HCH 5

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The HCH 5 residential ventilation unit is primarily designed for 1-2 family houses. The unit is supplied as packaged ventilation units complete with built-in demand-control and a control panel. The residential ventilation units are fitted with highly efficient counter-flow heat exchangers which are optimised to a very high efficiency level thus achieving a very low specific fan power (SPI value) for the entire unit.

- Demand-controlled ventilation with integrated humidity sensor, reducing power consumption at times with low ventilation demands
- High-efficiency heat recovery
- EC motors with extremely low energy consumption (low SPI)
- Easy-to-install solution with pressure pipes for air volume measurement and adjustment via PC-Tool
- HCH models are suitable for installation on uninsulated attics
- 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% 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
- Highly customisable units with the option to add a high variety of internal as well as external accessories
- Internal pre-heater as accessory

Third party testing and certifications

Code	Description
PHI	Passivhaus certified
PCDB listed SAP App. Q	Listed in the UK database for balanced whole-house mechanical ventilation with heat recovery
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

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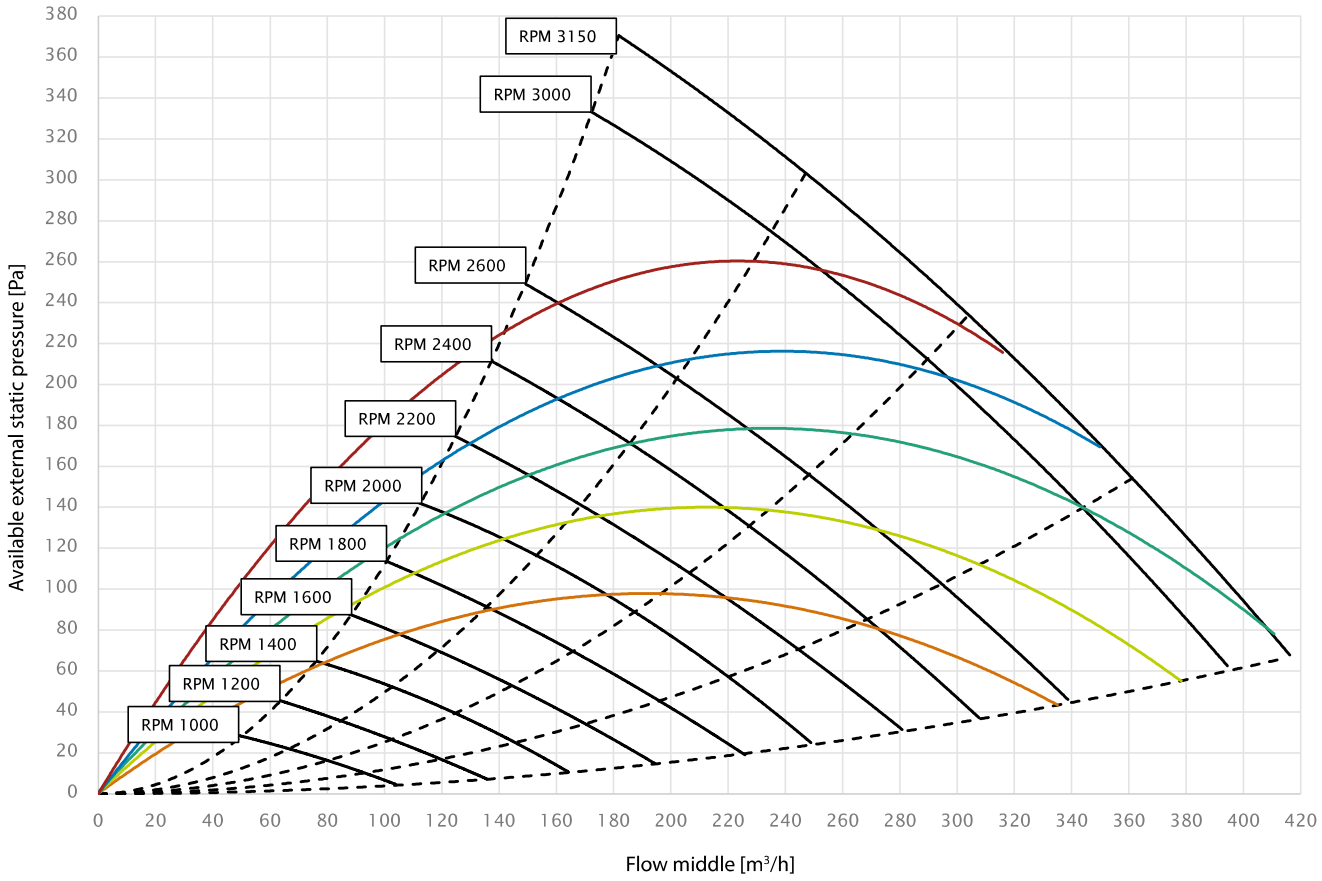
Specifications	Units		HCH 5
Maximum achievable flow at 100Pa	V100Pa	m^3/h	350
Maximum declared flow at 100Pa	Vmax.rated	m^3/h	300
Recommended operating range	V	m^3/h	80-300
EN 13141-7 reference flow at 50Pa	V_{ref}	m^3/h	210
Performance			
Thermal efficiency	η_{EN}	%	Up to 94 **
Leakage (external and internal) according to EN 13141-7	class		<2% (Class A1)
Filters in accordance with EN779			G4 (optional on supply: F7)
Filters in accordance with ISO 16890			ISO Coarse 75% (optional on supply: ePM1>50%)
By-pass			Yes
Installation surrounding temperature range	t_{surr}	°C	-12 to +50
Operational temperature range without preheating	t_{ODA}	°C	-13 *** to +50
Operational temperature range with preheating	t_{ODA}	°C	-20 to +50
Cabinet			
Dimensions	w x h x d	mm	1180 x 600 x 580
Duct connection	Ø	mm	160
Weight		kg	52
Weight including packaging		kg	66
Dimensions including packaging and pallet	w x h x d	mm	1210 x 610 x 750
Outer cabinet material			galvanised metal
Colour	RAL		galvanised metal grey
Cabinet insulation, polystyrene		mm	40
Insulation factor – cabinet		W/m^2x °K	0.78
Fire classification – polystyrene cabinet			DIN 4102 class B1
Fire classification – whole unit			EN 13501 class E
Electrical			
Voltage	U	V	1 x 230
Maximum power consumption (without/with preheater)	P	W	154/1554
Frequency	f	Hz	50
Protection class			IP20

* Requires an Energy Efficiency Class A+ kit (including CO_2 sensor and HAC accessory control). Described under Accessories.
** Condensing operation.
We recommend preheating at temperatures under -3°C to ensure a balanced operation.

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

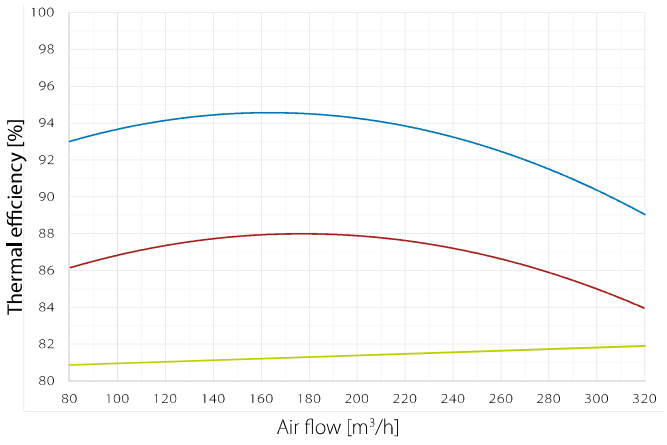
* SFP/SPI/SEL includes power consumption of both fans and the control.

Thermal efficiency curves

Legend

- Thermal efficiency according to EN 13141-7 (dry)
  Operational conditions: outdoor air: 7°C, 80% RH; extract air: 20°C, 38% RH
- Thermal efficiency (with condensation)
  Operational conditions: outdoor air: -10°C, 50% RH; extract air: 25°C, 55% RH
- Thermal efficiency according Passivhaus Institut
  Operational conditions: outdoor air: 4°C, 90% RH; extract air: 21°C, 32% RH

All values at balanced flow



Sound data with G4/G4 filters

Flow	Pres.	Measure point	Frequency band sound power L_W(A) dB(A)								Total sound power L_W(A)	Sound pres. L_p(A) Standard room*
m³/h	Pa		63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz	dB(A)	dB(A)
162	70	Supply air	23	34	40	36	29	25	17	18	42	
		Extract air	23	33	39	37	29	24	18	18	42	
		Cabinet	22	31	39	41	31	29	23	21		40
	100	Supply air	25	35	43	38	31	28	18	18	45	
		Extract air	25	36	42	39	40	25	17	18	45	
		Cabinet	23	34	41	42	33	31	24	21		41
216	70	Supply air	26	36	44	39	33	30	19	18	46	
		Extract air	28	36	43	41	34	29	18	18	46	
		Cabinet	28	35	45	44	37	35	27	21		45
	100	Supply air	26	37	44	40	34	31	19	18	47	
		Extract air	27	37	45	42	35	30	19	18	48	
		Exhaust air	34	43	52	52	47	51	38	21	57	
		Cabinet	26	34	46	45	38	36	28	21		46
250	100	Supply air	28	39	46	42	37	33	21	18	49	
		Extract air	30	39	48	45	38	33	20	18	50	
		Cabinet	28	36	50	48	41	39	32	22		49

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

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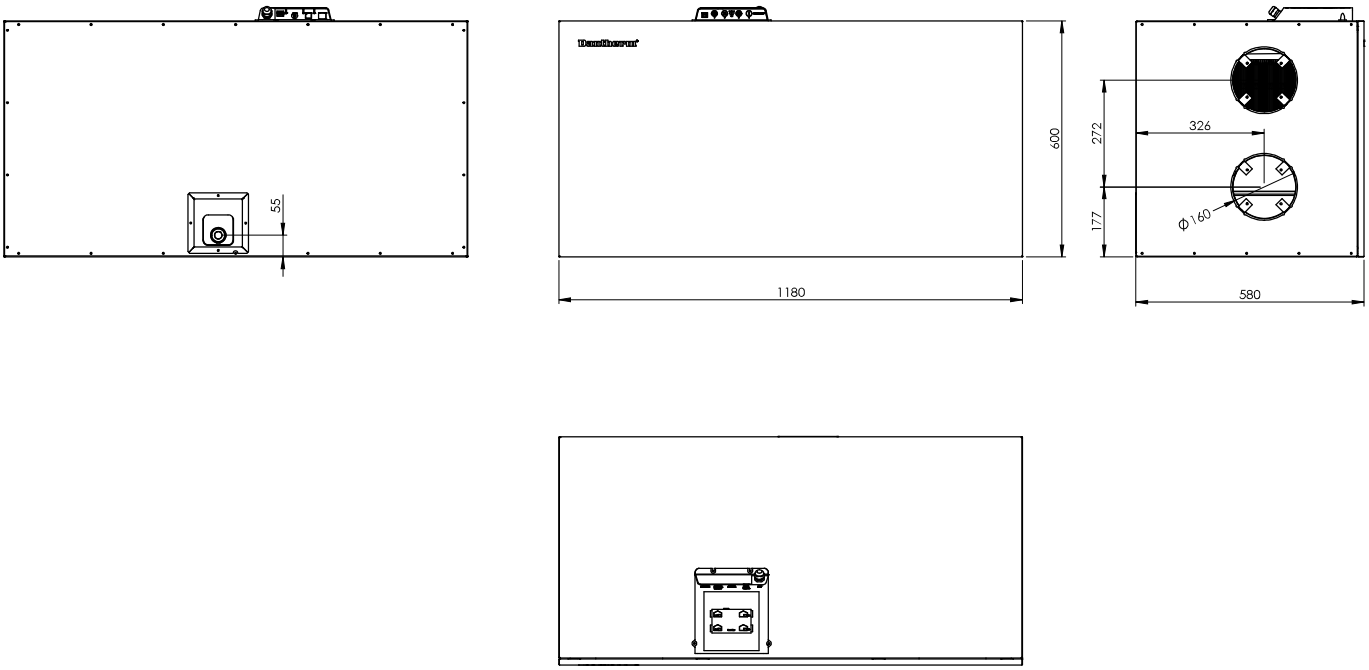
Dimensions



Duct connections

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