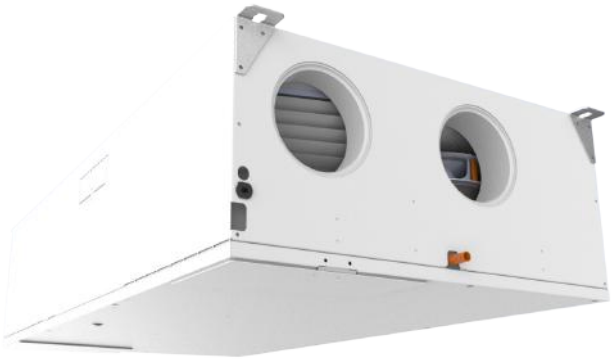
HCC 2 IN SUSPENDED CEILING



HCC 2 ON WALL

CEILING AND WALL-MOUNTED

HCC 2PLA



The HCC 2 is a unique and flexible residential ventilation solution. With only 30cm installation headroom it is ideal for installation in suspended ceilings or onto a wall, even hidden inside a closet. The unit can be electronically reversed, meaning that both air flows will be reversed. This allows the same unit type to be mounted with the inside/outside ducts connected to either the right or the left hand side of the unit. Electrical connections can be connected from either the left or the right.

- High efficiency heat recovery – up to 94%
- EC fan motors with low energy consumption (low SPI)
- Only 300mm installation headroom height is required
- Time controlled ventilation level, based on 11 different built-in pre-programmed week programs, reducing power consumption in periods with low ventilation demands
- Summer cooling mode
- Automatic free-cooling features lets in cool night air on hot days to help maintain a comfortable temperature throughout the day
- Fireplace mode, creating a momentary inside overpressure, to enhance chimney functionality
- Easy-to-install and commissioning solution with built in air measure ports, for easy balancing with PC Tool
- Electronically left/right fan direction switching, allowing same unit type to adapt any physical installation requirements, regardless of ceiling and wall selection
- TCP/IP ModBus connection, for inter-operation with Building Management System
- Painted in white RAL 9016
- Electrical connections can be connected from either the left or the right

Third party testing and certifications

Code	Description
PHI	Passivhaus certified
DIBt	Certified by the German Institute of Construction Technology
EPB	Listed in the database for Energy Performance of Buildings in Belgium
ErP	Compliant with EU regulations for Eco-design
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings

CEILING AND WALL-MOUNTED

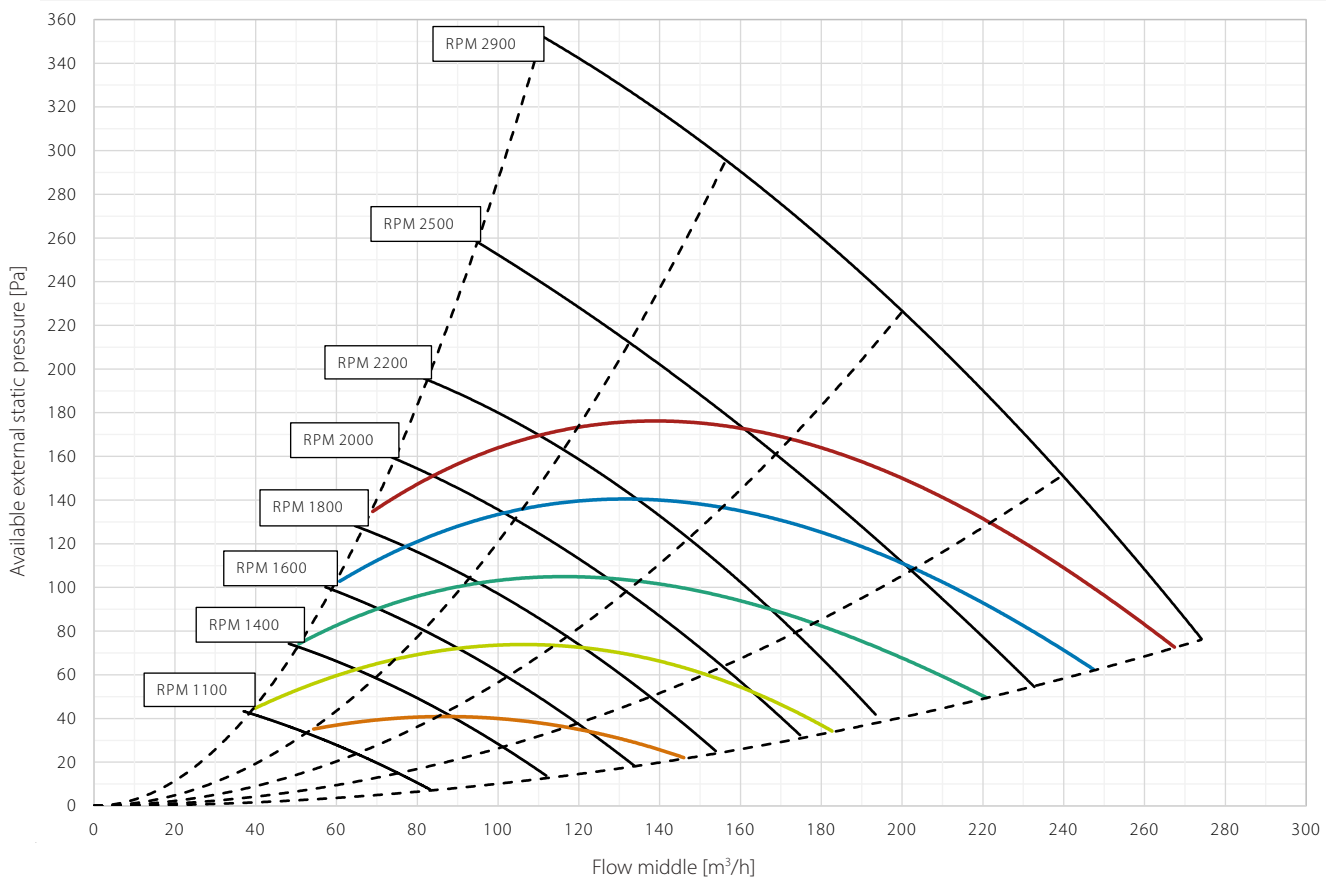
HCC 2PLA

TECHNICAL DATA

Specifications	Units		HCC 2PLA
Maximum nominal flow	V	m^3/h	180
Operating range DIBt	V_{DBIt}	m^3/h	70 to 140
Operating range Passivhaus @100Pa	V_{PHI}	m^3/h	70 to 140
EN 13141-7 reference flow @50Pa	V_{REF}	m^3/h	126
Performance			
Thermal efficiency DIBt	η_{DBIt}	%	93.8
Thermal efficiency Passivhaus	η_{PHI}	%	93
Thermal efficiency EN 13141-7 at reference flow	η_{EN}	%	94
Cabinet sound power at reference flow at $140m^3/h$ and 100Pa	Lw(A)	dB(A)	45
Duct sound power level (supply/extract) at $140m^3/h$ and 100Pa	Lw(A)	dB(A)	60/45
Filters in accordance with ISO16890	-	-	ISO Coarse 75% (optional on supply: ePM1>50%)
Filters in accordance with EN779	-	-	G4 (optional on supply: F7)
Installation surrounding temperature range	t_{surr}	°C	+12 to +40
Maximum humidity in extract air at 25°C	RH	%	55
Outdoor temperature range without preheating installed	t_{ODA}	°C	-12* to +45
Outdoor temperature range with preheating installed	t_{ODA}	°C	-15 to +45
Cabinet			
Dimensions (without wall bracket)	w x d x h	mm	600 x 279 x 1122
Spigots/duct connections	Ø	mm	125 – female
Weight	m	kg	34
Heat conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transfer coefficient – polystyrene insulation	U	W/m^2K	<1
Leakage (external and internal) according to EN 13141-7	class		<2% (Class A1)
Drainage hose (included)	Ø	"	1/2
Cabinet colour	RAL	-	9016
Fire classification of the polystyrene insulation	-	-	DIN 4102-1 class B2 EN 13501 class E
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	127/1,027
Frequency	f	Hz	50
Protection class	-	-	IP20

** In order to ensure balanced ventilation, preheater is recommended when outdoor temperature is below -3°C.*

CAPACITY AND SPI CURVES WITH G4/G4 FILTERS



SFP/SPI/SEL*	0.45 W/m³/h	0.39 W/m³/h	0.33 W/m³/h	0.28 W/m³/h	0.22 W/m³/h
	1620 J/m³	1400 J/m³	1200 J/m³	1000 J/m³	800 J/m³
	1.62 W/l/s	1.40 W/l/s	1.20 W/l/s	1.0 W/l/s	0.80 W/l/s

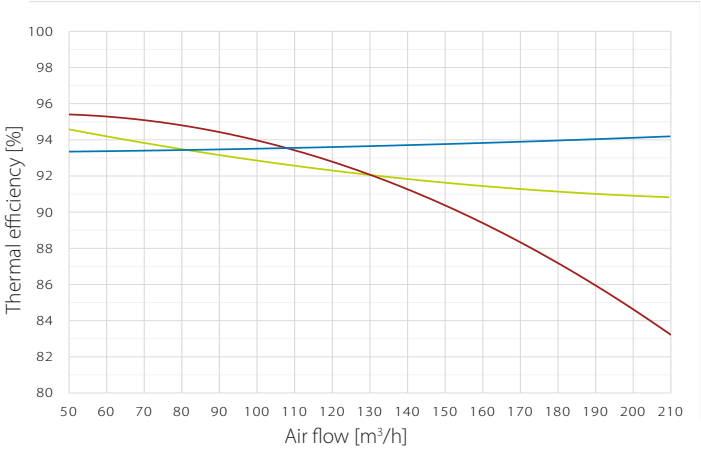
* SFP/SPI/SEL includes power consumption of both fans and the control.

THERMAL EFFICIENCY CURVES

Legend

- Thermal efficiency according to EN 13141-7 (dry)
  Operational conditions: outdoor air: 7°C, 88% RH; extract air: 20°C, 38% RH
- Thermal efficiency according to EN 13141-7 (with condensation)
  Operational conditions: outdoor air: 2°C, 85% RH; extract air: 20°C, 60% RH
- Thermal efficiency according Passivhaus Institut
  Operational conditions: outdoor air: 4°C, 94% RH; extract air: 21°C, 30% RH

All values at balanced flow

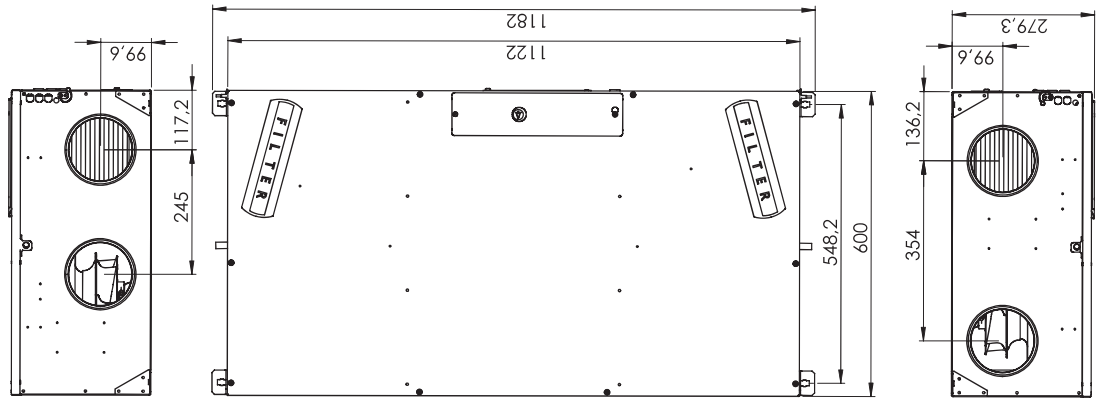


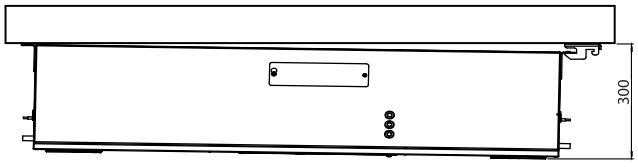
SOUND DATA WITH G4/G4 FILTERS

Air-volume	Pres.	Measure point	Frequency band sound power L_W(A) dB(A)								Total sound power L_W(A)	Sound pres. Lp(A) Standard room*
m³/h	Pa		63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)	dB(A)
80	30	Supply air	23	43	40	42	39	32	20	18	47	
		Extract air	12	26	24	24	16	16	17	18	30	
		Cabinet									30	25
98	50	Supply air	28	41	51	48	44	39	26	18	54	
		Extract air	16	27	31	29	19	16	17	18	35	
		Cabinet									34	29
100	100	Supply air	32	49	56	52	49	44	33	19	59	
		Extract air	19	31	42	33	23	19	17	18	43	
		Cabinet									37	32
126	70	Supply air	31	43	55	52	49	45	33	19	58	
		Extract air	19	30	42	33	23	19	17	18	42	
		Exhaust air	30	43	54	52	47	43	32	18	57	
		Cabinet									40	35
140	100	Supply air	34	46	56	56	52	49	37	21	60	
		Extract air	21	33	44	36	27	21	18	18	45	
		Exhaust air	33	45	56	56	51	47	36	20	60	
		Cabinet									43	38
162		Cabinet									46	41
198		Cabinet									48	43

** Standard room = room with 10m² floor, 2.4m ceiling height, mean absorption 0.2.*

ENCLOSURE DIMENSIONS





CEILING AND WALL-MOUNTED

HCC 260P1

- High efficiency heat recovery – up to 94%
- EC fan motors with low energy consumption (low SPI)
- Only 300mm installation headroom height is required
- Time controlled ventilation level, based on 11 different built-in pre-programmed week programs, reducing power consumption in periods with low ventilation demands
- Summer cooling mode
- Automatic free-cooling features lets in cool night air on hot days to help maintain a comfortable temperature throughout the day
- Fireplace mode, creating a momentary inside overpressure, to enhance chimney functionality
- Easy-to-install and commissioning solution with built-in air measure ports, for easy balancing with PC Tool
- Electronically left/right fan direction switching, allowing same unit type to adapt any physical installation requirements, regardless of ceiling and wall selection
- TCP/IP ModBus connection, for inter-operation with Building Management System
- Electrical connections can be connected from either the left or the right

The HCC 260P1 is a unique and flexible residential ventilation solution. With only 30cm installation headroom it is ideal for installation in suspended ceilings or onto a wall, even hidden inside a closet. The unit can be electronically reversed, meaning that both air flows will be reversed. This allows the same unit type to be mounted with the inside/outside ducts connected to either the right or the left hand side of the unit. Electrical connections can be connected from either the left or the right.

The HCC 260P1 is available in a variant with an Aluzinc surface, standard filter resetting capability as well as easy PCB access to connect accessories. Delivered 4 units on a pallet at a time, it also minimises the use of packaging in consideration of the environment.

Third party testing and certifications

Code	Description
PHI	Passivhaus certified
ErP	Compliant with EU regulations for Eco-design
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings

CEILING AND WALL-MOUNTED

HCC 260P1

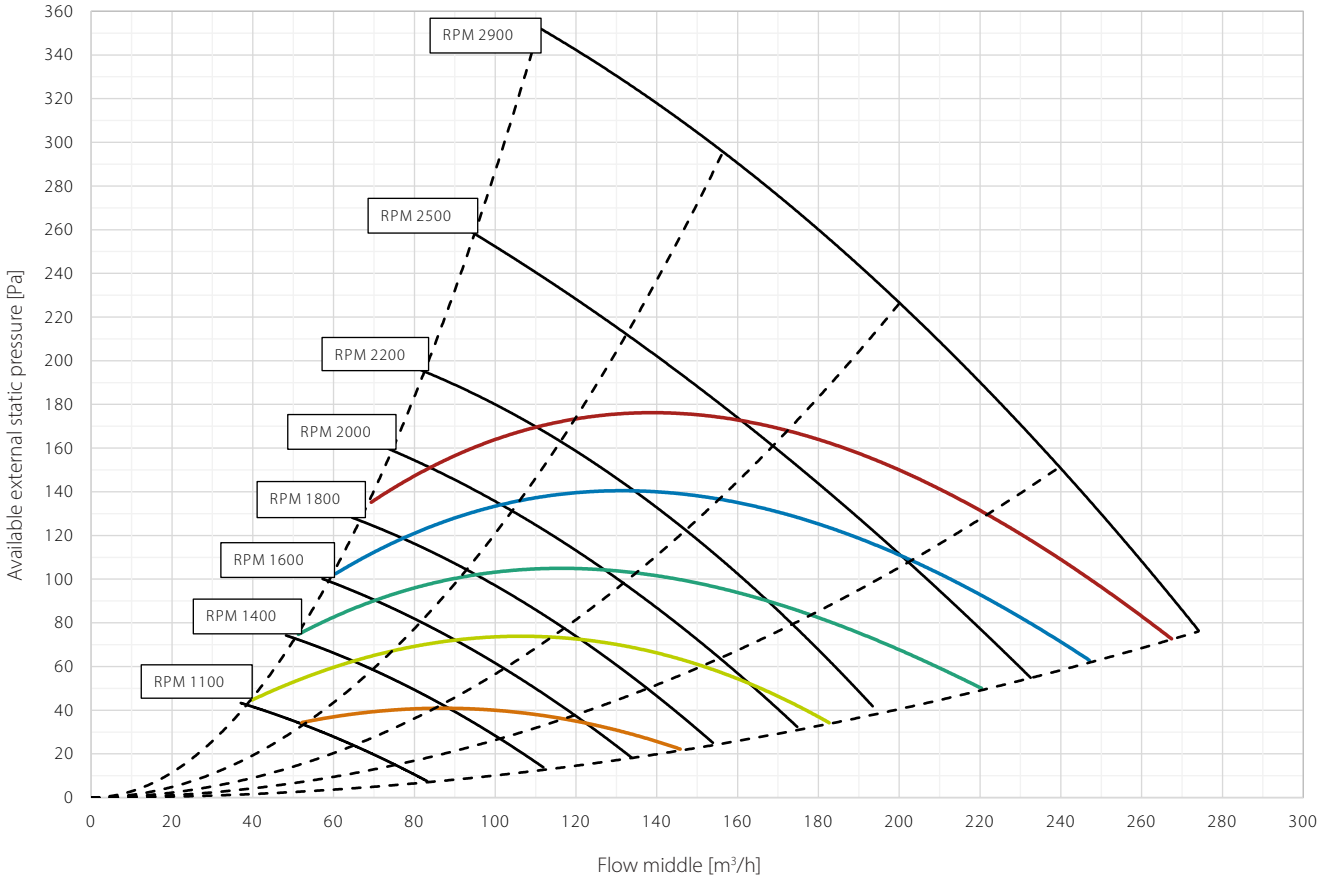
TECHNICAL DATA

Specifications	Units		HCC 260P1
Maximum nominal flow	V	m^3/h	180
Operating range DIBt	V_{DBIt}	m^3/h	70 to 140
Operating range Passivhaus at 100Pa	V_{PHI}	m^3/h	50 to 180
EN 1314-7 reference flow @ 50Pa	V_{ref}	m^3/h	126
Performance			
Thermal efficiency DIBt	η_{DBIt}	%	93.8
Thermal efficiency Passivhaus	η_{PHI}	%	93
Thermal efficiency EN 13141-7 at reference flow	η_{EN}	%	94
Cabinet sound power at 140m^3/h and 100Pa	Lw(A)	dB(A)	45
Duct sound power level (supply/extract) at 140m^3/h and 100Pa	Lw(A)	dB(A)	60/45
Leakage (external and internal) according to EN 13141-7	class		<2% (Class A1)
Filters in accordance with ISO16890	-	-	ISO Coarse 75% (optional on supply: ePM1>50%)
Filters in accordance with EN779	-	-	G4 (optional on supply: F7)
Installation surrounding temperature range	t_{surr}	°C	+12 to +40
Maximum humidity in extract air at 25°C	RH	%	55
Outdoor temperature range without preheating installed	t_{ODA}	°C	-12* to +45
Outdoor temperature range with preheating installed	t_{ODA}	°C	-15 to +45
Cabinet			
Dimensions (without wall bracket)	w x d x h	mm	600 x 279 x 1122
Spigots/duct connections	Ø	mm	125 – female
Weight	-	kg	34
Heat conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transfer coefficient – polystyrene insulation	U	W/m^2K	<1
Drainage hose (accessory)	Ø		1/2"
Cabinet colour	-	-	no paint/raw Alu-zinc
Fire classification of the polystyrene insulation	class	-	DIN 4102-1 class B2 EN 13501 class E
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	127/1,027
Frequency	f	Hz	50
Protection class	-	-	IP20

** In order to ensure balanced ventilation, preheater is recommended when outdoor temperature is below -3°C.*

HCC 260P1

CAPACITY AND SPI CURVES WITH G4/G4 FILTERS



SFP/SPI/SEL*	0.45 W/m³/h	0.39 W/m³/h	0.33 W/m³/h	0.28 W/m³/h	0.22 W/m³/h
	1620 J/m³	1400 J/m³	1200 J/m³	1000 J/m³	800 J/m³
	1.62 W/l/s	1.40 W/l/s	1.20 W/l/s	1.0 W/l/s	0.80 W/l/s

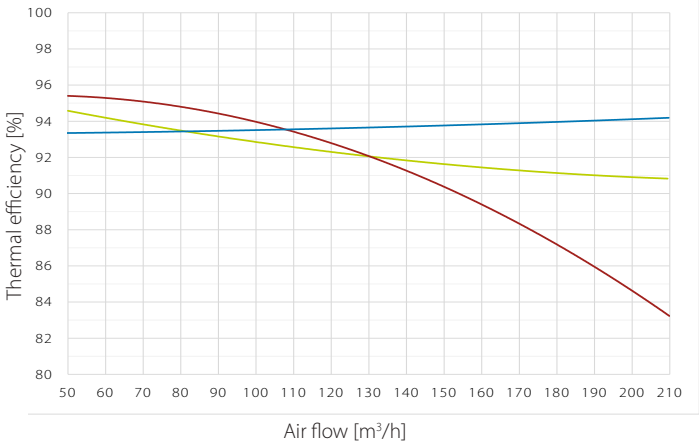
* SFP/SPI/SEL includes power consumption of both fans and the control.

THERMAL EFFICIENCY CURVES

Legend

- Thermal efficiency according to EN 13141-7 (dry)
  Operational conditions: outdoor air: 7°C, 88% RH; extract air: 20°C, 38% RH
- Thermal efficiency according to EN 13141-7 (with condensation)
  Operational conditions: outdoor air: 2°C, 85% RH; extract air: 20°C, 60% RH
- Thermal efficiency according Passivhaus Institut
  Operational conditions: outdoor air: 4°C, 94% RH; extract air: 21°C, 30% RH

All values at balanced flow



Dantherm CLIMATE SOLUTIONS

HCC 260P1

SOUND DATA WITH G4/G4 FILTERS

Air-volume	Pres.	Measure point	Frequency band sound power L_W(A) dB(A)								Total sound power L_W(A)	Sound pres. Lp(A) Standard room*
m³/h	Pa		63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)	dB(A)
80	30	Supply air	23	43	40	42	39	32	20	18	47	
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		Cabinet									34	29
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		Extract air	19	31	42	33	23	19	17	18	43	
		Cabinet									37	32
126	70	Supply air	31	43	55	52	49	45	33	19	58	
		Extract air	19	30	42	33	23	19	17	18	42	
		Exhaust air	30	43	54	52	47	43	32	18	57	
		Cabinet									40	35
140	100	Supply air	34	46	56	56	52	49	37	21	60	
		Extract air	21	33	44	36	27	21	18	18	45	
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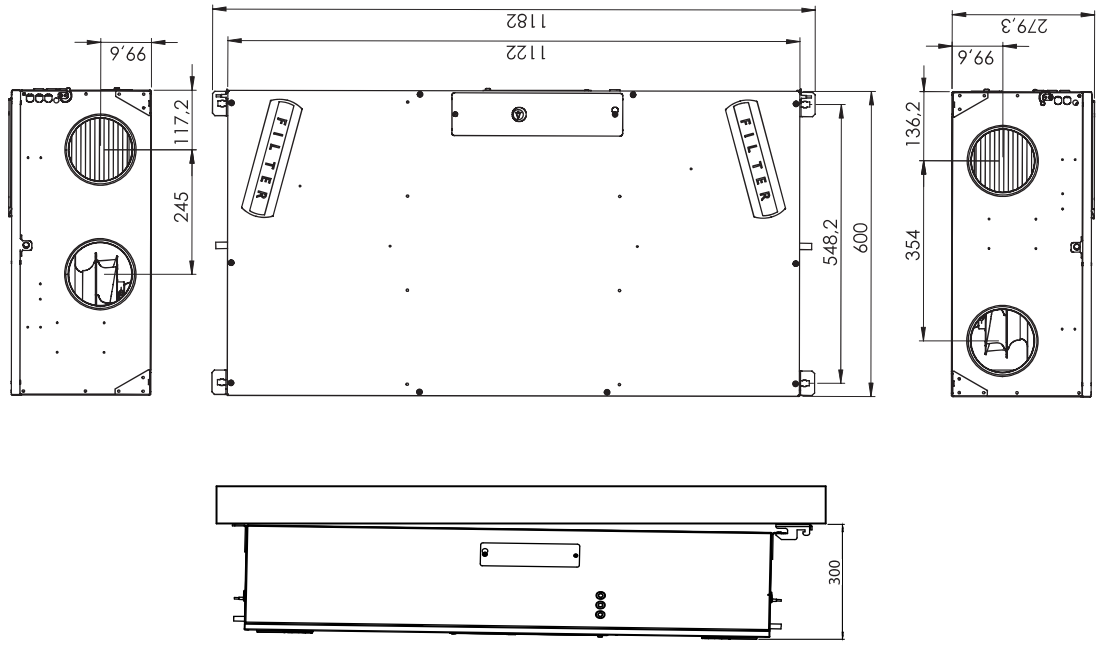
		Cabinet									43	38
162		Cabinet									46	41
198		Cabinet									48	43

** Standard room = room with 10m² floor, 2.4m ceiling height, mean absorption 0.2.*

ENCLOSURE DIMENSIONS



REVIT Revit files are available for free download

CEILING AND WALL-MOUNTED

HCC 360E1

The HCC 360E1 is a unique and flexible residential ventilation solution. With only 30cm installation headroom it is ideal for installation in suspended ceilings or onto a wall, even hidden inside a closet. The unit can be electronically reversed, meaning that both air flows will be reversed. This allows the same unit type to be mounted with the inside/outside ducts connected to either the right or the left hand side of the unit. Electrical connections can be connected from either the left or the right.

The HCC 360E1's surface is in Aluzinc and the units will be delivered on pallets of four to reduce packaging and shipping costs. This makes it ideal for large-scale projects.

- High efficiency heat recovery – up to 85%
- EC fan motors with low energy consumption (low SPI)
- Only 300mm installation headroom height is required
- Time controlled ventilation level, based on 11 different built-in pre-programmed week programs, reducing power consumption in periods with low ventilation demands
- Summer cooling mode
- Automatic free-cooling features lets in cool night air on hot days to help maintain a comfortable temperature throughout the day
- Fireplace mode, creating a momentary inside overpressure, to enhance chimney functionality
- Easy-to-install and commissioning solution with built in air measure ports, for easy balancing with PC Tool
- Electronically left/right fan direction switching, allowing same unit type to adapt any physical installation requirements, regardless of ceiling and wall selection
- TCP/IP ModBus connection, for inter-operation with Building Management System
- Electrical connections can be connected from either the left or the right
- Two humidity sensors to facilitate switching from left/right setup
- Prepared for easy mounting of condensate pump

Third party testing and certifications

Code	Description
ErP	Compliant with EU regulations for Eco-design
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings

CEILING AND WALL-MOUNTED

HCC 360E1

TECHNICAL DATA

Specifications	Units		HCC 360E1
Maximum nominal flow	V	m^3/h	180
EN 1314-7 reference flow @50Pa	V_{ref}	m^3/h	126
Performance			
Thermal efficiency EN 13141-7 at reference flow	η_{EN}	%	80
Cabinet sound 1m from unit, at 140m^3/h and 100pa	Lp	dB(A)	34
Duct sound power level (supply/extract) at 140m^3/h and 100Pa	Lw	dB(A)	64/49
Leakage (external and internal) according to EN 13141-7	class		<2% (Class A1)
Filters in accordance with ISO16890	-	-	ISO Coarse 75% (optional on supply: ePM1>50%)
Filters in accordance with EN779	-	-	G4 (optional on supply: F7)
Installation surrounding temperature range	t_{surr}	°C	+12 to +40
Maximum humidity in extract air at 25°C	RH	%	55
Outdoor temperature range without preheating installed	t_{ODA}	°C	-12* to +45
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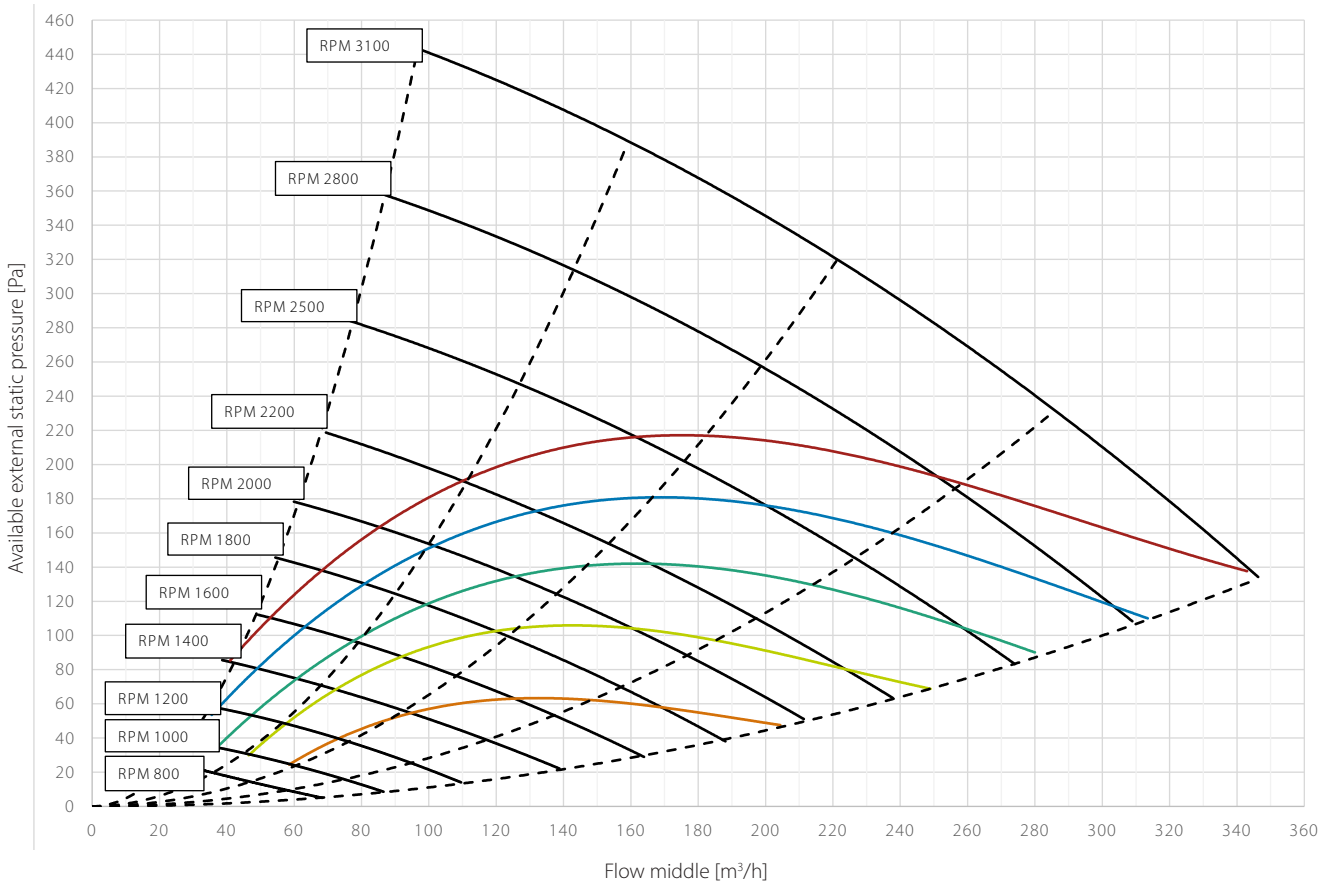
Cabinet			
Dimensions (without wall bracket)	w x d x h	mm	600 x 279 x 1122
Spigots/duct connections	Ø	mm	125 – female
Weight	-	kg	34
Heat conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transfer coefficient – polystyrene insulation	U	W/(m^2K)	<1
Drainage hose (accessory)	Ø	"	1/2
Cabinet colour	RAL	-	no paint/raw Alu-zinc
Fire classification of the polystyrene insulation	-	-	DIN 4102-1 class B2 EN 13501 class E
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	161/1,061
Frequency	f	Hz	50
Protection class	-	-	IP20

** In order to ensure balanced ventilation, preheater is recommended when outdoor temperature is below -5°C.*

CEILING AND WALL-MOUNTED

HCC 360E1

CAPACITY AND SPI CURVES WITH G4/G4 FILTERS



SFP/SPI/SEL*	0.45 W/m³/h	0.39 W/m³/h	0.33 W/m³/h	0.28 W/m³/h	0.22 W/m³/h
	1620 J/m³	1400 J/m³	1200 J/m³	1000 J/m³	800 J/m³
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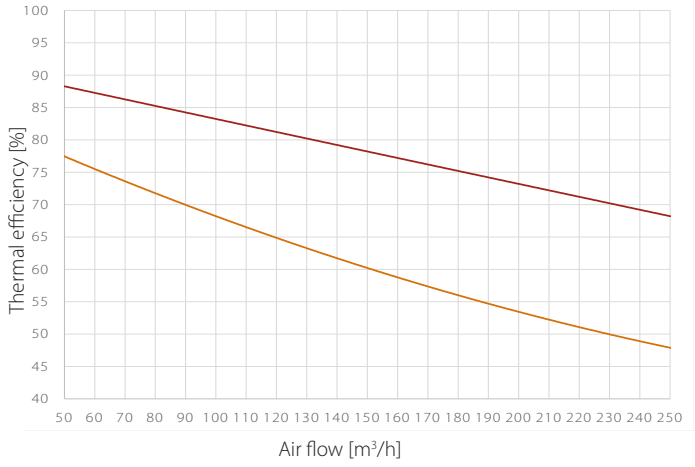
  Operational conditions: outdoor air: 2°C, 88% RH; extract air: 20°C, 60% RH

All values at balanced flow



Dantherm CLIMATE SOLUTIONS

SOUND POWER LEVEL (Lw) – DUCTS

		[dB(A)]								
RPM	Duct	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1400	supply/exhaust	29.7	44.1	48.1	48.4	46.6	43.8	33.3	18.4	54
	extract/outdoor	25.1	33.2	38.3	36.9	21.9	15.9	-	-	42
1600	supply/exhaust	31.7	44.1	58.0	52.1	50.0	47.3	37.5	23.4	60
	extract/outdoor	27.5	33.3	46.6	45.2	25.7	19.2	-	-	49
1800	supply/exhaust	33.8	44.2	60.3	54.6	52.9	50.2	40.8	27.8	62
	extract/outdoor	30.0	33.5	46.6	46.1	29.1	22.3	-	-	50
2000	supply/exhaust	36.0	44.4	64.4	56.5	55.4	52.8	43.9	31.5	66
	extract/outdoor	32.8	35.0	50.9	46.3	32.0	25.4	13.1	-	52
2200	supply/exhaust	37.3	45.8	64.4	59.9	57.7	55.2	46.7	35.0	67
	extract/outdoor	34.1	37.1	51.0	48.4	34.7	28.2	16.2	-	53
2500	supply/exhaust	39.9	48.0	64.5	62.5	61.1	58.8	50.2	39.8	68
	extract/outdoor	36.7	39.6	52.0	49.3	38.2	32.1	20.8	-	54
2800	supply/exhaust	42.4	50.2	67.9	65.6	64.1	61.8	53.2	43.3	72
	extract/outdoor	39.3	42.2	54.5	55.1	41.7	35.5	24.8	13.3	58
3100	supply/exhaust	54.5	52.5	68.7	70.5	67.6	64.7	56.0	46.3	74
	extract/outdoor	47.9	44.4	55.3	64.8	45.6	38.6	28.4	17.6	65

SOUND PRESSURE LEVEL (L_P) – CABINET

1m distance

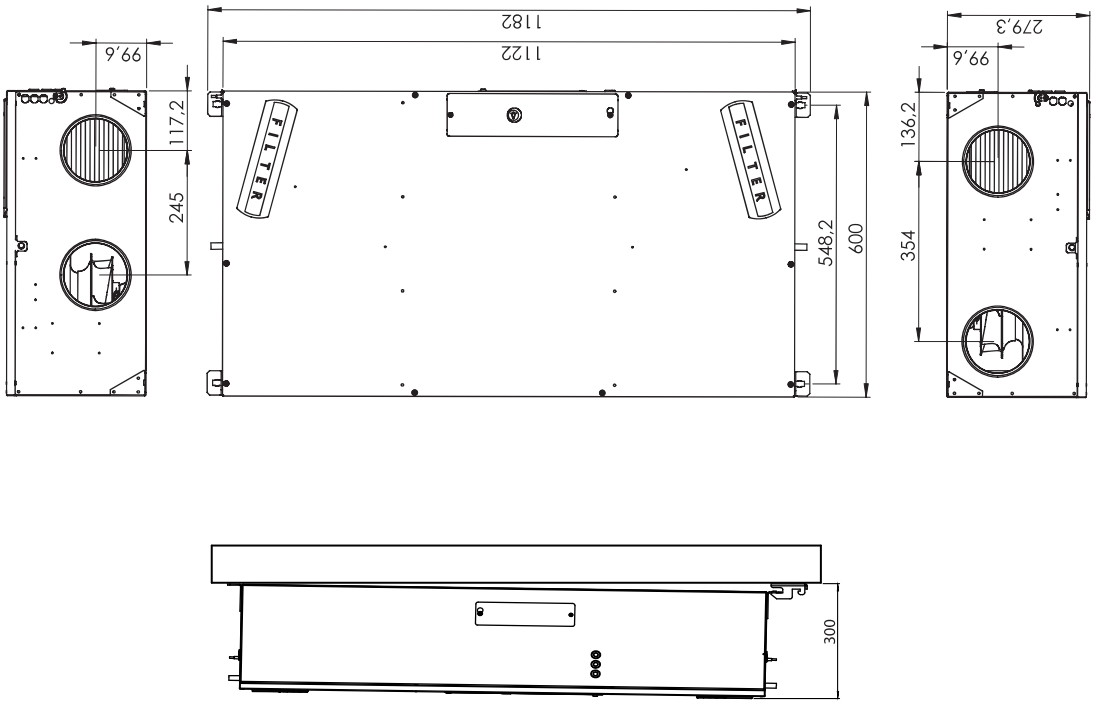
	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1000	-	-	9.9	17.8	18.1	20.1	15.7	-	24
1200	-	-	11.0	19.5	19.1	20.2	15.7	-	25
1400	-	-	13.1	22.6	19.1	20.2	15.7	-	26
1500	-	-	18.0	25.0	21.0	20.4	15.8	-	28
1600	-	-	24.0	26.7	21.0	20.6	15.9	-	30
1700	-	-	26.2	29.2	21.4	21.0	16.0	-	32
1800	-	-	26.3	30.2	21.4	21.5	16.1	-	33
1900	-	-	27.0	31.7	22.9	21.8	16.3	-	34
2000	-	-	28.0	32.0	25.3	22.0	16.4	-	34
2100	-	-	29.5	32.9	25.4	22.7	16.9	-	35
2200	-	-	30.0	33.0	25.6	23.0	18.4	-	36
2300	-	-	30.4	34.8	26.3	23.4	19.0	-	37
2500	-	-	32.0	36.3	28.4	25.5	19.5	10.0	38
2700	-	-	36.1	40.8	30.5	27.5	19.7	11.1	43
2800	-	-	36.5	41.7	32.6	28.5	21.4	12.9	43
2900	-	-	31.7	45.3	32.7	29.0	22.2	13.3	46
3100	-	11.2	40.0	47.2	34.4	31.1	24.9	15.6	48

2m distance

	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1000	-	-	5.6	17.8	18.1	18.2	14.1	-	23
1200	-	-	6.9	19.5	19.1	18.2	14.8	-	24
1400	-	-	10.6	21.1	19.1	19.3	15.0	-	25
1500	-	-	15.8	24.1	19.2	19.3	15.2	-	27
1600	-	-	17.7	25.0	20.7	20.0	15.6	-	28
1700	-	-	19.8	26.0	21.0	20.1	16.0	-	29
1800	-	-	20.0	28.3	21.0	20.2	16.1	-	30
1900	-	-	21.0	31.2	22.8	20.2	16.2	-	32
2000	-	-	22.0	31.5	22.8	20.5	16.4	-	33
2100	-	-	23.5	32.9	23.6	20.5	16.7	-	34
2200	-	-	23.5	33.0	25.0	22.4	18.4	-	34
2300	-	-	24.0	33.6	25.0	22.4	19.0	-	35
2500	-	-	29.0	34.7	26.1	24.3	19.5	-	37
2700	-	-	30.9	38.7	27.7	26.0	19.7	-	40
2800	-	-	31.0	39.0	28.4	26.1	20.9	-	40
2900	-	-	31.0	43.0	29.3	26.4	21.0	-	44
3100	-	6.7	31.0	45.3	31.4	28.1	21.9	10.6	46

HCC 360E1

ENCLOSURE DIMENSIONS



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CEILING AND WALL-MOUNTED

HCC 360P2

The HCC 360P2 is a unique and flexible residential ventilation solution. With only 30cm installation headroom it is ideal for installation in suspended ceilings or onto a wall, even hidden inside a closet. The unit can be electronically reversed, meaning that both air flows will be reversed. This allows the same unit type to be mounted with the inside/outside ducts connected to either the right or the left hand side of the unit. Electrical connections can be connected from either the left or the right.

The HCC 360P2's surface is in Aluzinc and the units will be delivered on pallets of four to reduce packaging and shipping costs. This makes it ideal for large-scale projects.

- High efficiency heat recovery – up to 85%
- EC fan motors with low energy consumption (low SPI)
- Only 300mm installation headroom height is required
- Time controlled ventilation level, based on 11 different built-in pre-programmed week programs, reducing power consumption in periods with low ventilation demands
- Summer cooling mode
- Automatic free-cooling features lets in cool night air on hot days to help maintain a comfortable temperature throughout the day
- Fireplace mode, creating a momentary inside overpressure, to enhance chimney functionality
- Easy-to-install and commissioning solution with built in air measure ports, for easy balancing with PC Tool
- Electronically left/right fan direction switching, allowing same unit type to adapt any physical installation requirements, regardless of ceiling and wall selection
- TCP/IP ModBus connection, for inter-operation with Building Management System
- Electrical connections can be connected from either the left or the right
- Two humidity sensors to facilitate switching from left/right setup
- Prepared for easy mounting of condensate pump

Third party testing and certifications

Code	Description
ErP	Compliant with EU regulations for Eco-design
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings

CEILING AND WALL-MOUNTED

HCC 360P2

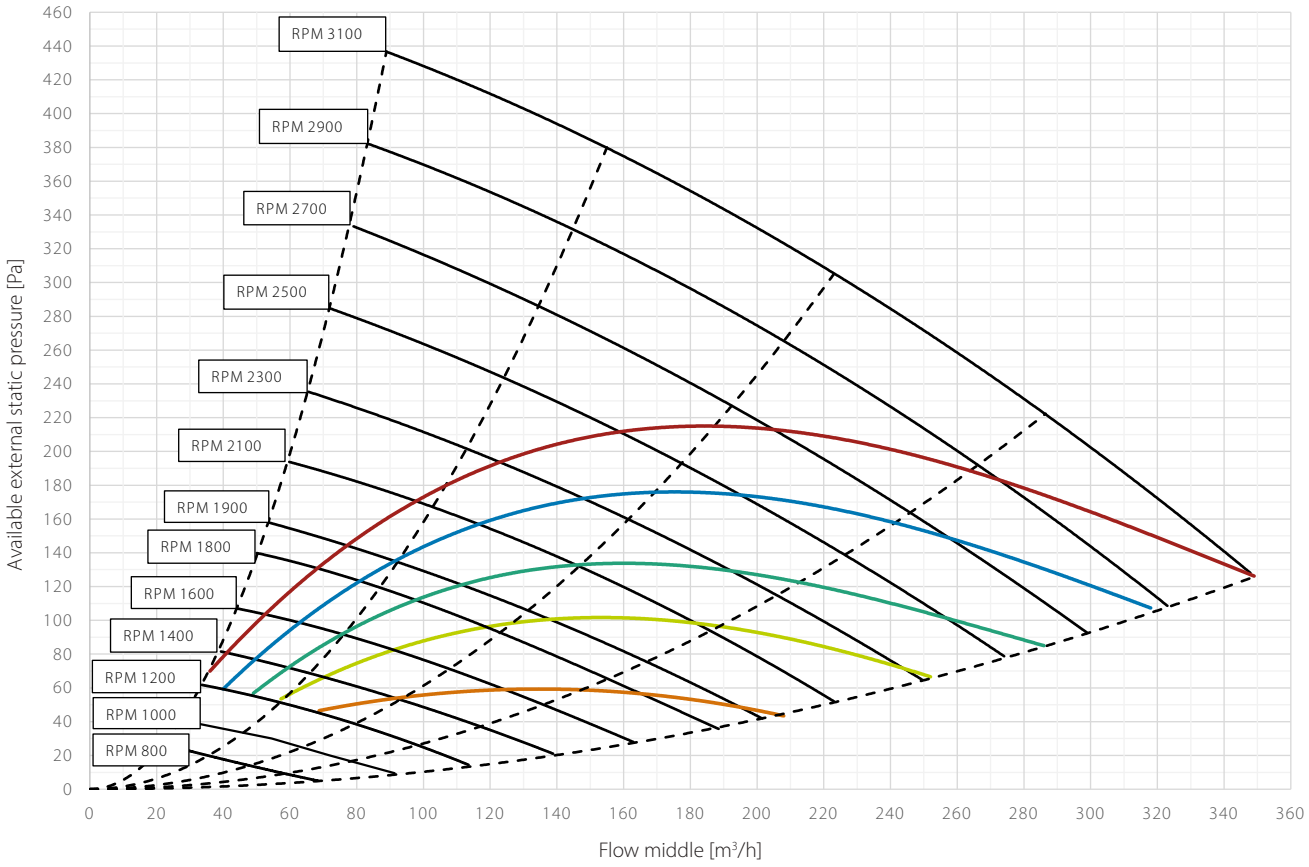
TECHNICAL DATA

Specifications	Units		HCC 360P2
Maximum nominal flow	V	m^3/h	220
EN 13141-7 reference flow @ 50Pa	V_{REF}	m^3/h	154
Performance			
Thermal efficiency EN 13141-7 at reference flow	η_{EN}	%	88
Cabinet sound 1m from unit, at 140m^3/h and 100pa	Lp	dB(A)	34
Duct sound power level (supply/extract) at 140m^3/h and 100Pa	Lw	dB(A)	64/49
Leakage (external and internal) according to EN 13141-7	class		<2% (Class A1)
Filters in accordance with ISO16890	-	-	ISO Coarse 75% (optional on supply: ePM1>50%)
Filters in accordance with EN779	-	-	G4 (optional on supply: F7)
Installation surrounding temperature range	t_{surr}	°C	+12 to +40
Maximum humidity in extract air at 25°C	RH	%	55
Outdoor temperature range without preheating installed	t_{ODA}	°C	-12* to +45
Outdoor temperature range with preheating installed	t_{ODA}	°C	-15 to +45
Cabinet			
Dimensions (without wall bracket)	w x d x h	mm	600 x 279 x 1122
Spigots/duct connections	Ø	mm	125 – female
Weight	-	kg	34
Heat conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transfer coefficient – polystyrene insulation	U	W/m^2K	U<1
Drainage hose (accessory)	Ø	"	1/2
Cabinet colour	RAL	-	no paint/raw Alu-zinc
Fire classification of the polystyrene insulation	-	-	DIN 4102-1 class B2 EN 13501 class E
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	161/1,061
Frequency	f	Hz	50
Protection class	-	-	IP20

** In order to ensure balanced ventilation, preheater is recommended when outdoor temperature is below -3°C.*

HCC 360P2

CAPACITY AND SPI CURVES WITH G4/G4 FILTERS



SFP/SPI/SEL*	0.45 W/m³/h	0.39 W/m³/h	0.33 W/m³/h	0.28 W/m³/h	0.22 W/m³/h
	1620 J/m³	1400 J/m³	1200 J/m³	1000 J/m³	800 J/m³
	1.62 W/l/s	1.40 W/l/s	1.20 W/l/s	1.0 W/l/s	0.80 W/l/s

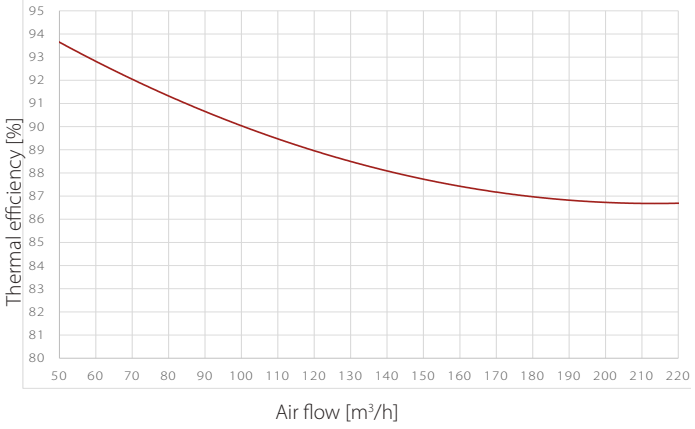
* SFP/SPI/SEL includes power consumption of both fans and the control.

THERMAL EFFICIENCY CURVES

Legend

- Thermal efficiency according to EN 13141-7 (dry) Operational conditions: outdoor air: 7°C, 88% RH; extract air: 20°C, 38% RH

All values at balanced flow



SOUND POWER LEVEL (Lw) – DUCTS

		[dB(A)]								
RPM	Duct	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1000	supply/exhaust	21.3	34.5	38.1	37.2	34.3	30.7	17.6	-	43
	extract/outdoor	20.2	28.7	25.8	27.9	14.1	-	-	-	33
1200	supply/exhaust	24.4	44.1	40.7	41.5	39.1	36.2	24.5	-	48
	extract/outdoor	20.8	35.2	29.1	31.6	16.9	12.5	-	-	38
1400	supply/exhaust	27.7	44.1	44.5	45.7	43.2	40.4	30.1	15.5	51
	extract/outdoor	24.7	37.0	34.6	35.3	21.4	16.3	-	-	41
1500	supply/exhaust	34.5	45.1	47.8	48.1	44.8	42.9	33.4	18.5	53
	extract/outdoor	25.5	37.2	36.1	37.7	23.0	17.7	-	-	42
1700	supply/exhaust	38.4	45.2	52.3	51.5	48.3	46.8	37.3	23.5	57
	extract/outdoor	28.0	37.4	41.5	42.6	26.5	21.2	-	-	46
1900	supply/exhaust	38.5	45.3	58.4	54.7	52.1	49.5	40.9	28.1	61
	extract/outdoor	31.2	37.6	46.3	45.5	30.8	24.9	10.8	-	49
2100	supply/exhaust	38.6	45.4	61.0	56.7	53.7	51.8	43.5	32.0	63
	extract/outdoor	33.2	37.8	48.6	45.5	34.0	27.7	14.8	-	51
2300	supply/exhaust	38.7	45.5	61.0	61.3	57.8	55.1	46.7	36.1	66
	extract/outdoor	34.9	38.0	49.0	46.9	36.5	30.6	17.6	-	52
2500	supply/exhaust	38.9	46.6	61.8	62.1	59.6	57.4	49.0	38.8	67
	extract/outdoor	36.2	38.2	52.3	48.4	38.9	33.3	20.7	-	54
2700	supply/exhaust	40.5	48.6	66.0	64.1	61.7	59.6	51.1	41.4	70
	extract/outdoor	38.9	39.8	61.7	52.3	41.3	35.9	23.6	12.4	62
2900	supply/exhaust	42.3	50.5	68.8	67.1	64.4	61.7	53.2	43.7	72
	extract/outdoor	40.1	41.5	64.4	59.7	44.1	38.1	26.2	15.0	66
3100	supply/exhaust	54.9	51.4	69.0	71.4	68.5	63.7	55.2	45.7	75
	extract/outdoor	49.1	42.7	56.4	67.3	47.9	40.1	28.6	17.5	68

SOUND PRESSURE LEVEL (L_P) – CABINET

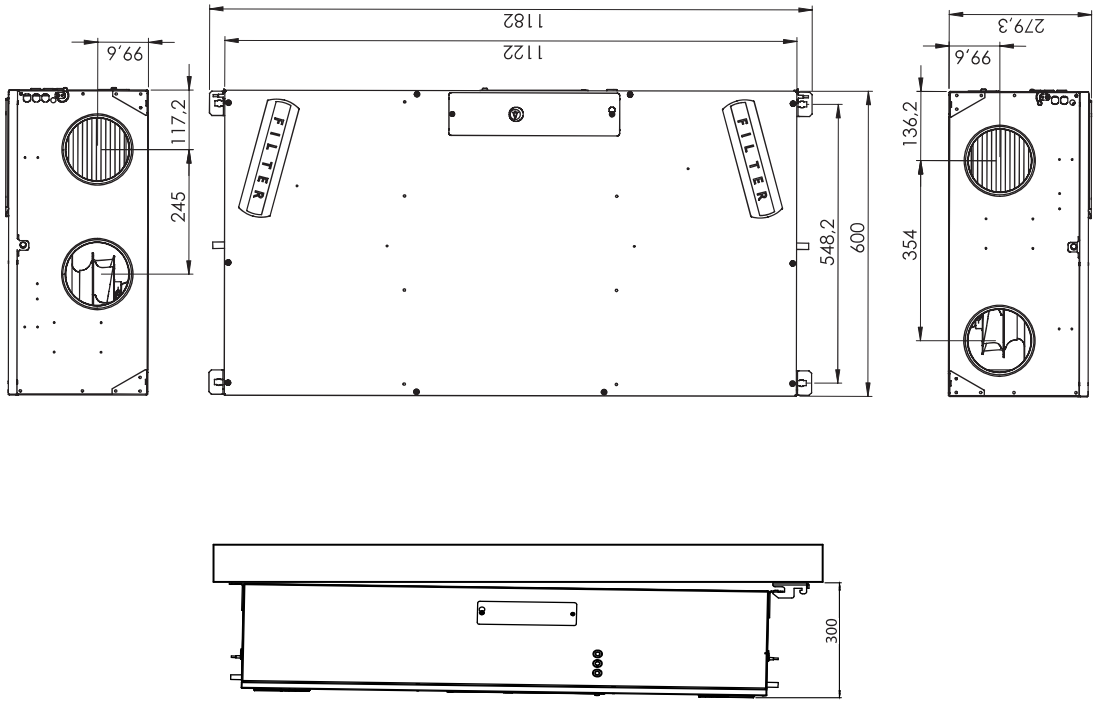
1m distance

	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1000	-	-	9.9	17.8	18.1	20.1	15.7	-	24
1200	-	-	11.0	19.5	19.1	20.2	15.7	-	25
1400	-	-	13.1	22.6	19.1	20.2	15.7	-	26
1500	-	-	18.0	25.0	21.0	20.4	15.8	-	28
1600	-	-	24.0	26.7	21.0	20.6	15.9	-	30
1700	-	-	26.2	29.2	21.4	21.0	16.0	-	32
1800	-	-	26.3	30.2	21.4	21.5	16.1	-	33
1900	-	-	27.0	31.7	22.9	21.8	16.3	-	34
2000	-	-	28.0	32.0	25.3	22.0	16.4	-	34
2100	-	-	29.5	32.9	25.4	22.7	16.9	-	35
2200	-	-	30.0	33.0	25.6	23.0	18.4	-	36
2300	-	-	30.4	34.8	26.3	23.4	19.0	-	37
2500	-	-	32.0	36.3	28.4	25.5	19.5	10.0	38
2700	-	-	36.1	40.8	30.5	27.5	19.7	11.1	43
2800	-	-	36.5	41.7	32.6	28.5	21.4	12.9	43
2900	-	-	31.7	45.3	32.7	29.0	22.2	13.3	46
3100	-	11.2	40.0	47.2	34.4	31.1	24.9	15.6	48

2m distance

	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1000	-	-	5.6	17.8	18.1	18.2	14.1	-	23
1200	-	-	6.9	19.5	19.1	18.2	14.8	-	24
1400	-	-	10.6	21.1	19.1	19.3	15.0	-	25
1500	-	-	15.8	24.1	19.2	19.3	15.2	-	27
1600	-	-	17.7	25.0	20.7	20.0	15.6	-	28
1700	-	-	19.8	26.0	21.0	20.1	16.0	-	29
1800	-	-	20.0	28.3	21.0	20.2	16.1	-	30
1900	-	-	21.0	31.2	22.8	20.2	16.2	-	32
2000	-	-	22.0	31.5	22.8	20.5	16.4	-	33
2100	-	-	23.5	32.9	23.6	20.5	16.7	-	34
2200	-	-	23.5	33.0	25.0	22.4	18.4	-	34
2300	-	-	24.0	33.6	25.0	22.4	19.0	-	35
2500	-	-	29.0	34.7	26.1	24.3	19.5	-	37
2700	-	-	30.9	38.7	27.7	26.0	19.7	-	40
2800	-	-	31.0	39.0	28.4	26.1	20.9	-	40
2900	-	-	31.0	43.0	29.3	26.4	21.0	-	44
3100	-	6.7	31.0	45.3	31.4	28.1	21.9	10.6	46

ENCLOSURE DIMENSIONS



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