WALL-MOUNTED UNITS

HCV 400P1

- Demand-controlled ventilation with integrated humidity sensor, reducing power consumption at times with low ventilation demands
- Summer mode in which the supply fan is stopped and any open window will supply cooler outside air, lowering the room temperature
- Automatic free-cooling features via inbuilt 100% bypass, 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
- Ducts can be connected to the top of the unit, with the option to connect the supply duct to the base if ducts are to run beneath the floor
- The HCV 400 takes up only as little space as a 60 x 60cm cupboard

The HCV 400P1 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 400 units fit perfectly in a 60 x 60cm cupboard.

The unit is available in a variant without filter lid and with an Aluzinc surface. Delivered four units on a pallet at a time, it minimises the use of packaging in consideration of the environment.

Third party testing and certification

Code	Description
PHI	Passivhaus certified
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
EPB	Listed in the database for Energy Performance of Buildings in Belgium
Nordic Swan Ecolabel	Listed in the Nordic Swan database for products suitable for Ecolabelled buildings

HCV 400$_{P1}$

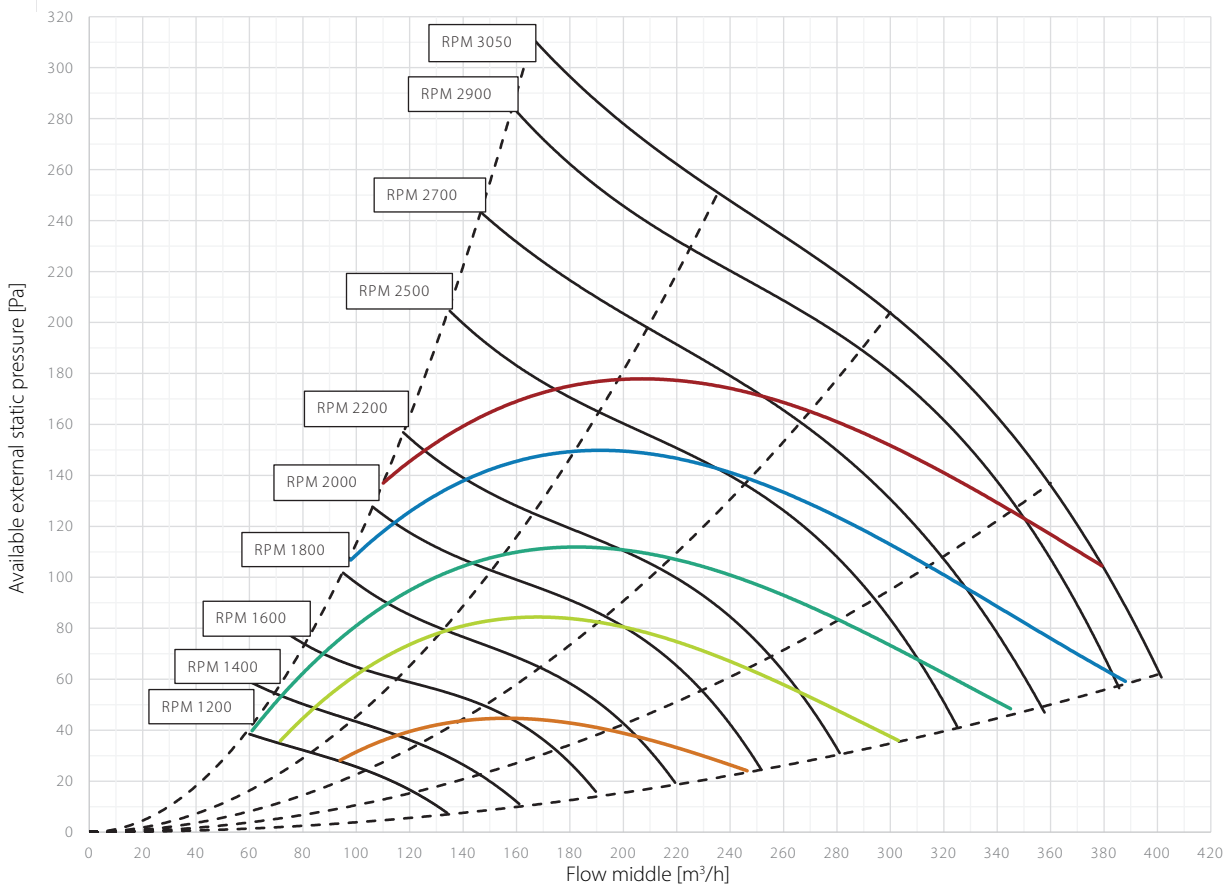
TECHNICAL DATA

Specifications	Units		HCV 400$_{P1}$
Max. flow	V100Pa	m³/h	380
Max. rated flow	Vmax.rated	m³/h	250
Recommended operating range	V	m³/h	50 - 250
EN 13141-7 reference flow at 50Pa	V_{ref}	m³/h	175
Performance			
Thermal efficiency in accordance with EN13141-7	η_{SUP}	%	92
Specific power consumption in accordance with EN13141-7	SEL/SYI	W(m³/h)	0.23
Leakage (external and internal) in accordance with EN13141-7	-	%	<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 ambient temperature	t_{SURR}	°C	+12 to +50
Outdoor temperature range without preheater installed	t_{ODA}	°C	-12* to +50
Outdoor temperature range with preheater installed	t_{ODA}	°C	-20 to +50
Maximum absolute humidity in extract air	x	g/kg	10
Cabinet			
Dimensions (without wall bracket)	w x d x h	mm	540 x 549 x 1050
Spigots/duct connections	Ø	mm	160 – female
Weight		kg	39
Thermal conductivity – polystyrene insulation	λ	W/mK	0.031
Heat transition figures – polystyrene insulation	U	W/m²K	<1
Fire classification of the polystyrene insulation	-	-	DIN 4102-1 class B2 EN 13501 class E
Drainage hose	Ø/length	"/m	¾ / 1
Cabinet colour	RAL	-	9016
Electrical			
Voltage	U	V	230
Maximum power consumption (without/with preheater)	P	W	170/1,570
Frequency	f	Hz	50
Protection class	-	-	IP21

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

HCV 400P1

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

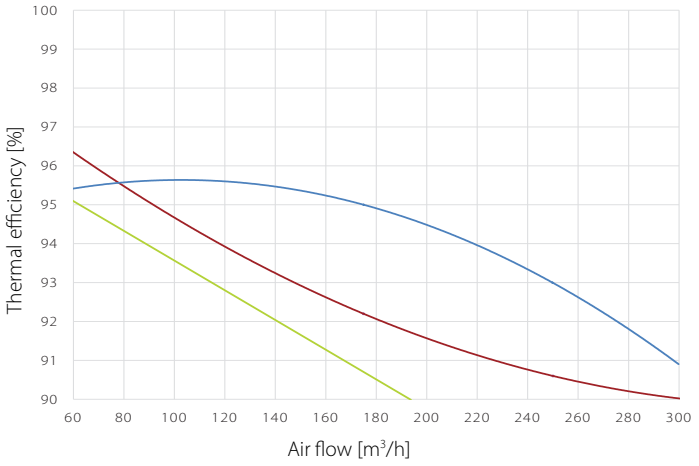
* SFP/SPI/SEL includes power consumption of both fans and the control.

THERMAL EFFICIENCY CURVES

Legend

- Thermal efficiency according to EN 13141-7 (dry)
  Operational conditions: outdoor air: 7°C, 88% RH; extract air: 20°C, 37% RH
- Thermal efficiency according to EN 13141-7 (with condensation)
  Operational conditions: outdoor air: 2°C, 84% RH; extract air: 20°C, 60% RH
- Thermal efficiency acc. PassivHaus Institut
  Operational conditions: outdoor air: 4°C, 85% RH; extract air: 21°C, 32% RH

All values at balanced flow



SOUND POWER LEVEL (Lw) – DUCTS

		[dB(A)]								
RPM	Duct	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Total
1200	supply/exhaust	27.9	29.4	30.7	29.7	26.3	23.1	17.5	23.3	36
	extract/outdoor	28.0	38.1	38.1	37.5	30.6	29.4	15.5	13.7	43
1400	supply/exhaust	30.6	30.6	34.8	33.7	29.9	26.8	19.1	23.4	39
	extract/outdoor	30.6	39.3	41.2	41.2	33.7	33.5	20.2	16.4	46
1600	supply/exhaust	32.4	31.2	38.4	37.2	32.9	30.5	20.9	23.8	42
	extract/outdoor	33.3	39.4	46.1	44.8	37.0	37.2	25.1	17.7	50
1800	supply/exhaust	34.6	33.3	44.2	40.7	35.8	33.5	22.9	23.8	47
	extract/outdoor	34.7	40.8	49.1	47.3	39.2	39.2	28.6	18.8	52
2000	supply/exhaust	35.8	34.0	48.8	43.6	38.5	36.2	24.9	24.1	51
	extract/outdoor	36.8	41.9	53.7	48.8	42.0	41.9	31.9	19.6	56
2200	supply/exhaust	37.6	35.0	50.6	46.3	41.0	38.7	28.2	24.8	53
	extract/outdoor	38.4	43.0	55.2	50.1	44.0	43.8	34.3	24.3	57
2500	supply/exhaust	40.5	36.8	53.5	48.5	44.4	41.9	31.3	25.4	55
	extract/outdoor	41.3	45.4	58.6	53.9	47.5	47.1	38.2	31.0	60
2700	supply/exhaust	41.9	38.9	54.4	50.2	46.4	43.7	33.7	27.7	57
	extract/outdoor	42.8	47.2	60.7	57.7	49.6	48.9	40.4	33.6	63
2900	supply/exhaust	43.4	40.3	54.4	52.5	48.7	45.5	35.7	29.2	58
	extract/outdoor	44.4	48.8	60.1	61.7	51.7	50.6	42.0	35.5	65

SOUND PRESSURE LEVEL (L_P) – 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

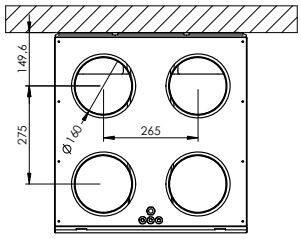
2m distance

	[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

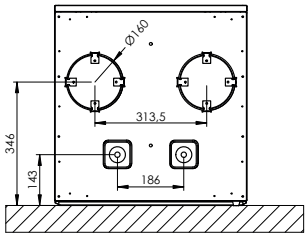
HCV 400P1

DIMENSIONS

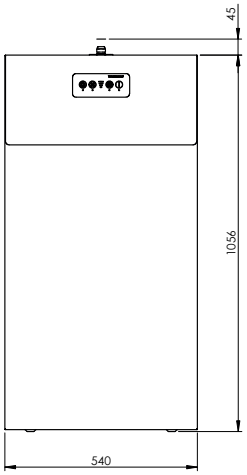
On the HCV 400 it is possible to connect the supply duct to the bottom if the ducts are to run beneath the floor.

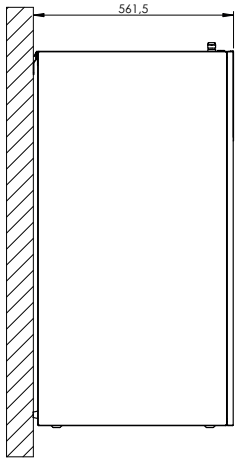


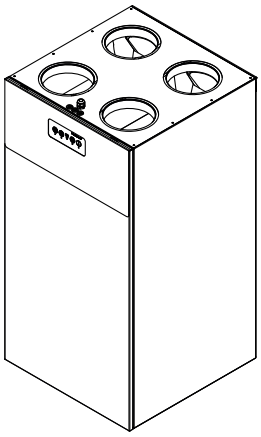
Top view



Bottom view







REVIT

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

(A) LEFT SET-UP
Factory set-up

- **T1** Outdoor air
- **T2** Supply air
- **T3** Extract air
- **T4** Exhaust air

(B) RIGHT SET-UP Optional - easy change on site

On the HCV 400 it is possible to connect the supply duct to the bottom if the ducts are to run beneath the floor

Dantherm CLIMATE SOLUTIONS