

HCV 460_{P2}



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The HCV 460_{P2} is a highly efficient residential ventilation unit for houses, villas, and apartments. It comes supplied as a packaged basic ventilation unit complete with built-in control panel, and is delivered with all parts necessary for wall installation. All HCV 460 units also fit perfectly in a 60 x 60cm cupboard.

The HCV 460_{P2} is either delivered in RAL 9016 cabinet colour and packaged individually one unit on a pallet or in a variant without filter lid and with a galvanised metal surface packaged four units on a pallet to minimise use of packaging in consideration of the environment and to ease handling at building sites.



- Demand-controlled ventilation with integrated humidity sensor, reducing power consumption at times with low ventilation demands
- Summer mode in which supply fan is stopped and any open window will supply cooler outside air, lowering the room temperature
- Automatic free-cooling features via inbuilt 100% by-pass, including the possibility of increasing the air flow automatically, lets in cool night air following hot days to help maintain a comfortable temperature throughout the day
- Fireplace mode, creating a temporary inside overpressure to enhance chimney functionality
- High-efficiency heat recovery
- EC fan motors with extremely low energy consumption (low SPI)
- Easy-to-install and commission solution with built-in air pressure spigots for easy calibration
- Highly customisable units with the option to add a high variety of internal as well as external accessories
- The HCV 460 takes up only as little space as a 60 x 60cm cupboard

Third party testing and certifications

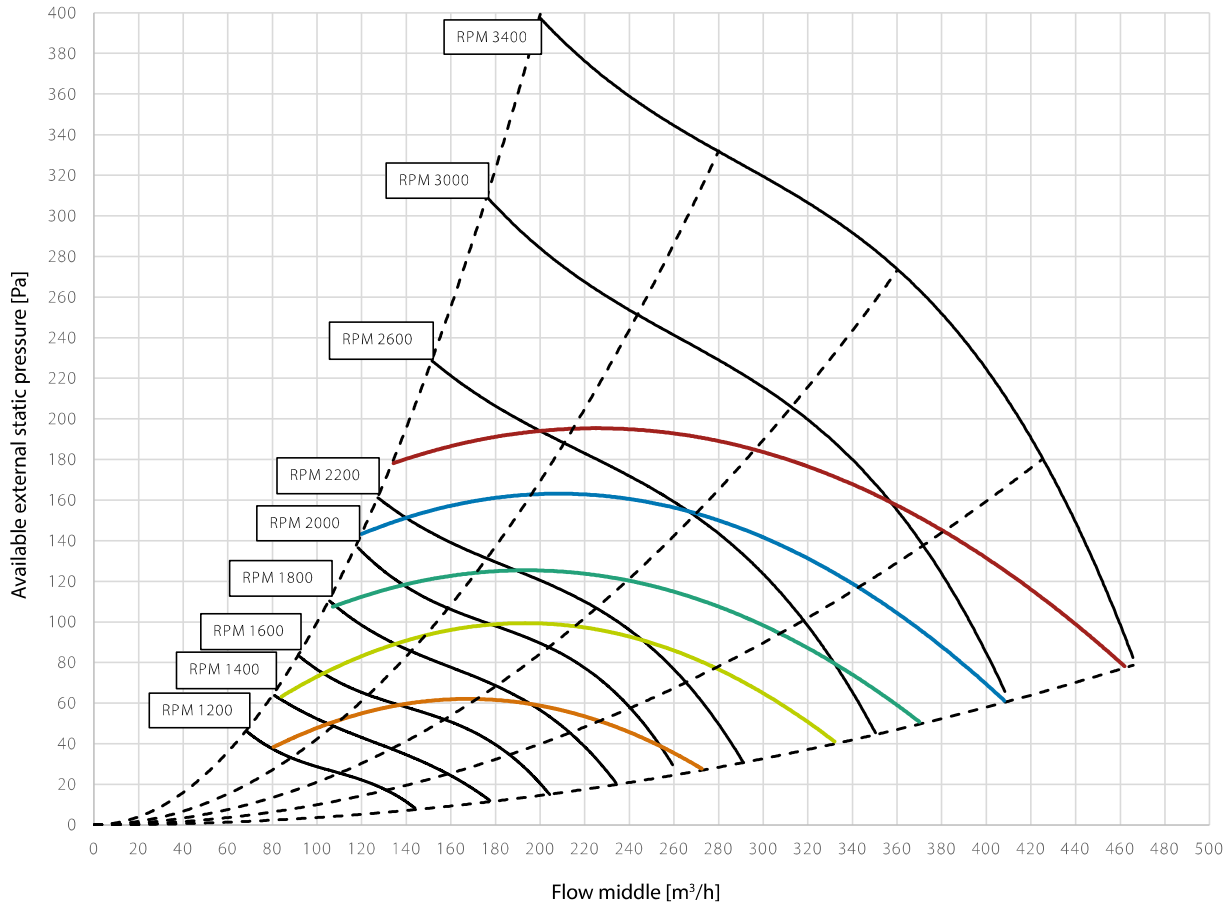
Code	Description
PHI	Passivhaus certified
DIBt Pending	Certified by the German Institute of Construction Technology
PCDB listed SAP App. Q	Listed in the UK database for balanced whole-house mechanical ventilation with heat recovery
ErP	Compliant with EU regulations for Eco-design
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings
EPD	Environmental product declaration for declared product variant is available in the epddanmark.dk database

Specifications	Units		HCV 460 _{P2}
Maximum achievable flow at 100Pa	V _{100Pa}	m ³ /h	460
Maximum declared flow at 100Pa	V _{maxrated}	m ³ /h	360
Operating range DIBt	V _{DIBt}	m ³ /h	70-360
Operating range Passivhaus at 100Pa	V _{phi}	m ³ /h	106-270
EN 13141-7 reference flow at 50Pa	V _{ref}	m ³ /h	252
Performance			
Thermal efficiency in accordance with EN13141-7	η _{SUP}	%	86
Leakage (external and internal) in accordance with EN 13141-7			<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	t _{SURR}	°C	+12 to +50
Outdoor temperature without preheater installed	t _{ODA}	°C	-12* to +50
Outdoor temperature with preheater installed	t _{ODA}	°C	-20 to +50
Maximum absolute humidity of extract air	x	g/kg	10
Cabinet			
Dimensions (without bracket)	w x h x d	mm	540 x 549 x 1050**
Spigots/ducts connections	∅	mm	160 – female
Weight		kg	40
Thermal conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transition figures – polystyrene insulation	U	W/m ² K	U<1
Fire classification of the polystyrene insulation	-	-	DIN 4102-1 class B2 EN 13501 class E
Drainage hose included	∅/length	"/m	¾/1
Cabinet colour	RAL	-	9016/galvanised metal grey
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	230/2,080
Frequency	f	Hz	50
Protection class	-	-	IP21

* The use of preheating coil is recommended at outdoor temperature -3°C to ensure balanced operation.

** +20mm fitting.

Capacity and SPI curves with G4/G4 filters



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SFP/SPI/SEL*	0,5 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

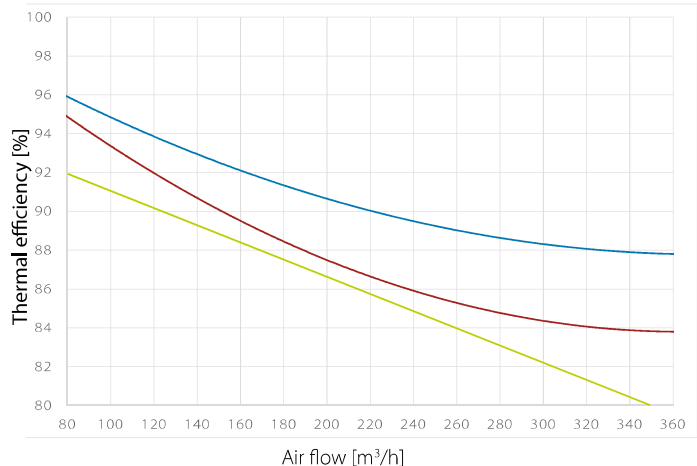
* SFP/SPI/SEL includes power consumption of both fans and the control.

Thermal efficiency curves

Legend

- Thermal efficiency according to EN 13141-7 (dry)
Operational conditions: outdoor air: 7°C, 85% RH; extract air: 20°C, 37% 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 acc. PassivHaus Institut
Operational conditions: outdoor air: 4°C, 94% RH; extract air: 21°C, 30% RH

All values at balanced flow



Sound power level (Lw) – ducts

RPM	Duct	[dB(A)]								
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1200	supply/exhaust	26.9	29.6	30.6	30.6	25.8	23.0	11.7	16.4	36
	extract/outdoor	28.0	38.1	38.1	37.5	30.6	29.4	15.5	13.7	43
1300	supply/exhaust	28.8	30.1	32.5	32.4	27.5	24.6	14.5	17.9	37
	extract/outdoor	29.4	39.7	39.8	39.5	32.3	31.7	19.0	16.4	45
1400	supply/exhaust	29.7	30.5	34.4	34.5	29.4	27.1	16.6	19.6	39
	extract/outdoor	30.6	39.3	41.2	41.2	33.7	33.5	20.2	17.7	46
1500	supply/exhaust	31.1	31.3	37.0	36.5	31.3	29.3	18.2	21.0	41
	extract/outdoor	31.8	39.0	43.5	43.1	35.4	35.3	22.3	18.8	48
1600	supply/exhaust	31.9	32.0	38.6	38.0	32.8	31.1	20.3	21.6	43
	extract/outdoor	33.3	38.7	46.1	44.8	37.0	37.2	25.1	19.6	49
1700	supply/exhaust	32.5	32.5	41.6	39.7	34.2	32.6	20.9	22.1	45
	extract/outdoor	34.0	39.2	48.8	46.1	38.3	38.7	26.6	20.4	51
1800	supply/exhaust	32.0	31.1	42.4	41.4	35.9	34.5	22.7	22.6	46
	extract/outdoor	35.2	39.7	52.0	47.2	39.8	40.1	28.7	21.0	54
1900	supply/exhaust	33.1	32.3	43.7	42.8	37.3	36.1	24.6	23.0	47
	extract/outdoor	35.9	40.1	52.4	47.9	40.7	41.2	30.1	21.7	54
2000	supply/exhaust	34.0	33.1	45.3	43.5	38.5	37.2	25.4	23.4	49
	extract/outdoor	37.2	40.8	55.2	48.3	42.1	42.6	31.7	22.6	57
2100	supply/exhaust	34.9	33.6	46.6	44.4	39.8	38.4	26.7	23.8	50
	extract/outdoor	38.1	41.6	56.0	49.2	43.3	43.7	33.2	24.6	57
2200	supply/exhaust	36.7	35.4	48.3	45.4	41.3	39.8	28.6	24.1	51
	extract/outdoor	38.5	42.7	58.5	50.3	44.6	44.9	34.7	27.0	59
2300	supply/exhaust	37.2	36.2	50.9	46.7	42.6	41.0	30.2	24.5	53
	extract/outdoor	39.4	43.3	60.8	51.4	45.4	45.7	35.7	27.8	62
2400	supply/exhaust	38.2	37.0	51.1	47.9	43.6	42.1	31.6	24.7	54
	extract/outdoor	40.4	44.1	60.0	52.7	46.6	46.8	37.0	29.5	61
2500	supply/exhaust	39.3	37.7	51.7	48.9	44.6	43.0	32.7	25.6	55
	extract/outdoor	41.1	45.0	59.3	54.4	47.5	47.7	38.2	30.8	61
2600	supply/exhaust	40.8	38.6	52.3	50.3	45.7	44.0	33.9	27.3	55
	extract/outdoor	42.3	45.5	60.5	56.3	48.6	48.7	39.2	32.2	62
2700	supply/exhaust	40.8	39.3	53.0	51.9	46.6	44.8	34.9	27.6	56
	extract/outdoor	42.4	46.3	62.3	58.3	49.6	49.4	40.1	33.1	64
3000	supply/exhaust	44.3	41.5	52.0	57.2	49.6	47.5	37.9	30.8	59
	extract/outdoor	45.6	48.4	60.7	64.8	52.9	52.2	43.0	36.4	67
3400	supply/exhaust	48.6	44.0	51.2	62.2	52.4	50.3	41.0	33.9	63
	extract/outdoor	47.4	50.8	58.5	71.7	55.6	55.1	46.1	39.5	72

Sound pressure level (Lp) – cabinet**1m distance**

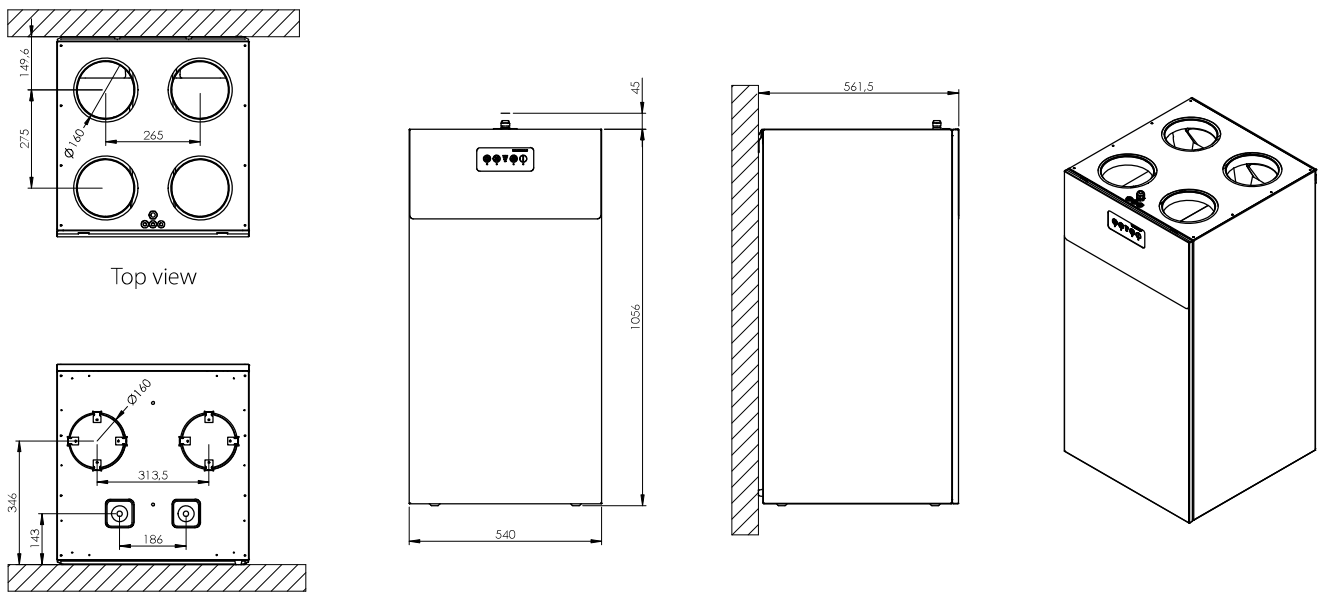
	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1200	-	-	12.9	19.5	21.5	21.9	18.0	10.3	27
1400	-	5.7	18.5	23.8	23.5	23.5	18.5	10.6	29
1600	-	6.0	22.1	26.9	26.3	27.6	18.8	11.0	32
1800	-	6.9	25.3	29.4	28.2	28.3	20.6	12.0	34
2000	-	7.6	27.8	31.2	30.7	30.5	22.6	14.3	36
2200	-	8.0	31.3	33.3	32.6	32.8	24.8	17.4	39
2600	-	10.5	31.3	38.2	37.0	36.9	29.7	22.8	43
3000	-	13.1	31.4	43.1	40.2	40.0	33.0	26.1	47
3400	-	16.7	33.8	49.7	44.5	43.3	36.5	29.8	52

2m distance

	[dB(A)]								
RPM	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1200	-	-	8.7	18.6	21.5	21.9	18.0	10.3	27
1400	-	-	12.7	22.1	22.8	22.8	18.5	10.6	28
1600	-	-	16.9	25.3	25.5	24.9	18.8	11.0	31
1800	-	2.1	20.0	28.6	27.2	26.4	20.6	12.0	33
2000	-	3.5	22.9	30.9	29.4	28.5	21.7	13.6	35
2200	-	5.0	26.4	32.6	31.4	30.1	23.2	15.3	37
2600	-	8.1	27.3	37.2	36.3	33.8	27.1	19.9	41
3000	-	11.0	30.0	43.1	39.1	37.2	30.7	23.6	46
3400	-	14.0	30.9	49.7	42.7	41.6	34.1	27.1	51

Dimensions

On the HCV 460 it is possible to connect the supply duct to the bottom if the ducts are to run beneath the floor.



Top view

Bottom view



Revit files are available for free on request. Contact your local supplier or Dantherm for access.

Duct connections

2 set-up in 1 unit, easy change on site

