# Technical data sheet
# FLUX+ FLAT

System D+® - V2024.05

## Demand-controlled, energy-efficient balanced ventilation combined with pure ease of installation

Flux+ Flat is part of the energy-efficient D+ ventilation concept, with demand-controlled ventilation. Fresh, filtered air is mechanically supplied to dry rooms and polluted air is mechanically extracted from wet rooms.
This compact and flexible ventilation unit is suitable for residential applications and is available in three versions, depending on the nominal ventilation flow rate:

- up to 225 m³/h
- up to 275 m³/h
- up to 370 m³/h

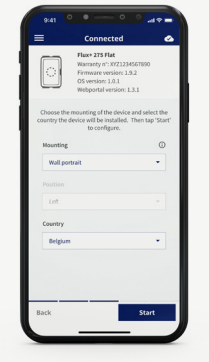
## Primary features

### Demand-controlled balanced ventilation

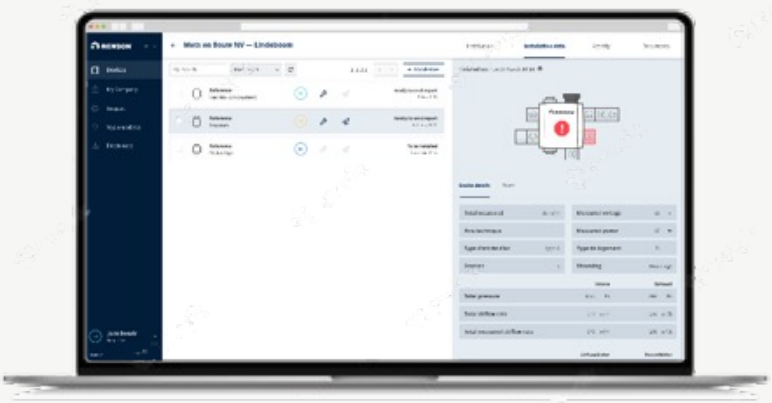
- The **integrated sensors (humidity, $CO_2$ and VOC)** constantly measure **centrally** the indoor air quality in the air extracted from the wet rooms in the home. Based on the indoor air quality, the ventilation flow rate is controlled autonomously. This smart demand-controlled system guarantees an optimal indoor climate at all times using the lowest possible ventilation flow rate, and the lowest possible energy consumption as a result. The balance between supply and extraction is constantly maintained.
- Standard reduction factor Rf 0.93 yields an interesting E-level gain compared to Rf 1.0 to bring the house to the legally required E-level (or better).
- Flux+ Flat can be expanded as an option with **room sensors** ($CO_2$ detection) for local demand management.
  This ensures further improvement of the indoor climate and a cost-efficient reduction of the E-level.

### Easy installation

- **ONE-MAN-SHOW:** due to its low weight of 25 kg and the **Quick Fix**, the Flux+ Flat can be easily, **quickly and ergonomically** installed without a second person.
- **ALWAYS A SOLUTION:**
  - In small spaces
  - Ceiling or wall mounting (vertically or horizontally)
  - Can be converted from a left to right version via the installer app
  - Compact connection of the air ducts to the unit with 2 connections per connection point
- **SAVE TIME:** higher efficiency with the digital tools:
  - Installation app: semi-automatic calibration significantly reduces installation time
  - My-Lio web portal: site preparation + installation report after start-up




INSTALLATION APP



MY-LIO WEBPORTAL



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### Service convenience

- The appliance is designed to ensure the components and technologies are easily and quickly accessible. Do you need some maintenance? No problem: the Quick-Fix ceiling bracket ensures the appliance can easily be put into the service position.

### Efficient design

- Counterflow heat exchanger for up to **91% heat recovery**
- Low-noise and energy-efficient EC motor

### Filters

- Appliance supplied as standard with: 2x Classic Protection ISO Coarse 65% (G4)
- Optionally available: 1x Urban Protection ePM1 55% (F7) + 1x Classic Protection ISO Coarse 65% (G4)

**Optimal operation** of this D+ ventilation system is only guaranteed if the following are present and matched:
- Air is supplied to dry rooms and extracted from wet rooms via the Renson Aeroo valve
- Supply and extraction of air from and to the outside via Renson roof/wall penetration
- Easyflex air channels
- Renson filters
- Mechanical supply & extraction via **Flux+ Flat**

## Referenzen

| | |
|---|---|
| **17791** | Flux+ 225 Flat |
| **11018** | Flux+ 275 Flat |
| **29911** | Flux+ 370 Flat |
| **17792** | Dry siphon kit for Flux+ Flat |

## Technical specifications

| | Flux+ 225 Flat | Flux+ 275 Flat | Flux+ 370 Flat |
|---|---|---|---|
| **(Max.) ventilation airflow** | 225 m³/h (at 200 Pa) | 275 m³/h (at 200 Pa) | 370 m³/h (at 200 Pa) |
| **Thermal efficiency** | **Belgium** - conform to Annex G of Annex V of the Energy Decree (conform to EN13141-7) | | |
| | 91% at 75 m³/h<br>89% at 124 m³/h<br>87% at 175 m³/h<br>85% at 225 m³/h | 91% at 75 m³/h<br>87% at 175 m³/h<br>85% at 225 m³/h<br>83% at 275 m³/h | 83% at 290 m³/h<br>82% at 322 m³/h<br>81% at 352 m³/h<br>80% at 370 m³/h |
| | **Netherlands** - conform to Section 11 of NTA 8800 in the context of the Building Regulations (conform to EN13141-7) | | |
| | 91% at 157 m³/h | 89% at 191 m³/h | 88% at 259 m³/h |
| **Sound level**<br>In accordance with EcoDesign directive | 43,5 dB(A) | 46,0 dB(A) | 50,5 dB(A) |
| **Sound level Lw(A)** | At 225 m³/h - 100 Pa<br>– Box: 50,5 dB(A)<br>– Supply: 59,5 dB(A)<br>– Extraction: 47,0 dB(A) | At 275 m³/h - 100 Pa<br>– Box: 53,0 dB(A)<br>– Supply: 62,5 dB(A)<br>– Extraction: 49,5 dB(A) | At 370 m³/h - 100 Pa<br>– Box: 57,5 dB(A)<br>– Supply: 67,5 dB(A)<br>– Extraction: 56,0 dB(A) |
| **Maximum power used** | 2 × 42 W | 2 × 53 W | 2 × 83 W |
| **Connection voltage** | 230 Vac -15%/+10% (50 Hz, 60 Hz)<br>Power cord included (2 m length) | | |
| **Dimensions** | 1188 × 745 × 300 mm (L x W x H) | | |
| **Weight** | 25 kg | | |
| **Ø unit connections** | Ø 160 mm<br>2 connections per connection point | | |


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| | Flux+ 225 Flat | Flux+ 275 Flat | Flux+ 370 Flat |
|---|---|---|---|
| **Bypass** | Yes, fully | | |
| **Breeze function (= Demand control bypass)** | Temporary nominal ventilation (= deactivation of demand-driven control) at times when a certain level of cooling is required (⇒ optimal reduction factors) | | |
| **Automatic control (constant flow)** | Yes | | |
| **Fan** | Extremely quiet & energy-efficient EC motor with forward curved Ø180 fan blade | | |
| **Maximum fan operating pressure** | 300 Pa<br>– Recommended working pressure at design airflow: ≤ 200 Pa<br>– Guidance value for very good working pressure at design flow (cfr TV n° 258): ≤ 100 Pa | | |
| **Reading out the calibration pressure** | Via app installer & Renson My-Lio web portal | | |
| **External input/output** | – 1x Ethernet connection<br>– 2x USB connections<br>*(USB dongle for Wi-Fi connection included*)*<br>– 3x digital inputs & outputs for ventilation position control or feedback of general error messages and filter messages | | |

* Only compatible with 2.4GHz

## Control of demand-controlled ventilation

| | |
|---|---|
| **Type of ventilation** | Mechanical demand-controlled balance ventilation with heat recovery |
| **Air quality detection** (humidity, $CO_2$ and VOC) | Via electronic sensors located centrally in the unit. The sensors measure the indoor air quality in the extracted air flow 24/7. |
| **Reduction factors ($F_{reduc, vent, heat}$)** | – Standard:<br>• Configuration 0.93 = central $CO_2$ sensor in the unit (extraction)<br>– With optional room sensors:<br>• Configuration 0.87 = $CO_2$ room sensors in the living room and master bedroom<br>• Configuration 0.70 = $CO_2$ room sensors in all bedrooms<br>• Configuration 0.61 = $CO_2$ room sensors in all dry rooms |
| **Control possibilities** | – Demand-controlled (standard), optionally via room sensors<br>– According to automatic mode (Weekly schedule – User app)<br>– Manual control (user app and optional switch)<br>– Timers (User app) |

## Control

### Resident app

- Read the air quality in the home
- Personalisation and (temporary) manual adjustment of the ventilation flow rate possible

### Optional

- Potential-free wired 3-position switch for manual adjustment of the ventilation extraction rate
- 4-position switch, integrated in the wireless room sensors

## Room sensors

The Renson Sense room sensors can be combined with the Flux+ Flat to regulate the **local air quality** via ventilation flow. These 230 V powered sensors communicate wirelessly with the ventilation unit. This provides a further increase in air quality and a reduction in the E level.


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## Installation

### Installation

| | |
|---|---|
| **Room** | Indoor installation in an insulated room.<br>Temperature limits from 0 °C to +40 °C. |
| **Installation options** | – Left and right position, adjustable via software<br>– Ceiling mounting<br>– Wall mounting in both horizontal or vertical direction<br>– **Supplied Quick Fix** ceiling bracket makes one-person installation possible |

### Renson My-Lio web portal: your digital right hand man at the office

My-Lio supports the installer with the **pre-configuration** and **follow-up of the project:**
- Project creation & pre-configuration
- Send installation report digitally
- Monitor connected devices

This provides **time savings** and **simplifies the administration**. Done with paperwork.

### Boot via app installer

The app guides the installer through the start-up to make high-quality & reliable installation possible.
Semi-automatic calibration is done in just 2 steps:
- Step 1: valves open & measure everything once for the 1st time
- Step 2: adjust valves to value specified in app

## Products to combine

| | |
|---|---|
| **Aeroo extraction and supply valve** | Design valve |
| **Easyflex air ducts** | Air transport ducts with best airtightness class D |
| **Easyduct air ducts** | Air transport ducts with insulating properties |
| **Isodec** | Air flexible with insulating properties |
| **Acoudec** | Air flexible duct with high acoustic damping properties |
| **Renson roof exhaust / wall exhaust** | Design feed with limited pressure loss |

## Other features

| | | | |
|---|---|---|---|
| **Automatic error message & filter message** | – Via resident app<br>– Via Renson Ventilation Set-up app and Renson My-Lio web portal (installer): fault message related during the start-up phase | | |
| **Automatic software updates** | When the device is connected to the internet or locally with the app | | |
| **Installer & consumer app** | Can be downloaded free of charge from Play Store (Android) and App Store (Apple) | | |
| **Integration in smart home & home automation** | Domotics: switch module (3 contacts) | | |
| **Fire safety** (internal) | √ | | |
| **EU declaration of conformity** | √ | | |
| **Energy performance regulation (EPB)** | – Reduction factors conform to Table 1 of the flat-rate table<br>– Included in EPB product database – FAN AND VENTILATION GROUP<br>– Included in EPB product database – DEMAND-CONTROLLED VENTILATION SYSTEMS | | |
| **Energy rating** (in accordance with directive 2010/30/EU) | Flux+ 225 Flat: A+ | Flux+ 275 Flat: A+ | Flux+ 370 Flat: A+ |
| **Minimum density for wall/ceiling** | Minimum density for wall/ceiling of 100 kg/m², because of firmness for fastening & sufficient mass for further vibration damping. | | |


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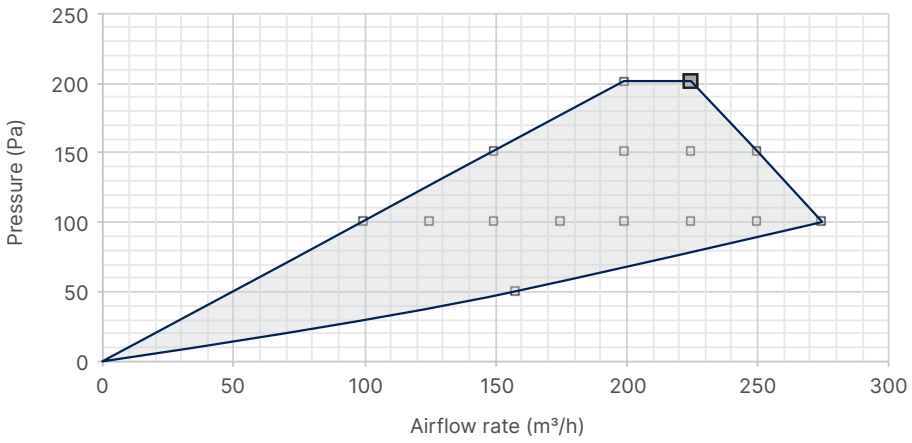
## Technical data

| Flux+ 225 Flat | | | | | | |
|---|---|---|---|---|---|---|
| Airflow m³/h | Pressure Pa | Power W | SFP Wh/m³ | Sound level (Lw(A)) | | |
| | | | | Pulse (dB(A)) | Extraction (dB(A)) | Box (dB(A)) |
| 275 | 100 | 83 | 0,33 | 62,5 | 49,5 | 53,0 |
| 250 | 150 | 81 | 0,36 | 63,5 | 50,5 | 53,5 |
| 250 | 100 | 69 | 0,30 | 61,5 | 48,5 | 52,0 |
| **225** | **200** | **84** | **0,41** | **64,5** | **53,0** | **54,0** |
| 225 | 150 | 70 | 0,34 | 61,5 | 50,0 | 52,0 |
| 225 | 100 | 58 | 0,27 | 59,5 | 47,0 | 50,5 |
| 200 | 200 | 74 | 0,41 | 64,0 | 52,5 | 54,0 |
| 200 | 150 | 60 | 0,33 | 61,5 | 50,0 | 51,0 |
| 200 | 100 | 49 | 0,26 | 58,0 | 46,0 | 49,0 |
| 175 | 100 | 41 | 0,25 | 57,5 | 46,0 | 47,5 |
| 158 | 50 | 27 | 0,18 | 52,0 | 39,5 | 43,5 |
| 150 | 150 | 44 | 0,32 | 61,0 | 49,0 | 50,5 |
| 150 | 100 | 34 | 0,25 | 56,5 | 45,5 | 46,5 |
| 125 | 100 | 30 | 0,25 | 56,0 | 45,5 | 46,0 |
| 100 | 100 | 23 | 0,26 | 55,5 | 44,0 | 45,5 |





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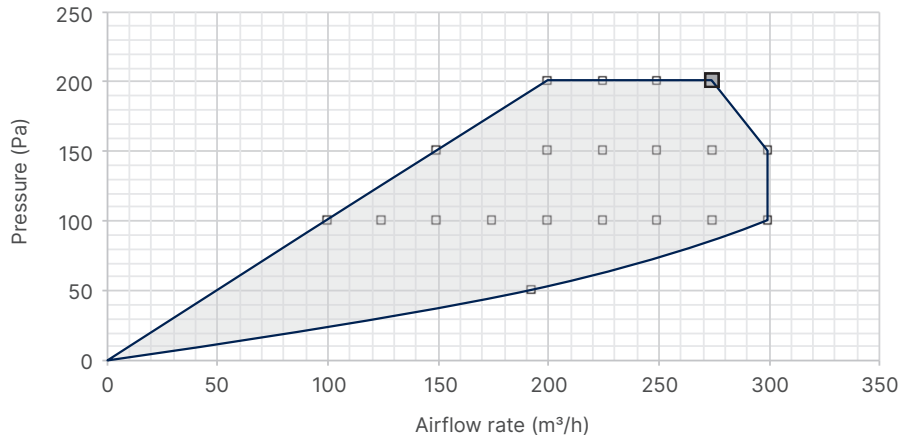
| Flux+ 275 Flat | | | | | | |
|---|---|---|---|---|---|---|
| Airflow m³/h | Pressure Pa | Power W | SFP Wh/m³ | Sound level (Lw(A)) | | |
| | | | | Pulse (dB(A)) | Extraction (dB(A)) | Box (dB(A)) |
| 315 | 100 | 106 | 0,34 | 65,5 | 52,0 | 55,5 |
| 300 | 150 | 106 | 0,35 | 65,5 | 52,5 | 55,5 |
| 300 | 100 | 96 | 0,31 | 64,5 | 50,5 | 54,0 |
| **275** | **200** | **106** | **0,39** | **66,5** | **53,5** | **55,5** |
| 275 | 150 | 92 | 0,33 | 64,5 | 51,5 | 54,5 |
| 275 | 100 | 83 | 0,31 | 62,5 | 49,5 | 53,0 |
| 250 | 200 | 95 | 0,38 | 64,5 | 53,5 | 55,0 |
| 250 | 150 | 81 | 0,32 | 63,5 | 50,5 | 53,5 |
| 250 | 100 | 69 | 0,28 | 61,5 | 48,5 | 52,0 |
| 225 | 200 | 84 | 0,37 | 64,5 | 53,0 | 54,0 |
| 225 | 150 | 70 | 0,31 | 61,5 | 50,0 | 52,0 |
| 225 | 100 | 58 | 0,25 | 59,5 | 47,0 | 50,5 |
| 200 | 200 | 74 | 0,37 | 64,0 | 52,5 | 54,0 |
| 200 | 150 | 60 | 0,30 | 61,5 | 50,0 | 51,0 |
| 200 | 100 | 49 | 0,25 | 58,0 | 46,0 | 49,0 |
| 193 | 50 | 34 | 0,18 | 54,5 | 42,0 | 46,0 |
| 175 | 100 | 41 | 0,23 | 57,5 | 46,0 | 47,5 |
| 150 | 150 | 44 | 0,29 | 61,0 | 49,0 | 50,5 |
| 150 | 100 | 34 | 0,23 | 56,5 | 45,5 | 46,5 |
| 125 | 100 | 30 | 0,24 | 56,0 | 45,5 | 46,0 |
| 100 | 100 | 23 | 0,23 | 55,5 | 44,0 | 45,5 |





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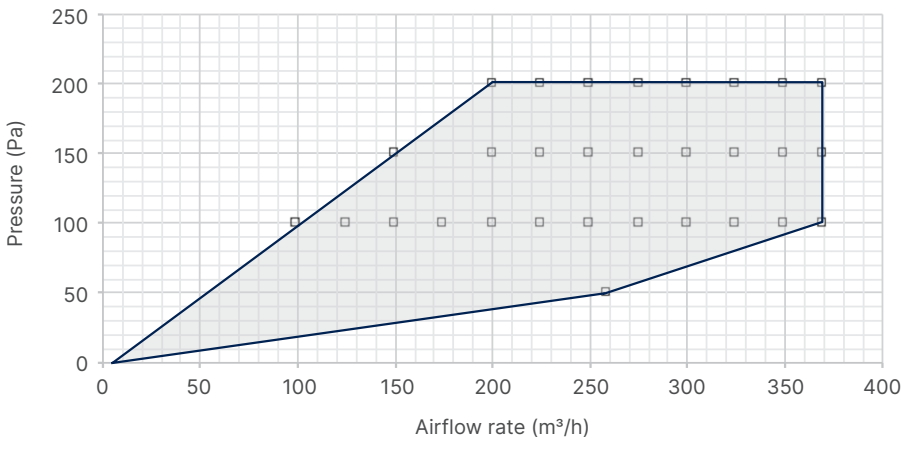
| Flux+ 370 Flat | | | | | | |
|---|---|---|---|---|---|---|
| Airflow m³/h | Pressure Pa | Power W | SFP Wh/m³ | Sound level (Lw(A)) | | |
| | | | | Pulse (dB(A)) | Extraction (dB(A)) | Box (dB(A)) |
| **370** | **200** | **166** | **0,45** | **68,5** | **56,0** | **57,5** |
| 370 | 150 | 142 | 0,38 | 68,5 | 56,0 | 57,5 |
| 370 | 100 | 137 | 0,37 | 67,5 | 56,0 | 57,5 |
| 350 | 200 | 151 | 0,43 | 68,0 | 55,5 | 57,5 |
| 350 | 150 | 130 | 0,37 | 67,5 | 55,0 | 57,5 |
| 350 | 100 | 124 | 0,35 | 65,5 | 53,5 | 56,5 |
| 325 | 200 | 136 | 0,42 | 67,0 | 55,0 | 56,5 |
| 325 | 150 | 117 | 0,36 | 66,0 | 54,0 | 55,5 |
| 325 | 100 | 111 | 0,34 | 64,5 | 52,0 | 55,0 |
| 300 | 200 | 121 | 0,40 | 66,5 | 54,5 | 56,0 |
| 300 | 150 | 106 | 0,35 | 65,5 | 52,5 | 55,5 |
| 300 | 100 | 96 | 0,31 | 64,5 | 50,5 | 54,0 |
| 275 | 200 | 106 | 0,39 | 66,5 | 53,5 | 55,5 |
| 275 | 150 | 92 | 0,33 | 64,5 | 51,5 | 54,5 |
| 275 | 100 | 83 | 0,31 | 62,5 | 49,5 | 53,0 |
| 259 | 50 | 60 | 0,23 | 58,0 | 47,0 | 50,5 |
| 250 | 200 | 95 | 0,38 | 64,5 | 53,5 | 55,0 |
| 250 | 150 | 81 | 0,32 | 63,5 | 50,5 | 53,5 |
| 250 | 100 | 69 | 0,28 | 61,5 | 48,5 | 52,0 |
| 225 | 200 | 84 | 0,37 | 64,5 | 53,0 | 54,0 |
| 225 | 150 | 70 | 0,31 | 61,5 | 50,0 | 52,0 |
| 225 | 100 | 58 | 0,25 | 59,5 | 47,0 | 50,5 |
| 200 | 200 | 74 | 0,37 | 64,0 | 52,5 | 54,0 |
| 200 | 150 | 60 | 0,30 | 61,5 | 50,0 | 51,0 |
| 200 | 100 | 49 | 0,25 | 58,0 | 46,0 | 49,0 |
| 175 | 100 | 41 | 0,23 | 57,5 | 46,0 | 47,5 |
| 150 | 150 | 44 | 0,29 | 61,0 | 49,0 | 50,5 |
| 150 | 100 | 34 | 0,23 | 56,5 | 45,5 | 46,5 |
| 125 | 100 | 30 | 0,24 | 56,0 | 45,5 | 46,0 |
| 100 | 100 | 23 | 0,23 | 55,5 | 44,0 | 45,5 |





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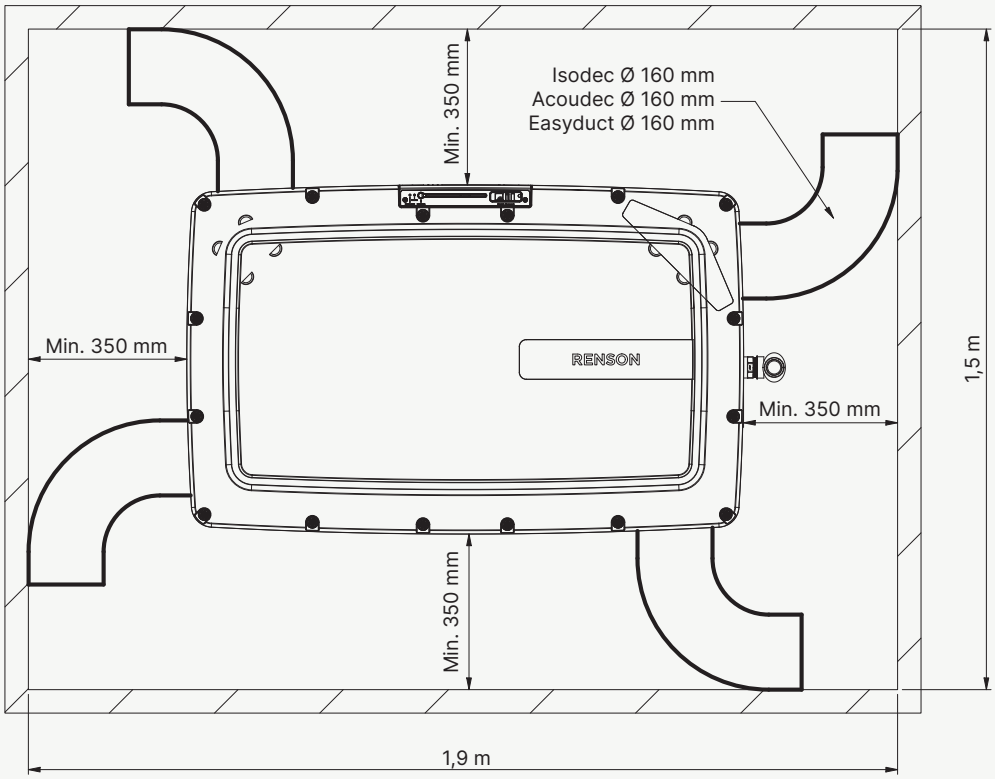
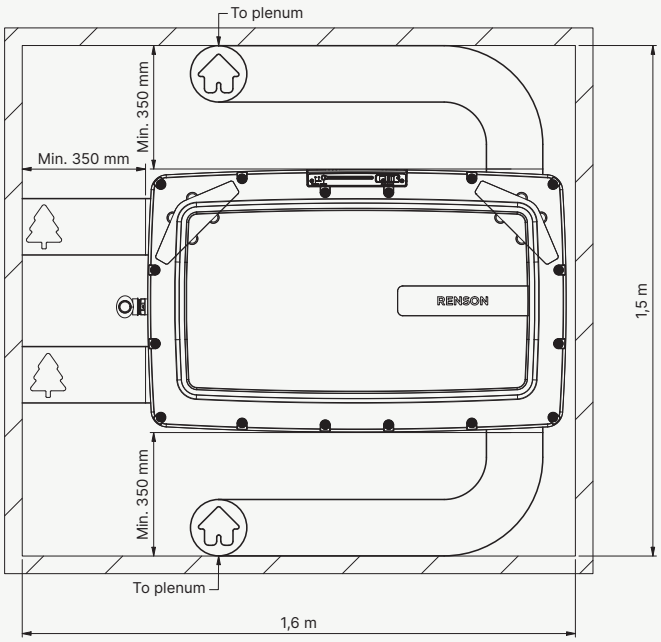
## Installation dimensions

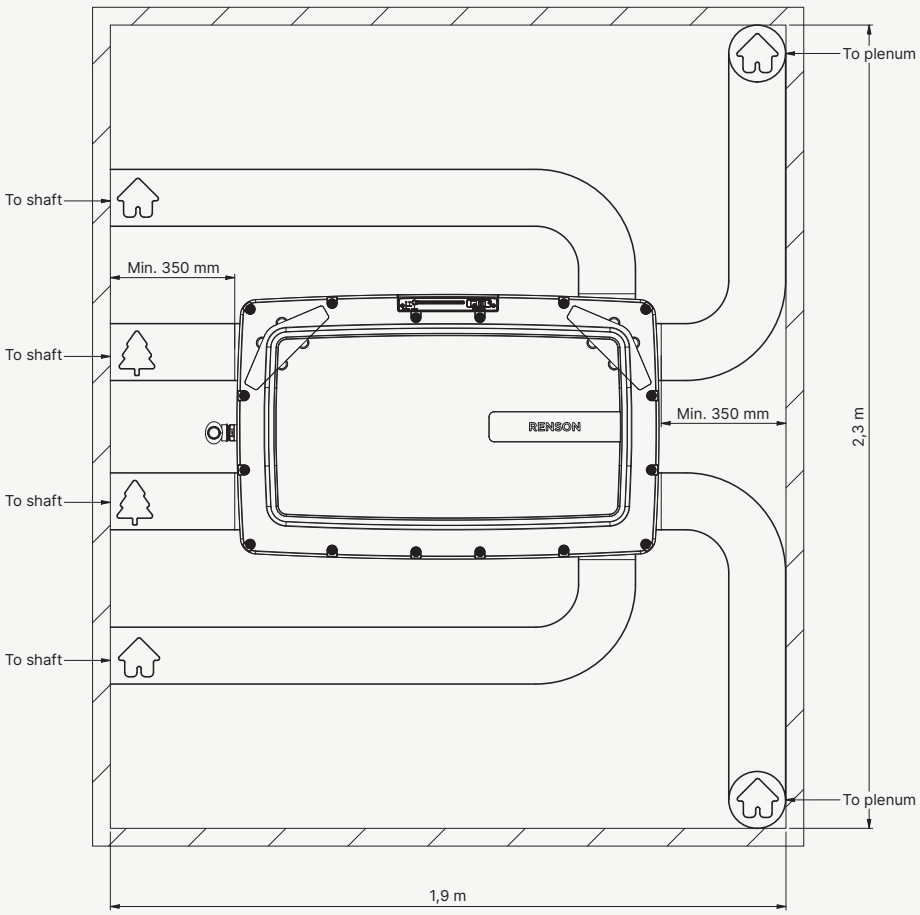
In both ceiling and wall mounting, provide **at least 350 mm distance** between the unit and the wall at each side where a **duct connection** is present. If this duct connection consists of a Renson Isodec, Acoudec or Easyduct in Ø 160 mm, respecting this minimum distance ensures a low pressure drop and easy assembly and disassembly for any service.
In addition, **at least 100 mm** should be provided at the height of the **condensate connection**.




Below you will see some examples of set-ups in practice, taking into account the minimum distances mentioned above and the Renson recommendation to always provide 1 m Acoudec Ø 160 mm at pulse and extraction side.
This will ensure a whisper-quiet installation!

**Examples of a ceiling installation:**





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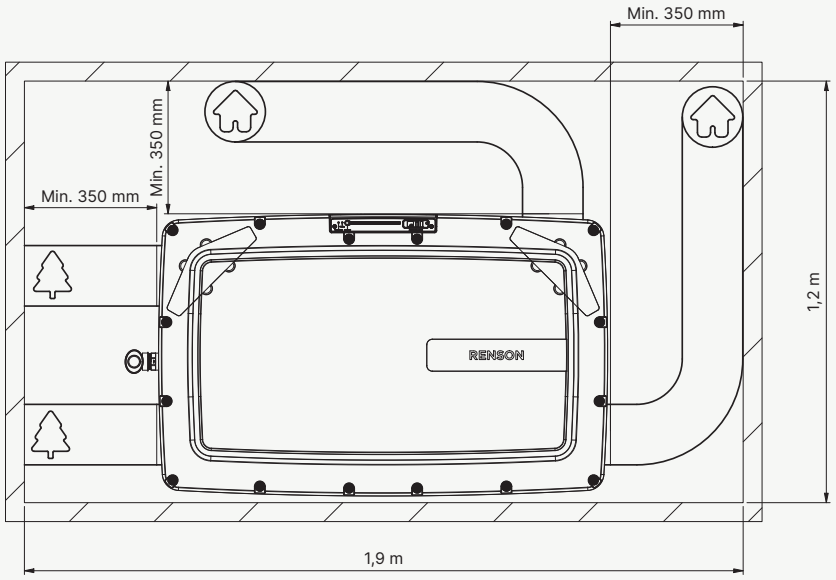
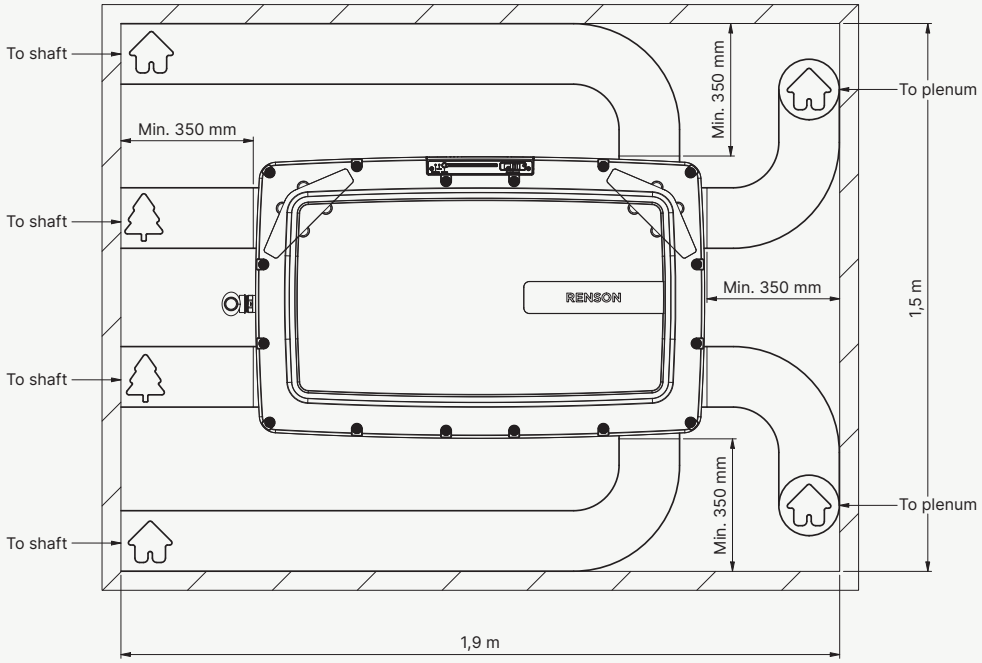
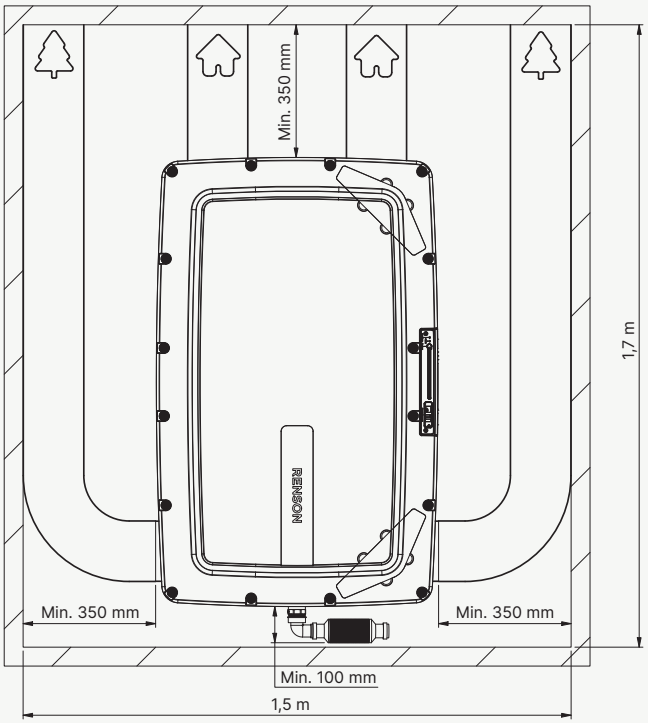
**Examples of a ceiling installation:**



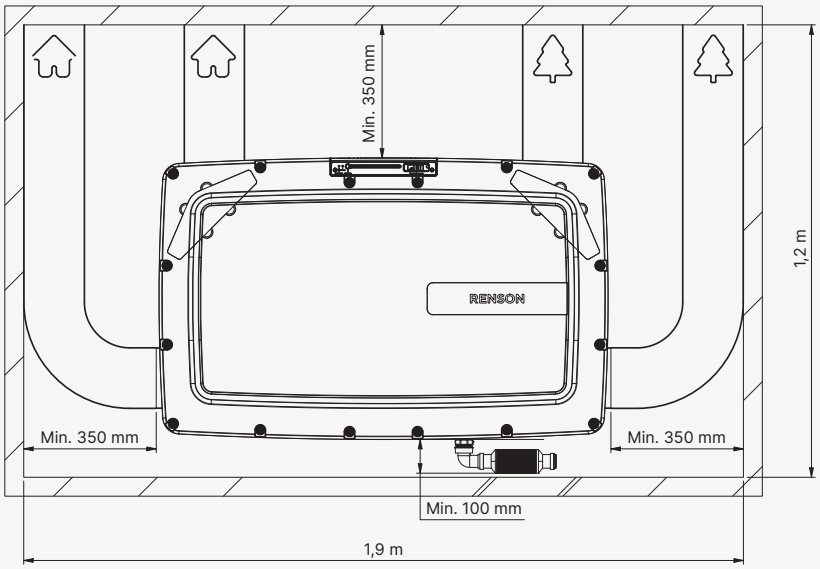



**Examples of a wall installation:**

- Vertical wall installation




- Horizontal wall installation





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## Technical drawings