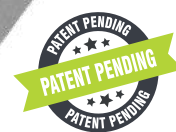


Dantherm[®]
CLIMATE SOLUTIONS



RCV 320_{P1}

RESIDENTIAL VENTILATION

WALL AND ATTIC-MOUNTED UNITS

RCV 320_{p1}



The 320_{p1} is a highly efficient and very compact residential ventilation unit for houses, villas, and apartments. Based on patent-pending technology and an ingenious design, it is delivered as a true plug and play solution with a built-in control panel and all necessary parts for on-site wall installation.

Heat recovery takes place in a highly efficient counter-flow heat exchanger, which is able to achieve optimum efficiency with the least possible loss of pressure in connection with the low air volumes used in housing.

All units come with an Aluzinc surface finish and will be packaged four units on a pallet at a time 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 the supply fan is stopped, thereby reducing power consumption. Open windows 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)
- Highly customisable units with the option to add a high variety of internal as well as external accessories
- Ducts can be connected through the top of the unit, either side or the bottom as preferred
- Compact design
- External pre-heater as accessory
- Free smartphone App available

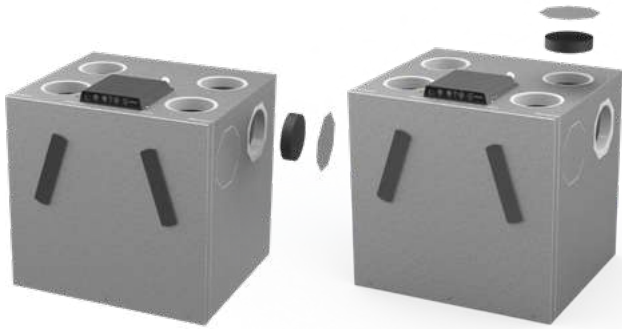
Third party testing and certification

| 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 |
| PCDB listed SAP App. Q | Pending: Listed in the UK database for balanced whole-house mechanical ventilation with heat recovery |
| PHI | Passivhaus certified |
| EPB | Pending: Listed in the database for Energy Performance of Buildings in Belgium |

WALL AND ATTIC-MOUNTED UNITS

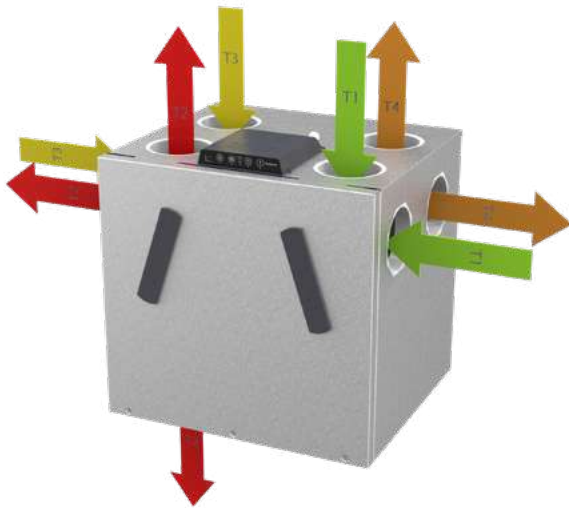
RCV 320_{P1}

How to use the side - ducting



Flexible unit

The factory-mounted duct seals on the side of the unit can easily be removed using a side cutter and then used to seal off other ducts not to be used.

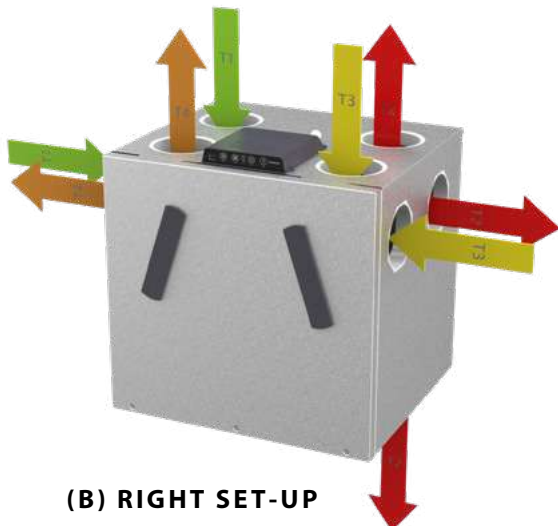


(A) LEFT SET-UP

Tired of having to redo ducting to fit ventilation units?

Unlike all other residential ventilation units on the market, the RCV offers a stunning 48 different ways of connecting ducts to the unit. 24 available combinations for left setups (A) and 24 for right setups (B). Simply choose whichever one is more convenient in terms of installation!

With this flexible unit, you'll be able to find a fast and cost-efficient way to finalise installation work, even in the trickiest of installation areas.



(B) RIGHT SET-UP

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

WALL AND ATTIC-MOUNTED UNITS

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TECHNICAL DATA

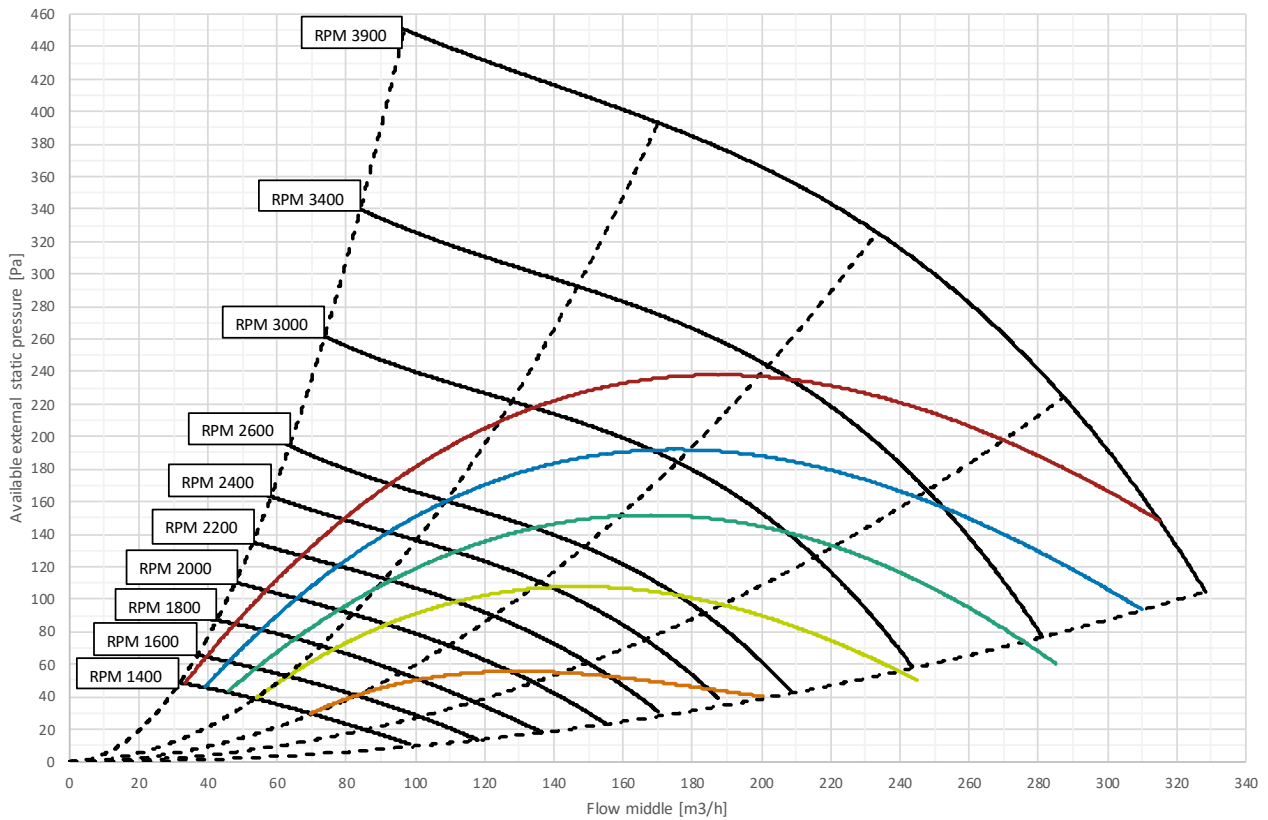
| Specifications | Units | | RCV 320P1 |
|---|-----------------|--------------------|--|
| Maximum flow at 100Pa | V_{100Pa} | m ³ /h | 320 |
| Maximum rated flow at 100Pa | $V_{max. nom.}$ | m ³ /h | 200 |
| Recommended operating range | V | m ³ /h | 50 - 200 |
| Operating range Passivhaus at 100Pa | V_{PHI} | m ³ /h | 71 - 162 |
| EN 13141-7 reference flow at 50Pa | V_{REF} | m ³ /h | 140 |
| Performance | | | |
| Thermal efficiency in accordance with PHI | η_{SUP} | % | 94 |
| Thermal efficiency in accordance with EN13141-7 | η_{SUP} | % | 95 |
| 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 EN779:2012 | | | G4 (optional on supply: F7) |
| Installation surrounding temperature | t_{SURR} | °C | -12 to +45 |
| Outdoor temperature without preheater installed | t_{ODA} | °C | -12* to +45 |
| Outdoor temperature with preheater installed | t_{ODA} | °C | -15 to +45 |
| Maximum absolute humidity of extract air | x | g/kg | 10 |
| Cabinet | | | |
| Dimensions (without bracket) | w x h x d | mm | 600 x 603 x 526** |
| Spigots/ducts connections | Ø | mm | 8 pcs ø125 and 2 pcs oval (68 x 163) – female |
| Weight | | kg | 32 |
| 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 | Ø/length | "/m | ø¾" – 1m |
| Cabinet colour | - | - | raw Alu-zinc |
| Electrical | | | |
| Voltage | U | V | 230 |
| Maximum power consumption (without/with preheater) | P | W | 170/1370 |
| 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.

RCV 320_{P1}

CAPACITY AND SPI CURVES WITH G4/G4 FILTERS



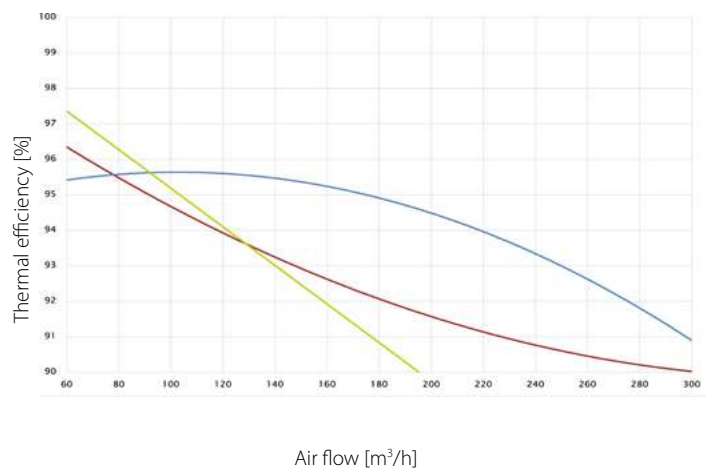
| SFP/SPI/SEL* | 0.45 W/m ³ /h | 0.39 W/m ³ /h | 0.33 W/m ³ /h | 0.28 W/m ³ /h | 0.22 W/m ³ /h |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1620 J/m ³ | 1400 J/m ³ | 1200 J/m ³ | 1000 J/m ³ | 800 J/m ³ |
| | 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

- 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



WALL AND ATTIC-MOUNTED UNITS

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SOUND POWER LEVEL (L_w) – DUCTS

| RPM | Duct | [dB(A)] | | | | | | | | |
|------|-----------------|---------|-------|-------|-------|------|------|------|------|-------|
| | | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Total |
| 1200 | supply/exhaust | 23.6 | 33.1 | 32.8 | 34.0 | 30.0 | 20.8 | 13.3 | 18.5 | 39 |
| | extract/outdoor | 20.2 | 26.0 | 26.0 | 30.0 | 23.9 | 15.5 | 6.9 | 13.0 | 33 |
| 1400 | supply/exhaust | 26.2 | 36.1 | 37.0 | 37.2 | 34.4 | 24.6 | 19.0 | 18.6 | 42 |
| | extract/outdoor | 21.9 | 28.5 | 30.1 | 33.7 | 28.3 | 21.5 | 18.1 | 21.4 | 37 |
| 1600 | supply/exhaust | 27.8 | 36.7 | 41.0 | 40.2 | 37.6 | 28.8 | 22.0 | 19.1 | 45 |
| | extract/outdoor | 23.9 | 29.0 | 35.6 | 36.3 | 31.7 | 25.5 | 17.3 | 21.5 | 40 |
| 1800 | supply/exhaust | 30.2 | 38.1 | 46.1 | 43.1 | 40.6 | 32.1 | 24.9 | 13.3 | 49 |
| | extract/outdoor | 26.8 | 30.4 | 38.2 | 38.9 | 34.7 | 28.8 | 18.8 | 21.7 | 43 |
| 2000 | supply/exhaust | 32.0 | 39.8 | 49.4 | 45.8 | 43.5 | 35.2 | 28.5 | 13.0 | 52 |
| | extract/outdoor | 30.2 | 31.5 | 41.9 | 41.3 | 37.5 | 31.6 | 18.1 | 20.3 | 46 |
| 2200 | supply/exhaust | 34.2 | 40.9 | 51.0 | 48.1 | 46.0 | 38.1 | 31.8 | 12.7 | 54 |
| | extract/outdoor | 32.3 | 33.0 | 43.4 | 43.6 | 39.9 | 34.1 | 21.5 | 21.5 | 48 |
| 2400 | supply/exhaust | 35.4 | 42.3 | 54.4 | 50.1 | 47.6 | 40.6 | 34.7 | 18.7 | 57 |
| | extract/outdoor | 33.9 | 34.2 | 44.5 | 45.8 | 42.0 | 36.2 | 20.7 | 14.9 | 49 |
| 2600 | supply/exhaust | 38.6 | 43.9 | 55.8 | 52.4 | 49.7 | 43.1 | 37.5 | 19.7 | 58 |
| | extract/outdoor | 36.6 | 35.8 | 47.7 | 47.8 | 43.8 | 38.4 | 24.8 | 23.3 | 52 |
| 3000 | supply/exhaust | 40.1 | 45.6 | 59.0 | 62.5 | 53.1 | 47.0 | 41.9 | 26.9 | 65 |
| | extract/outdoor | 37.7 | 37.5 | 47.7 | 53.3 | 47.3 | 42.5 | 28.3 | 23.3 | 55 |
| 3400 | supply/exhaust | 43.8 | 51.4 | 62.4 | 68.8 | 57.0 | 50.2 | 45.7 | 31.9 | 70 |
| | extract/outdoor | 40.3 | 40.1 | 48.2 | 61.2 | 50.2 | 45.1 | 31.2 | 24.6 | 62 |

SOUND PRESSURE LEVEL (L_p) – CABINET

2m distance

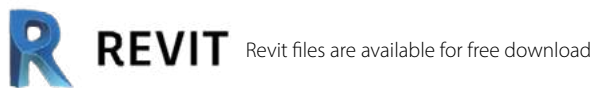
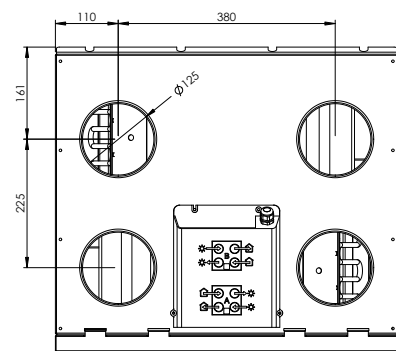
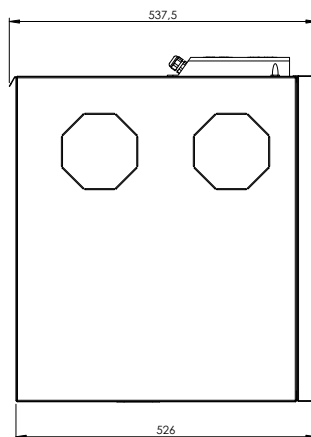
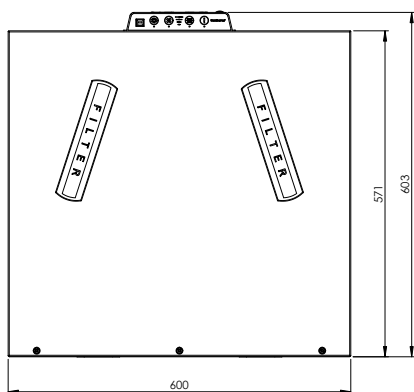
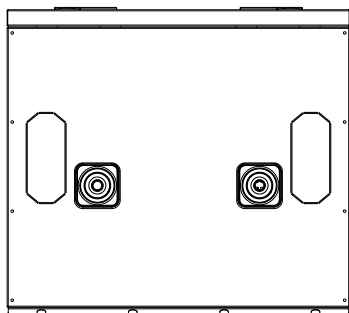
| RPM | Without background noise weighted [dB(A)] | | | | | | | | |
|------|---|-------|-------|-------|------|------|------|------|-------|
| | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Total |
| 1000 | - | 2.6 | 9.5 | 12.9 | 9.6 | 5.8 | 1.4 | 3.0 | 17 |
| 1200 | - | 4.0 | 11.1 | 15.8 | 16.3 | 12.6 | 9.4 | 4.1 | 21 |
| 1400 | - | 7.1 | 13.9 | 17.6 | 16.4 | 12.6 | 5.3 | 1.7 | 22 |
| 1600 | - | 8.5 | 18.0 | 20.8 | 17.7 | 13.2 | 6.0 | -0.1 | 24 |
| 1800 | - | 10.0 | 21.9 | 23.6 | 20.2 | 16.3 | 9.4 | 4.9 | 27 |
| 2000 | - | 11.5 | 22.4 | 25.7 | 22.2 | 18.3 | 11.6 | 5.6 | 29 |
| 2200 | - | 13.3 | 26.5 | 28.2 | 24.6 | 20.7 | 13.3 | 5.6 | 32 |
| 2400 | - | 18.5 | 28.1 | 30.9 | 27.7 | 24.4 | 17.5 | 5.6 | 35 |
| 2600 | 11.0 | 20.1 | 29.9 | 34.6 | 29.5 | 25.6 | 18.9 | 5.6 | 37 |
| 3000 | 11.1 | 20.2 | 32.3 | 37.9 | 32.1 | 29.0 | 22.8 | 9.0 | 40 |

WALL-MOUNTED UNITS

RCV 320_{P1}

DIMENSIONS

On the 320_{P1}, it is possible to connect the supply duct to the bottom if the ducts are to run beneath the floor.



Dantherm®

CLIMATE SOLUTIONS

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