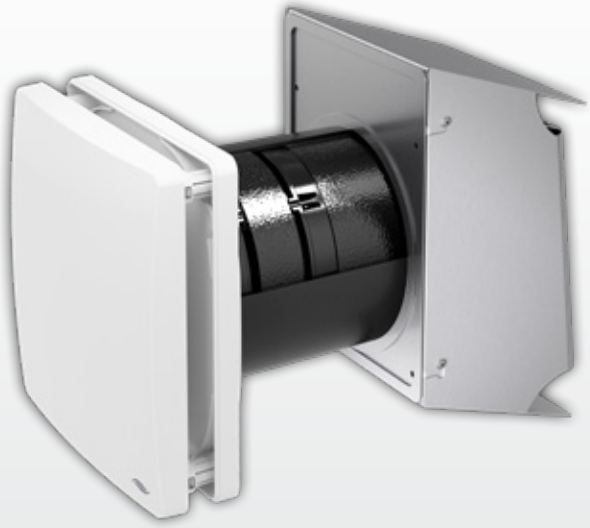
inVENTer

Installation instructions

# iV-Compact



# Ventilation device

with heat recovery

www.inventer.de

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## Disclaimer

This documentation represents a translation of the original German installation instructions. Once installation is complete, information regarding access to the installation instructions must be passed on to the user (tenant, owner, property management company, etc.).
The content of this documentation has been checked for compliance with the described components. Nevertheless deviations may still occur, therefore no guarantee of compliance can be provided.

This documentation describes the functionality of the standard scope.
For reasons of clarity, the documentation does not purport to cover all details on all types of the product and cannot cover every conceivable scenario for installation and assembly.

The illustrations in this document may differ slightly from the design of the product that you have purchased. The same functionality is ensured despite any design deviations.

This documentation is updated regularly. Necessary corrections and appropriate supplements are always included in subsequent editions. The latelest version can be found at **www.inventer.de/downloads.**

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## Table of contents

# 1 User and safety instructions

Thank you for purchasing this high-quality product from inVENTer!

This section provides an overview of the basic safety precautions for safe and proper operation of your ventilation system.

## 1.1 User information

### Safety and warning instructions

The safety and warning instructions in these installation instructions have a uniform structure and are marked with a symbol on the left side of the instruction.
A signal word in front of the text also indicates the hazard level. If several hazard levels exist, the highest level safety instruction is always used.

The safety and warning instructions contain the following information:

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**SIGNAL WORD**: **Type and origin of the danger.** Possible consequences of the danger!
- Measures to avoid the danger.

---

The signal word indicates the severity of the potential danger unless the preventive measures are taken:

**DANGER** means: Imminent danger of serious injury or death.

**WARNING** means: Possible danger of serious injury or death.

**CAUTION** means: Direct danger of minor/significant injury.

**NOTICE M**eans: Direct or possible risk of property damage due to an adverse event/state.

If you see these signs, ensure you observe the described measures to prevent possible hazards and/or damage.

### Other symbols used in this documentation

In addition to the safety instructions, the following symbols are used:

This symbol indicates practical and useful tips for handling your ventilation system.

Before each step, any additional **tools and materials** required for the activity are listed.

**Red bar** over a graphic: graphic shows the interior wall.

**Blue bar** over a graphic: graphic shows the exterior wall.

▶ **Action required:** This prompts the user to perform a specific action.

⇨ **Check the results:** This requires you to check the results of the action you have performed.

**Action focus:** To be taken into account in the corresponding assembly step.





## 1.2 Safety instructions

The installation instructions are part of your iV-Compact ventilation device and must be available at all times (see www.inventer.de/downloads). When handing the system to a third party, the information regarding access to the installation instructions must be handed over also.
Before performing any work on the unit/system, read the installation instructions carefully and observe all notices that refer to the installation process in this section.
Also note the safety instructions that precede the described handling instructions. Non-observance of safety instructions could result in injury and/or property damage.

### Intended use

The ventilation device is used to ventilate living rooms, rooms similar to living rooms and other areas where people spend time, e.g. living rooms and bedrooms, offices, basements and attics. It is controlled via an inVENTer system control unit (hereinafter also referred to as the "controller").

**General information**

- Always observe the relevant standards, regulations and guidelines when installing the equipment / system. In particular also applicable building regulations, fire safety regulations and accident prevention regulations of the employers' liability insurance association.
- Use the equipment/system exclusively for the applications that are described in this documentation and only in conjunction with components that are recommended, authorised and described by inVENTer GmbH in this documentation.
  Changes or modifications to the equipment/system are not permitted.
- Your ventilation system is exclusively designed for use in ambient temperatures between -20 and 50°C.
- Trouble-free and safe operation of the equipment/system depends upon proper transportation, proper storage and installation as well as careful operation and maintenance.
- The ventilation device works according to the principle of cross-ventilation. Interior doors must not be sealed airtight. Provide suitable air transfer measures to create a room network.

**Installation and assembly**

- **CAUTION: The system may only be installed by qualified personnel.**
  Before starting work, you should have a project plan showing the number of ventilation devices, the location of the ventilation devices, the ventilation principle (cross ventilation, single room ventilation, extract ventilation) and the associated controllers. The exact positioning of the individual units and control units must be checked at the installation site and, if necessary, adapted to the local conditions with the involvement of the responsible planner or user.
  The ventilation device is installed in an appropriate place in the upper wall area.

- **WARNING:** For joint operation with fireplaces, safety measures must be taken to prevent a negative pressure from developing in the building.
  The responsible chimney sweep and/or building planner decides which measures need to be carried out.

- **NOTICE:** The ventilation device is not suitable for drying out buildings. Do not put it into operation until the construction work has been completed.
- **NOTICE:** Contamination of components, e.g. by plaster residue, will damage the components! Seal the ventilation device/air outlets of the ventilation device so they are dust-tight throughout the construction work. Do not remove any thread locks present until final assembly.
- **NOTICE:** Do not install the device near indoor air thermostats or in the immediate vicinity of/ above sensitive pictures or furniture.
- **NOTICE:** Observe the specified minimum clearances on both sides of the wall and frontally to prevent unintentional mixing of different air flows and to ensure access to the device and its components. A minimum distance of 1.2 m must be maintained between adjacent air openings. (🕮, page 14).
- **NOTICE:** The wall sleeve must be integrated into the building envelope (airtightness level) in accordance with the current state of the art, taking into account construction-related and physical specifications ("RAL installation"). Material for this is must be provided on site.
- **NOTICE:** When bringing the wall construction up to the wall sleeve, observe the necessary blocking levels to avoid interrupting the composite thermal insulation system. Consult your planner before installation if you are at all uncertain!
- **NOTICE:** Install the wall sleeve with a slope of 1 - 2° to the exterior wall to ensure the drainage of any condensate that may form.
- **NOTICE:** Do not install the ventilation device in places where direct contact with water spray is possible. Observe the specifications of VDE 0100 when choosing the installation location.
- **NOTICE:** Store components standing outside the wall sleeve and do not throw them to avoid damage and breakage of the components, especially the thermal accumulator.
- **NOTICE:** In order to avoid algae growth around the external terminations, the instructions for installation must be followed exactly (apply all sealing tapes!). We recommend a biocidal pre-treatment/water-repellent pre-treatment of the façade surface around the external terminations. Consult your planner about this!
- **NOTICE:** When installing components in (exterior) walls with insulation, use insulation wallplugs to ensure that the components are securely fastened. Insulation wallplugs are not included in the scope of supply, they are available as an option!
- **NOTICE:** Only use permanently elastic sealing compound suitable for outdoor use to seal the joints at all external edges!
- **NOTICE:** The unit has scratch-sensitive plastic surfaces. Do not touch the components with oily and/or dirty hands. Avoid contact with sharp or pointed objects, e.g. rings.

**Cabling / connection of the reversible fan**

- **DANGER: The system's electrical connections may only be carried out by qualified electricians.**
- **NOTICE:** The ventilation device operates with protective extra-low voltage. The fan of the ventilation device must not be connected directly to the 230 V power network.
- **NOTICE:** Laying cables whose sheathing is not resistant to plastering under plaster leads to short circuits and cable fire! Lay cables without a plaster-resistant cable sheath in the conduit.
- **NOTICE:** The use of too small a cable cross-section leads to too great a voltage drop and/or contact is not guaranteed! For the fan BUS, use a cable cross-section of at least 0.75 mm² (stranded wire). Use wire ferrules with collars to connect the strands.





- **NOTICE:** When using several ventilation devices controlled by several controllers, you must ensure that the ventilation devices are synchronised with each other (see installation instructions for controllers).
  You should connect all controllers via a mains fuse in the house distribution board.

If your unit has a fault, contact your nearest distributor or our technical service.

Any kind of use other than the intended use will exclude all liability claims.

## Improper use

Any use that is not mentioned in the intended use section, is considered to be improper.

Especially do not install / operate the unit in areas which the following may occur:

- Environment containing strong oils or lubricants.
- Flammable, aggressive and corrosive gases, liquids or vapours.
- Extreme dust exposure.
- Ambient temperatures outside the range of -20 to 50 °C.
- Prevent obstacles that hinder access to, or removal of, components of the ventilation device.

The ventilation device is not to be used as an opening to the outside and/or for the purpose of smoke removal/smoke extraction in basements without windows.

## Qualified personnel

The equipment/system may only be set up, operated and cleaned in conjunction with this documentation and the documentation for the controllers.

**Installation, electrical connection and commissioning** of the equipment/system may only be performed by qualified personnel. Qualified personnel within the meaning of the safety notices in this documentation are persons who are authorised to install, put into operation and identify equipment, systems and circuits in accordance with established safety procedures.

## Conformity

The ventilation device complies with the technical safety requirements and standards of electrical appliances for domestic use. It conforms to current European Union and United Kingdom directives. The full text of the EU declaration of conformity is available at the following Internet address: https://www.inventer.de/downloads/ .

# 2 System overview: iV-Compact ventilation device

The iV-Compact ventilation system is designed to ventilate living rooms and bedrooms in single- and multi-family houses, hotels and guest houses, rooms in public facilities and work rooms in office buildings. It is suitable for installation in new buildings as well as for retrofitting in old buildings. This is a special solution for buildings with very thin external walls, e.g. if no insulation system is fitted due to structural conditions.

The ventilation device consists of a wall sleeve in which the thermal accumulator insert is mounted. A lockable inner cover conceals the iV-Compact discreetly from the interior. The filter integrated into the inner cover ensures that no pollen or dust from outside enters the interior. Outside, a freely selectable closure conceals the components of the ventilation device.

The thermal accumulator insert includes a ceramic thermal accumulator and inVENTron, two guiding vane elements and the Xenion reversible fan. The guiding vanes on both sides of the fan serve to straighten the air flow and ensure more efficient flow through the thermal accumulator. The unique geometry of the Xenion reversible fan effectively reduces sound transmission.

The standard length of the wall sleeve is 230 mm. For thicker walls, a wall sleeve with a length of 285 mm or 495 mm can be ordered. Both versions can be shortened on site.

The ventilation device is controlled via one of the following inVENTer system controllers[1)]:

- Pure
- sMove
- inVENTer Connect[2)]
- MZ-Home

## Components

- Inner cover incl. ISO coarse 60 % filter
- Thermal accumulator insert (thermal accumulator and inVENTron Slim)
- Wall sleeve
- Exterior closure
- Pollen and activated carbon filter (optional)
- Sound and wind protection accessories (optional)

## Versions

iV-Compact ventilation devices with Compact or
Compact XL driving rain-proof weather protection hood (grey/white/anthracite), inVENTron Slim double air guide vane and ceramic thermal accumulator of 100 mm length. The ventilation device is particularly suitable for very thin external walls.

1) The operating instructions for the controller are not part of this documentation.

2) In connection with the inVENTer Connect controller platform, it is mandatory to use the Connect inner cover.





## 2.1 Construction

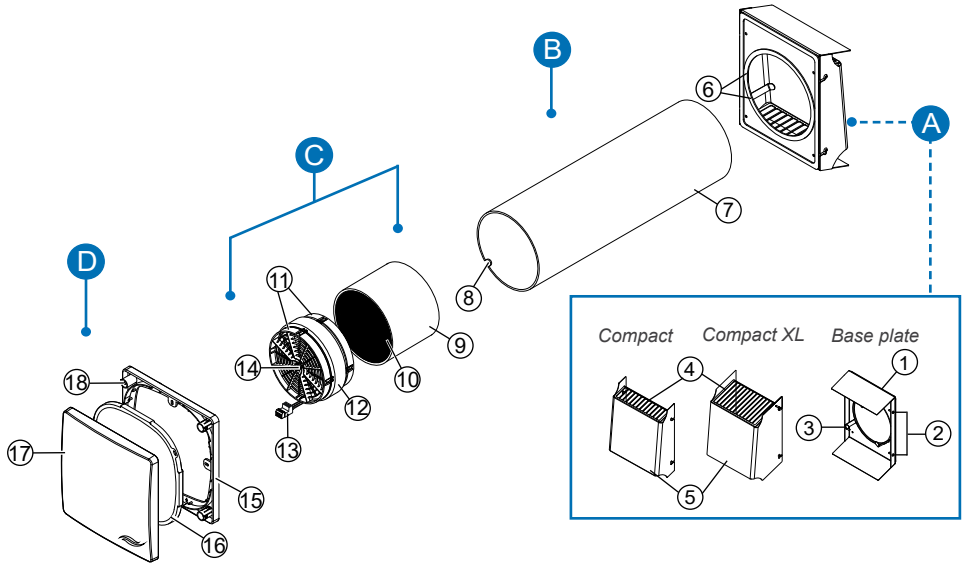



Figure 1: Overview of iV-Compact ventilation device

### Components

**A External termination:**
Compact/Compact XL weather protection hood

1 Weather protection hood base plate
2 Panel fixing screws (4x)
3 Thermal accumulator bracket
4 Protective grid
5 Weather protection hood cover
6 Sealing tape

**B Wall sleeve**

7 R-D160 wall sleeve
8 Recess for fan BUS (inside wall side)

**C Thermal accumulator insert**
(thermal accumulator incl. inVENTron®)

9 Thermal accumulator with insulation
10 Thermal accumulator handle
11 Slim guiding vane (2x)
12 Xenion reversible fan
13 Plug connection
14 Guiding vane knob

**D Flair inner cover**

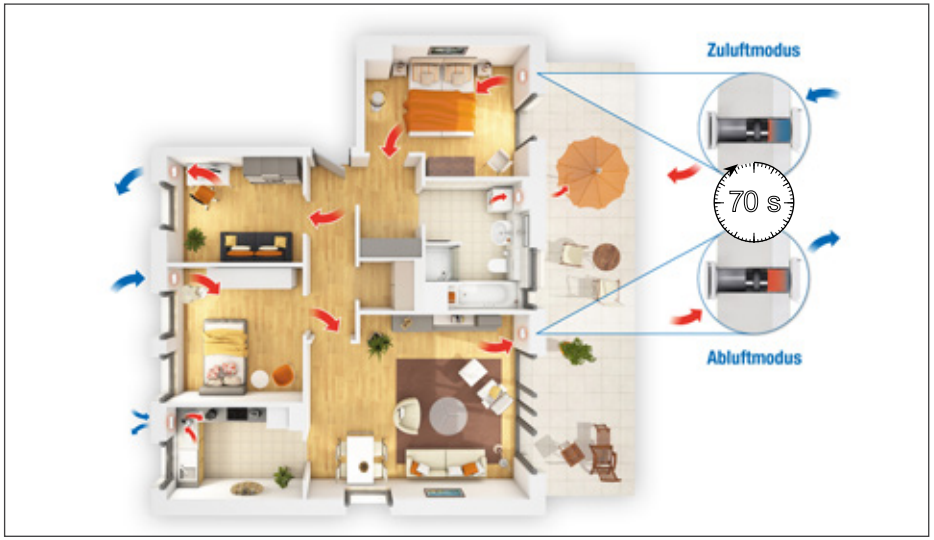
15 Inner cover base plate
16 ISO coarse 60 % dust filter[1)]
17 Inner cover panel
18 Spacer (4 x)

1) Pollen and activated charcoal filter options available

## 2.2 Function

### Decentralised ventilation

Decentralised ventilation systems combine exhaust and supply air and are based on the free movement of air between individual pairs of ventilation devices (cross-ventilation). The cross-ventilation principle allows the air to circulate throughout the entire residential unit and adequately ventilate even internal living spaces. Each ventilation device is installed in its own ventilation channel so as not to interfere with any other ventilation processes.




The decentralised iV ventilation systems with heat recovery are made up of ventilation devices arranged in pairs with a single supply of air. They operate on the principle of heat recovery by changing the direction of the fan. The integrated thermal accumulator charges itself with heat energy from the indoor air as it flows to the exterior (extract air). After 70 seconds, each reversible fan changes direction. When the fan changes direction, the thermal accumulator releases the stored heat energy into the incoming outdoor air (supply air).

For this principle to work correctly and to ensure pressure stability in the room, the supply air volume must always correspond to the exhaust air volume, i.e. at least two ventilation devices from the same product series are required. These are operated in pairs in push-pull mode: another ventilation device is assigned to the ventilation device that delivers supply air and at the same time removes used extract air from the interior to the outside.

The iV ventilation systems are operated intuitively with the matching inVENTer controllers. Different operating modes or air flows can be set individually.

The most important elements of the iV system are the ceramic thermal accumulator, the reversible fan, the guiding vanes for adjusting the air flow, filters for various requirements, a closable inner cover and an exterior closure. A control unit (controller) completes the system.





### iV-Compact ventilation device

The iV-Compact ventilation devices are used to provide ventilation for living rooms and bedrooms. They were specially developed for the requirement of very thin walls. An integrated ceramic thermal accumulator ensures optimum heat recovery.

The iV-Compact ventilation device is a ventilation device with simple airflow and works according to the principle of heat recovery by changing the direction of the fan.

Thanks to a high pressure build-up and the active speed control of the motor (integrated wind pressure stabiliser) in the Xenion reversible fan, the air flow in the system is kept almost constant even in the event of weather-related pressure fluctuations. Thus, the sensitivity of the air flow to pressure fluctuations corresponds to class S3 according to DIN EN 13141-8 (max. 30 % air flow deviation at ± 20 Pa).

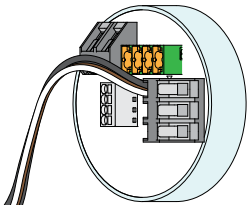
In order to ensure the full functioning of the ventilation device throughout the entire year, a temperature sensor is integrated into the Xenion reversible fan. This measures the temperature of the air flow an the fan. If the temperature at the fan falls below +5°C, the reversible fan is automatically switched to extract air mode for 4 cycles. This allows the thermal accumulator to heat up again and prevents cooling of the interior due to cold supply air. During this phase, the operating mode that has been set on the controller is ineffective. Subsequently, the controller switches the ventilation device back to the originally selected mode.

As standard, a washable ISO Coarse 60 % class dust filter is unobtrusively and easily accessible integrated into the inner cover. This filters coarse dust and allergenic particles (such as coarse flower pollen) from the air before they can enter the interior. The dust filters can be used regardless of the season.
Optional pollen and activated carbon filters are available for special requirements.

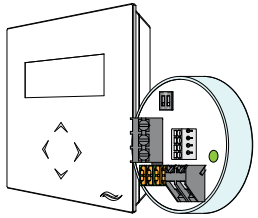
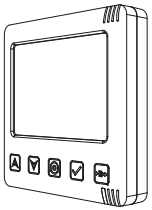
## 2.3 Control elements

The ventilation device is operated via an inVENTer system controller.
Depending on the controller, different operating modes and functions can be set.

### Basic controls

| Designation | Pure | sMove |
|---|---|---|
| |  |  |
| Number of controllable ventilation devices | Max. 4 | s4: Max. 4<br>s8: Max. 8 |
| Multi-zone control | No | No |
| Operating concept | • Switch | • Touch |
| Operating modes | • Heat recovery<br>• Unidirectional ventilation<br>• OFF (standard version only) | • Heat recovery<br>• Unidirectional ventilation<br>• OFF (standard version only) |
| Functions | • Pause function (1 h) | • Pause function (1 ... 8 h)<br>• Boost function (15 min) |
| Fan speed | 3 levels, predefined | infinitely variable,<br>4 levels predefined |
| Device communication | Cable | Cable |
| External interface | 1 potential-free switching contact per control module:<br>• Pressure switch (NC)<br>• Other sensors (NO) | 1 potential-free switching contact per controller:<br>• Pressure switch (NC)<br>• Other sensors (NO) |

### Multi-zone control

| Designation | MZ-Home | inVENTer Connect |
|---|---|---|
| |  <br>*Bedieneinheit & Clust-Air-Modul* |  <br>*Easy Connect e16* |
| Number of controllable ventilation devices | Max. 16<br>(excl. sensors) | Max. 16<br>(incl. sensors) |
| Multi-zone control | Max. 4 zones with max. 4 devices [plus sensors] per zone | Max. 4 zones; any number of devices per zone |
| Operating concept | • Touch<br>• Weekly timer | • Touch<br>• Ventilation profiles (time-controlled)<br>• App control |
| Operating modes | • Heat recovery<br>• Unidirectional ventilation<br>• OFF | • Heat recovery<br>• Unidirectional ventilation<br>• OFF |
| Functions | • Pause function (1 ... 8 h) (zonal)<br>• Dehumidification function with variable air volume current | • Dehumidification function with variable air volume current and other demand ventilation<br>• Pause function (global and zonal)<br>• Boost function (global and zonal)<br>• Cellar ventilation<br>• Summer ventilation |
| Fan speed | 4 power levels, freely selectable | 4 power levels, freely selectable |
| Device communication | Cable | • 868 MHz wireless network<br>• Cable |
| External interface | 1 potential-free switching contact per Clust-Air module (max. 4)<br>• Pressure switch (NC/NO)<br>• Other sensors (NO) | Several different sensors (zone division and number of sensors per zone arbitrary) |

For detailed information, see the controller's installation and operating instructions.

# 3 Preparing for installation

## 3.1 Installation position

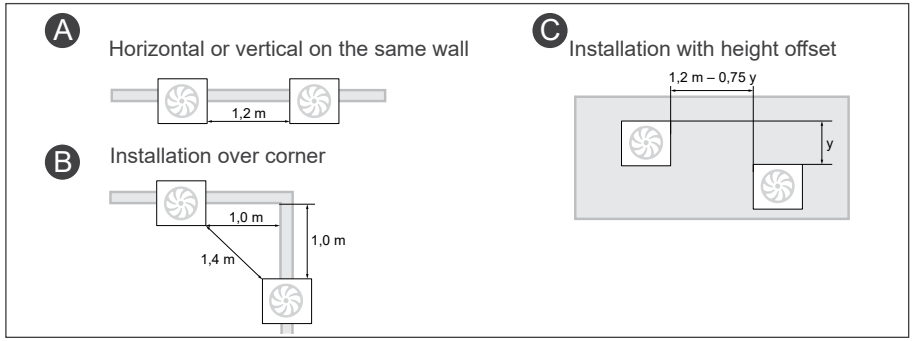
- The installation location can be derived from the position suggested by the ventilation planning. The exact positioning of the individual devices and control units must be checked on site and, if necessary, adjusted. **Consult the responsible planner about this!** For optimum function, it is recommended that the ventilation device is installed at the appropriate point in the upper wall area (e.g. 1.80 m from the upper edge of the finished floor [OKFFB]).
- Do not place the ventilation device near radiators, indoor air thermostats, sensitive furniture or above pictures.
- Do not install the device in places where direct contact with water spray is possible. Observe the specifications of VDE 0100 when choosing the installation location.

### Minimum distances of the wall opening for the ventilation device:

- Minimum distances to components / building elements on the interior and exterior wall:

**NOTICE:** Malfunction due to incorrect positioning of the ventilation device.
- Note insulation thickness and possibly shutters!
- Do not install near radiators!
- Observe minimum distance of 1.2 m to adjacent air openings!

1 between two ventilation devices (pair of units) operating in push-pull mode in a room to prevent an airflow short circuit:




2 to adjoining building components on the exterior wall (note insulation thickness / roller shutters):
Compact/Compact XL weather protection hood: 250 mm from borehole centre/centre axis

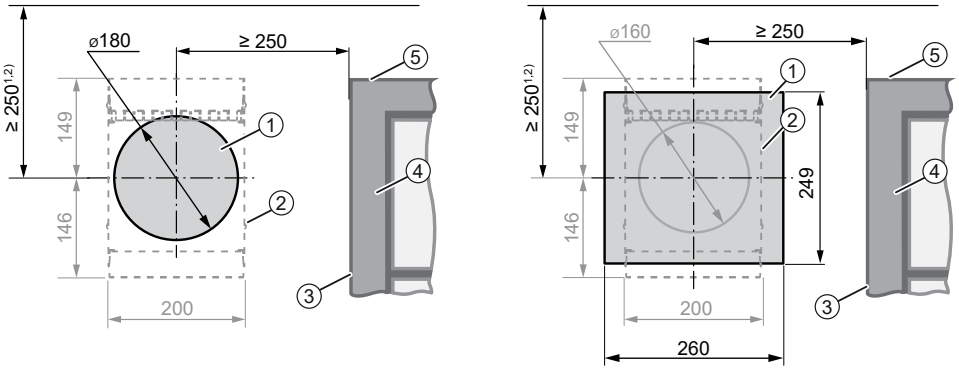
3 to adjoining components on the interior wall: 250 mm from borehole centre/centre axis

4 to frontally adjacent components: 300 mm for cleaning work





## 3.2 Position of the wall opening




*Position of wall opening* *Position of Simplex wall installation system*

Figure 2: Dimensional drawing of the iV-Compact wall opening (exterior view)

1 Wall opening (Fig. 2, left)
Simplex wall installation system (Fig. 2, right)
2 Contour of Compact weather protection hood[3)]
3 Outer edge of reveal (insulation with plaster)
4 Door/window frame
5 Bottom edge of reveal (lintel)[4)]

1) Min. distance to adjoining components on the interior wall
2) Ensure a min. distance to adjoining building components on the exterior wall
3) Recommendation: Attach the weather protection hood at lintel height
4) Note insulation thickness and any roller shutters

## 3.3 Dimensions

| Designation | Depth/length [mm] | Width [mm] | Height [mm] |
|---|---|---|---|
| Wall opening for wall sleeve | Wall thickness[1)] | Diameter 180 | |
| R-D160x230 wall sleeve (285 / 495) | 230 (285 / 495) | Diameter 160 | |
| Compact weather protection hood | 80 | 202.5 | 276 |
| Compact XL weather protection hood | 129 | 202.5 | 295 |
| Flair V-233x233 inner cover | 61[2)] | 233 | 233 |

1) with render, insulation, masonry and plaster
2) Open

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## 3.4 Sectional drawings of the ventilation device

### Compact version

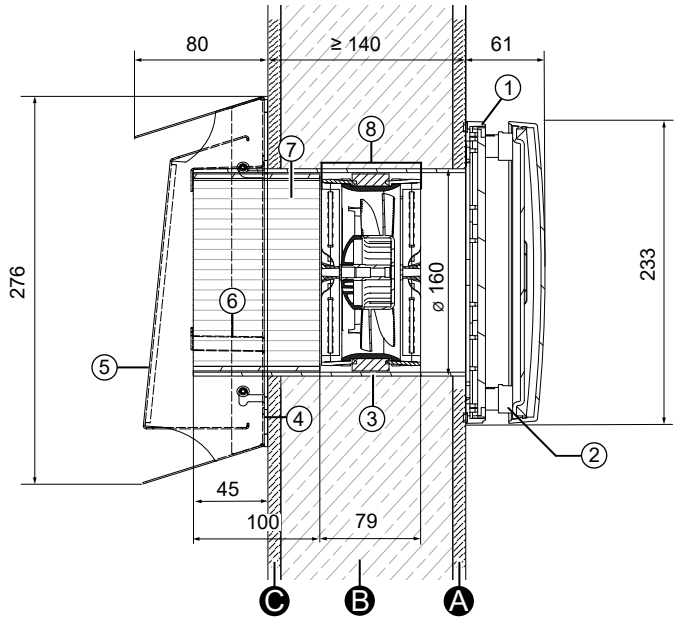



Figure 3: Sectional drawing of the iV-Compact ventilation device with Compact weather protection hood

A Interior plaster/ interior structure
B Masonry
C Render

1 Inner cover base plate incl. filter
2 Inner cover panel
3 R-D160 wall sleeve
4 Weather protection hood base plate
5 Weather protection hood cover
6 Bracket
7 Thermal accumulator
8 inVENTron:
Xenion reversible fan embedded in Slim double guiding vane

### Compact XL version

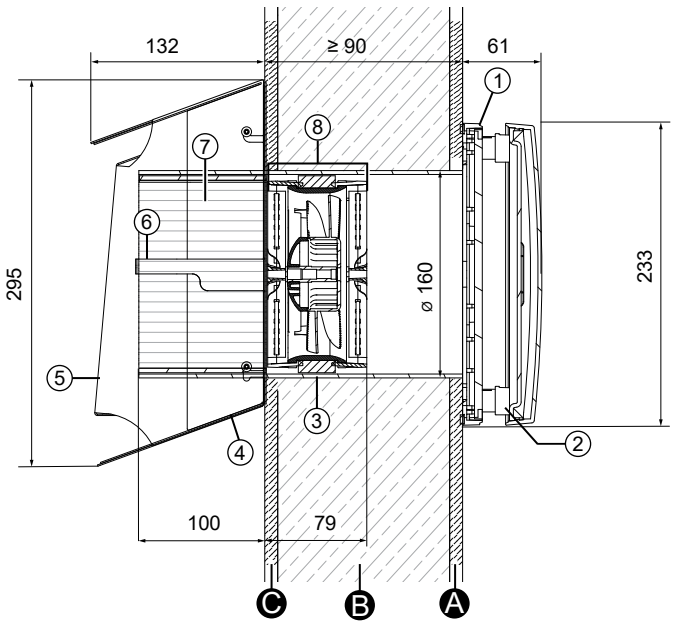


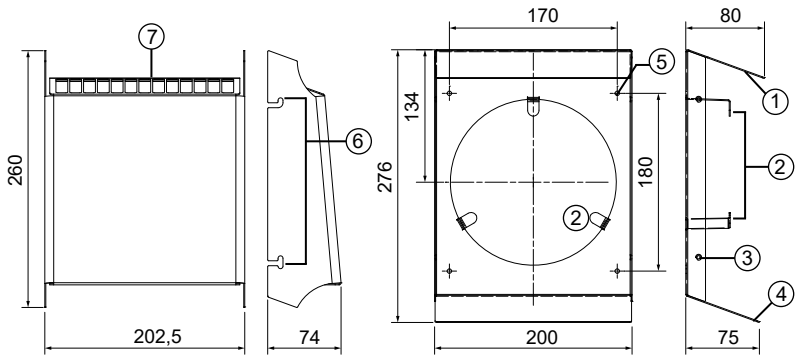

Figure 4: Sectional drawing of iV-Compact ventilation device with Compact XL weather protection hood

A Interior plaster/ interior structure
B Masonry
C Render

1 Inner cover base plate incl. filter
2 Inner cover panel
3 R-D160 wall sleeve
4 Weather protection hood base plate
5 Weather protection hood cover
6 Bracket
7 Thermal accumulator
8 inVENTron:
Xenion reversible fan embedded in Slim double guiding vane

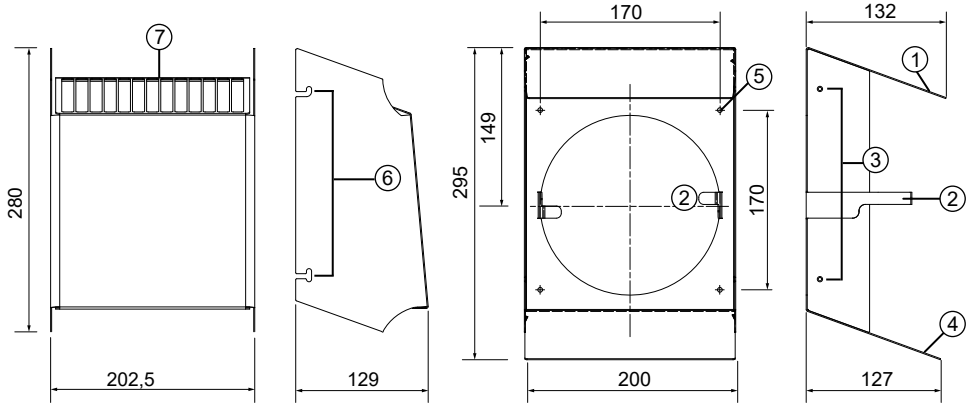
## 3.5 Dimensional drawings of components

### Compact weather protection hood exterior closure




*Compact weather protection hood cover* | *Compact weather protection hood base plate*

### Compact XL weather protection hood exterior closure




*Compact XL weather protection hood closure* | *Compact XL weather protection hood base plate*

Figure 5: Dimensional drawing Compact (top) and Compact XL (bottom) weather protection hood

1 Top drip edge
2 Thermal accumulator bracket
3 Cover fixing boreholes (4x)
4 Bottom drip edge
5 Fixing borehole exterior wall Ø 8 mm, min. 50 mm deep (4 x)
6 Fixing screws for guides (4x)
7 Protective grid

### Flair inner cover

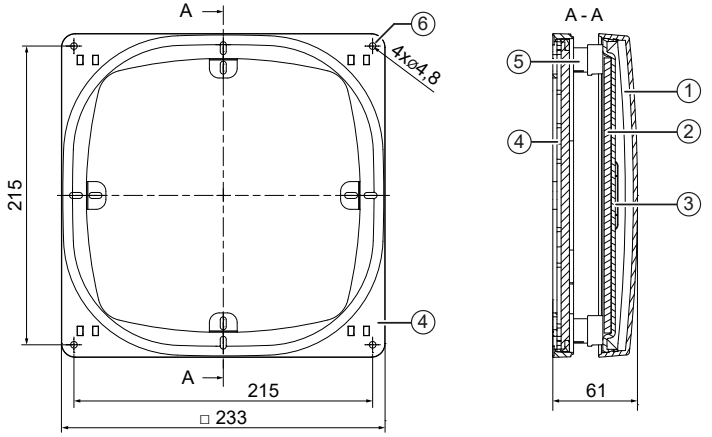



Figure 6: Dimensional drawing of Flair V-233x233 inner cover

1 Inner cover panel
2 Sound insulation insert (optional)
3 IB Flair V-233x233 retaining plate
4 Inner cover base plate
5 Spacer (4x)
6 Interior wall fixing borehole

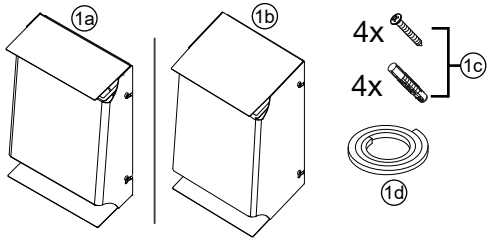
# 4 Installation and assembly

Read the section carefully before installation to avoid installation errors. The installation and connection of the ventilation system must be carried out by qualified personnel.

## 4.1 Check the scope of supply

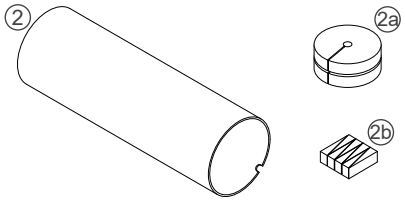
Check the delivery for completeness and transport damage upon receipt using the delivery note. Report missing items immediately.

These assembly instructions describe the standard version of the product.
For the scope of supply of the wall sleeves for integrating the Connect controller platform and the interior closure variants, please refer to the separately available installation instructions for the respective system component.

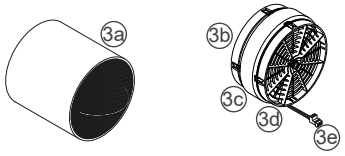



**1 Weather protection hood**
1 a: Compact WPH
1 b: Compact XL WPH
1 c: Exterior wall fixing elements
1 d: Sealing tape

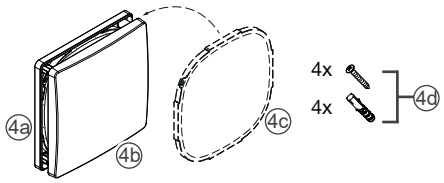
The weather protection hood Compact and Compact XL are available in different colours and must be ordered according to the desired colour.




**2 R-D160 wall sleeve**
2 a: Styrofoam discs
2 b: Mounting wedge set




**3 iV-Compact thermal accumulator insert**
3 a: Insulated thermal accumulator
3 b: Slim guiding vane (16 mm)
3 c: Xenion reversible fan
3 d: Slim guiding vane (16 mm)
3 e: BUS plug connection




**4 Flair inner cover**
4 a: Inner cover base plate
4 b: Inner cover panel
4 c: ISO coarse 60 % dust filter
4 d: Inner cover fixing material

WPH = Weather protection hood





## 4.2 Create wall opening

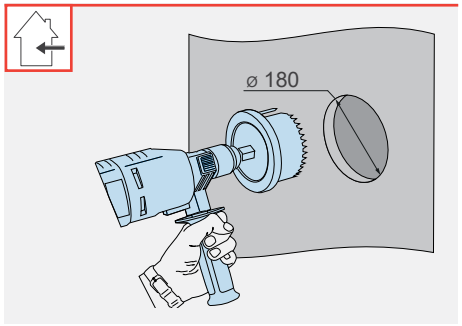
**CAUTION**
**Falling masonry when creating the wall opening**
can lead to physical injuries and /or damage to property!
- Install protection against falling masonry on building exterior.
- Remove objects from the immediate vicinity of the building's exterior.

In new buildings we recommend the use of the optional Simplex D160 wall installation system or D180 wall installation block, or Woodplex for timber post and beam construction.

Observe the minimum distances and the installation position of the ventilation device.
Consult your planner before installation if you are at all uncertain!

### Create the wall opening through core drilling

Drill with core drill attachment or milling drill Ø 180 mm,
additionally if flush-mounted inner cover is installed: chisel



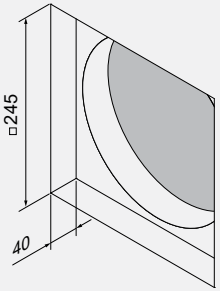

**Requirements:**
- The masonry must be dry and in a load-bearing condition.
- No load-bearing elements in the position of the drill hole.

► Create a wall opening, Ø 180 mm, at the installation location of the ventilation device.

The wall sleeve for the ventilation device is installed with a slope of 1 - 2° to the outside. Alternatively, the borehole can be drilled with a slope.

⇨ The wall opening for the ventilation device has been created.

Additionally for installation of the ventilation device with flush-mounted inner cover:



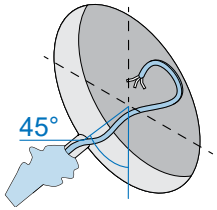

► Create an opening for the flush-mounted housing on the interior wall, centred on the core drill hole,for installing the inner cover.
Dimensions: 245 x 245 x 40 (W x H x D, mm)

## 4.3 Laying the cables to the wall opening of the ventilation device

**DANGER**
**Exposed electrical components.**
Electric shock and injury due to live components (230V, 50Hz)!
- Installation and connection must only be performed by qualified and trained personnel.

Once the wall opening has been created, the cables necessary for operating the ventilation system are laid to the wall opening for the ventilation device. They connect the valve gate of the ventilation device with the control components and thus establish signal transmission and/or voltage transmission between the controller and the Xenion reversible fan.

**NOTICE: Cable to the wall opening of the ventilation device not laid.** No connection of the reversible fan possible!
Routing of the cables to the wall opening for the ventilation device must be done in this installation step. The routing of the connecting cables to the Connect inner cover or between the controller and the Xenion reversible fan is not part of this documentation. For more information, see the installation instructions for the corresponding controller.




### Cable to the wall opening of the ventilation device

The following cables, depending on the control unit, are laid to the wall opening for the ventilation device:

| | Use | Cable type | Cable origin |
|---|---|---|---|
| **Pure** | Operating voltage fan and device communication | Stranded cable 6 – 16 V DC, E.g.: LiYY 3x0.75 mm² | Pure control module |
| **sMove** | | | sMove operating unit |
| **MZ-Home** | | | Clust-Air module CAM17 in the ventilation zone |
| **inVENTer Connect (Connect inner cover)** | Connect inner cover operating voltage | Installation cable 230 V AC, e.g.: NYM-J 3x1.5 mm² | House distribution, ventilation sub-distribution |
| | Device communication (only if the system components communicate by cable [otherwise radio]) | RS485 data cable, E.g.: Type J-Y(ST)Y 2x2x0.8 mm² | Easy Connect e16 operating unit |





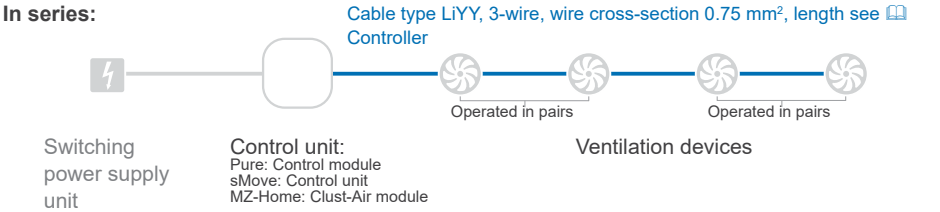
### Principle sketches for cable laying

The corresponding connection diagrams and assembly steps for installing the controller are not part of this documentation! They are to be taken from the installation instructions of the respective control unit.

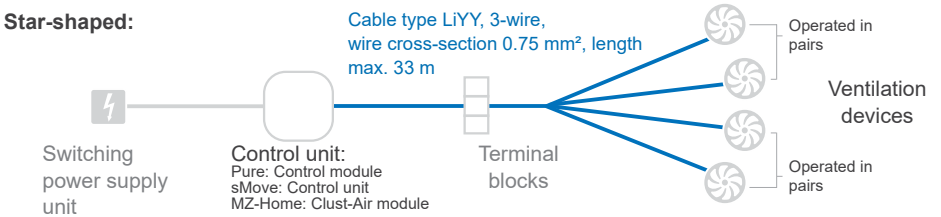
#### Pure, sMove and MZ-Home controllers

**6 – 16 V DC**
~~230 V AC~~

**In series:**



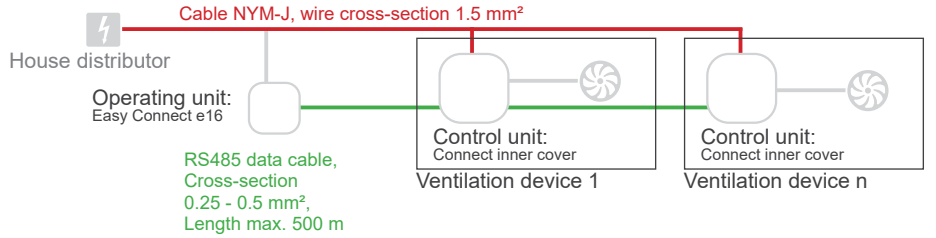

**Star-shaped:**



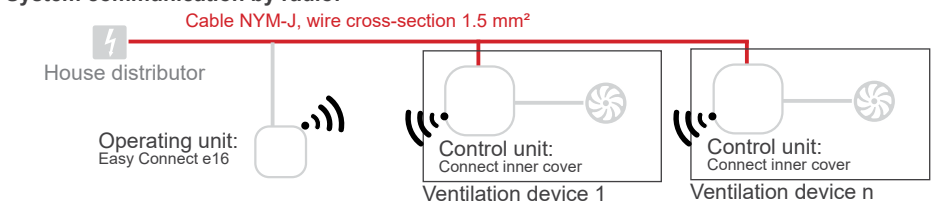

#### inVENTer Connect controller platform

~~6 – 16 V DC~~
**230 V AC**

**System communication by cable:**

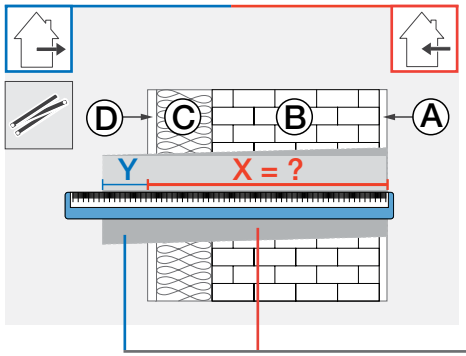



**System communication by radio:**



## 4.4 Installing the wall sleeve

Measuring tape, angle grinder, spirit level, non-pressing 2K polyurethane foam, cutter, mounting wedge set and Styrofoam discs

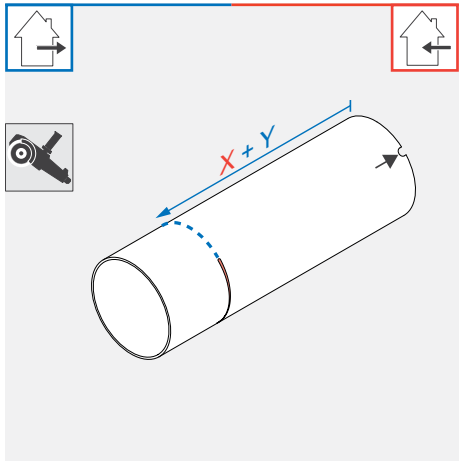



**Requirements:**
- The wall opening Ø 180 mm is finished.
- The cables to the wall opening of the ventilation device have been laid.

► Determine the exact wall thickness X:
D = Exterior rendering, incl. other superstructures if applicable.
C = Insulation, if necessary incl. air gap (optional)
B = Masonry, incl. relining if necessary
A = Interior plaster
Y = Protrusion of the wall sleeve in the outer area (depending on the installation situation exterior rendering

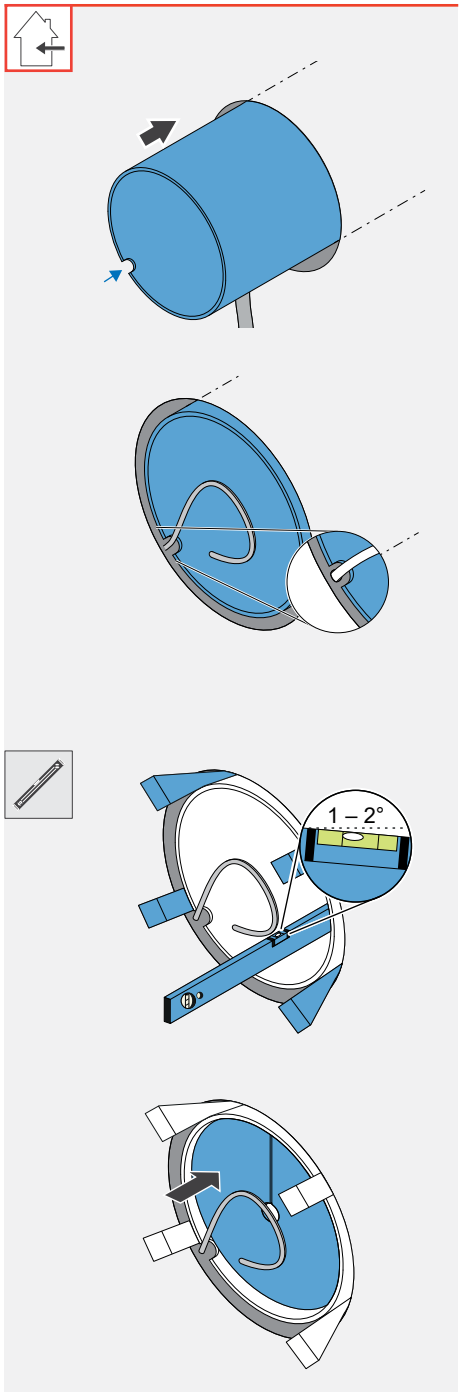
| | X in [mm] = | | Y in [mm] = |
|---|---|---|---|
| Inner cover / External termination variant | Flair Connect AP | Connect UP Undercover | |
| Compact | A + B + C[1] + D | A + B + C[1] + D - 38 | 45 |
| Compact XL | A + B + C[1] + D | A + B + C[1] + D - 38 | 100 |

1) Optional




► Cut the wall sleeve to the determined dimension **X + a protrusion of Y** on the exterior wall.
Be careful **not** to cut away the cut-out for the ventilation device connecting cable.

► Deburr the edges.




► Remove the Styrofoam discs from the wall sleeve.

► Insert the wall sleeve into the wall opening so it is flush with the interior wall.
Note the thickness of the plaster.

The recess for the connecting cables is located on the interior wall side and near the cables laid to the wall opening.

► Guide all connecting cables through the cut-out in the wall sleeve.

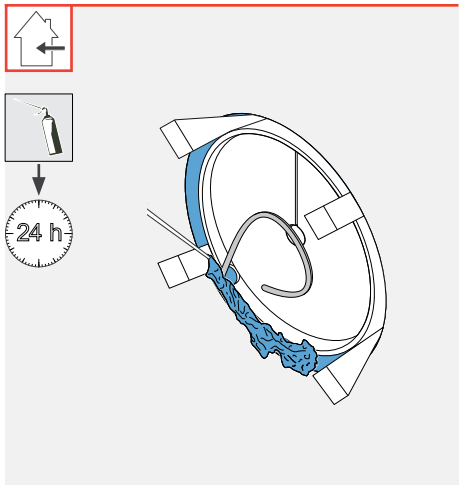
**NOTICE: Accumulation ofcondensation water in thewall sleeve**.
Damage to exterior wall and masonry and the building structure!
- Attach the wall sleeve with a slope of 1° to 2° to the exterior wall.

► Attach the wall sleeve inside and outside with the mounting wedges so that there is a slope of 1 – 2° to the exterior wall.

► Check the angle of the wall sleeve using a spirit level.

**NOTICE: Contamination of the wall sleeve by e.g. plaster residues** leads to damage of the components in the wall sleeve.
- Before foaming the free space between the wall sleeve and masonry, insert Styrofoam discs.

► Insert the Styrofoam discs into the wall sleeve from the inside and outside.



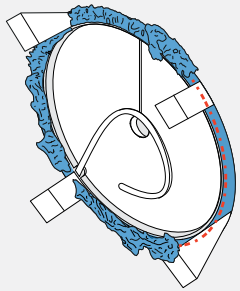

**NOTICE: Interruption of the thermal insulation composite system.**
Damage to the building structure!
- During installation, replace the wall structure as far as the wall sleeve and if necessary guide the housing (flush-mounted inner covers) towards it.
- Observe the necessary barrier levels.

► Foam-seal the gap between the wall sleeve and masonry all the way around with non-pressing 2K polyurethane foam.

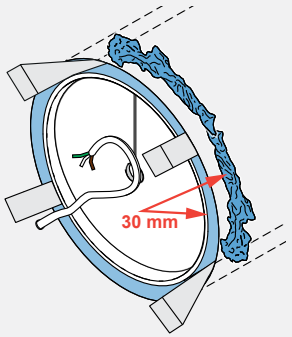
**NOTICE:** Connect / Undercover inner covers: Leave a 30 mm gap behind the interior wall edge of the wall sleeve, otherwise the housing can no longer be inserted.

Dependingon the **inner cover** to be used, cut off the excess, hardened mounting foam and protruding mounting wedges as follows:

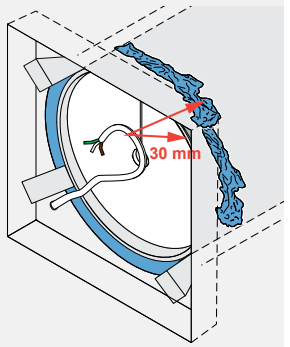
**Flair:**
- Flush with the interior wall,
- Flush with the exterior wall



**Connect AP:**
- 30 mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall




**Connect UP/ Undercover:**
- 30 mm behind the interior wall edge of the wall sleeve (gap)
- Flush with the exterior wall




Do **not** damage the connection cables on the inside wall.

⇨ The wall sleeve is installed.

## 4.5 Installing the weather protection hood's external termination

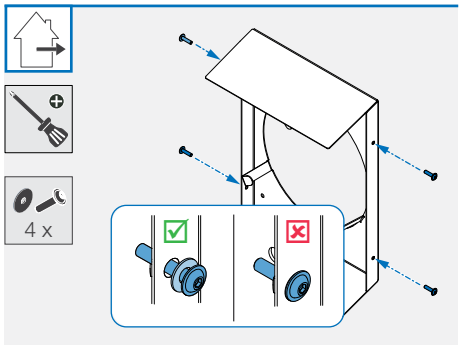
The following describes the installation of the Compact weather protection hood.
The installation of the Compact XL weather protection bonnet is carried out in the same way.

**NOTICE**
**Installation on unfinished exterior walls** leads to damage to the exterior wall!
- Only install the external termination once the exterior wall is finished and has fully dried.

**NOTICE**
**Penetration of condensation water and/or algae accumulation around the weather protection hood**
leads to damage to the masonry/exterior wall and/or discolouration of the façade!
- Secure all sealing tapes on the weather protection hood circumferentially before installing the external termination.
- Before installation, carry out a biocidal pre-treatment/water-repellent pre-treatment of the surface around the weather protection hood (consult your planner regarding this!).

### Fitting the weather protection hood

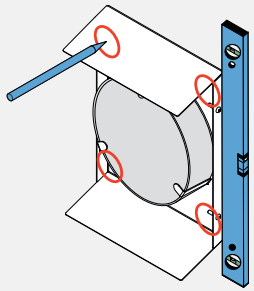
Spirit level, pen, power drill with Ø 8mm drill bit, cordless screwdriver, rawl plugs (wallplugs for insulation for insulated exterior walls), permanently elastic external sealant, sealing tape, screws




**Requirements:**
- The exterior wall is completed and even.
- The wall sleeve is installed.

► Remove the Styrofoam discs from the wall sleeve on the exterior wall side.

► Loosely screw the four side screws including captive washers from the outside into the four threaded holes (blue arrows) on both sides of the weather protection hood base plate.



**NOTICE: Damage to masonry/exterior wall due to incorrectly aligned drip edges!**

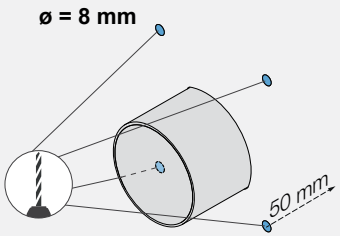
- Make sure that the slopes of both drip edges are directed towards the floor.

► Slide the base plate onto the projecting wall sleeve.

Alignment of the drip edges: the slope leads to the ground.

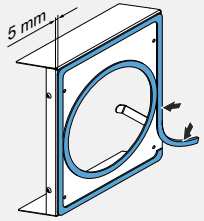
► Level the weather protection hood base plate using a spirit level.

► Mark the four drill holes.




► Drill the four holes with Ø 8 mm, min. 50 mm deep.

Do not apply the sealing tape until immediately before installing the base plate. This prevents the sealing tape from swelling too much and makes installation easier.

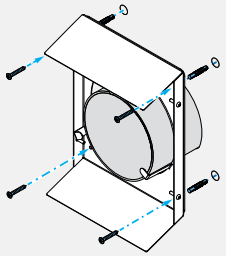



► From the exterior wall side, attach the 9-mm sealing tape circumferentially flush with the base plate:
- flush with the opening for the wall sleeve
- with 5 mm clearance along the outer edge.

The sealing tape must not protrude at the inner edge of the wall sleeve opening.

► Insert the rawl plugs into the boreholes.

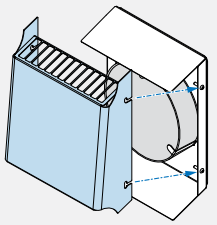
► Screw the weather protection hood base plate into the rawl plugs using 4 screws and washers.




When attaching the base plate of the Compact Compact XL weather protection hood to exterior walls with insulation or when using the wall installation block/Simplex wall installation system, use wallplugs for insulation for fixing purposes. These are not included in the scope of supply, they are available as an option.



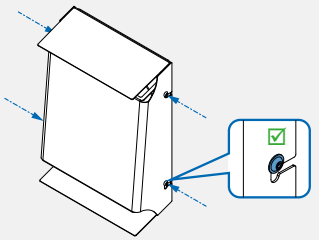




► Hook the panel of the weather protection hood from the front into the side screws (blue arrows) of the base plate.

The captive washers are located between the cover and the screw head to prevent damage to the coating on the panel.

► Engage the panel downwards.

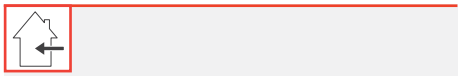


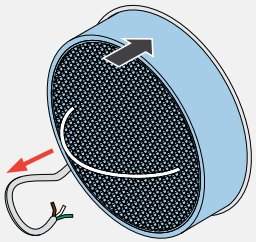
► Screw the panel firmly to the base plate with the side screws firmly to the base plate.

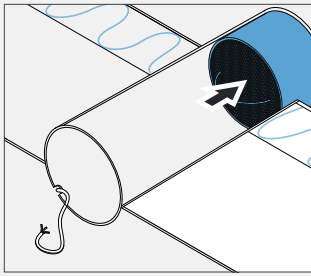
⇨ The weather protection hood is installed.

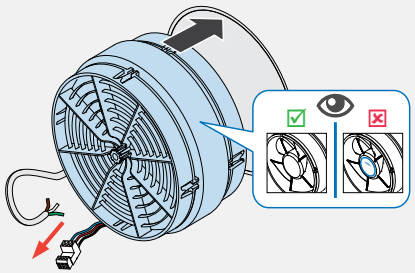
## 4.6 Inserting the thermal accumulator insert

**NOTICE**
**Do not store/stack the thermal accumulator insert outside the wall sleeve**
as doing so will damage the thermal accumulator's ceramic.
- Insert the thermal accumulator immediately after removing it from the packaging.









**Requirements:**
- The weather protection hood is installed.

► Remove the Styrofoam disc from the wall sleeve.

► Insert the thermal accumulator from the interior into the wall sleeve.
- The handle points towards the interior.
- The connecting cables protrude into the interior.

► From the interior, slide the thermal accumulator towards the exterior closure until it stops.

► Insert the inVENTron from the interior into the wall sleeve so that you can reach the plug-in connector.
- The fan side **WITHOUT** the device label is directed towards the interior.
- Observe the marking on the unit.

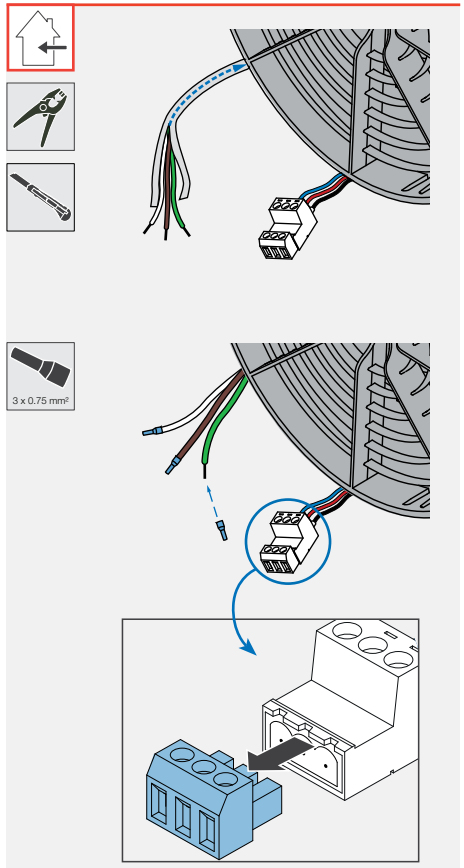
⇨ The thermal accumulator insert has been inserted.

## 4.7 Electrical connection of the reversible fan

The function of the iV-Compact ventilation system requires the simultaneous operation of two iV-Compact ventilation device in push-pull mode. This chapter therefore describes the connection of a pair of devices, not a single device.

**NOTICE**
**Incorrect electrical connection** will damage the fan motor!
- Always connect the ventilation device to the mains supply via a controller.
- Ensure the correct sequence of the wire colours so that the fans start.

Stripping tool, screwdriver, blade, wire end ferrules (3 x 0.75 mm²)




**Requirements:**
- The reversible fan is inserted into the wall sleeve.

► Shorten the fan BUS, 3-wire, to your determined wall thickness minus 140 mm.

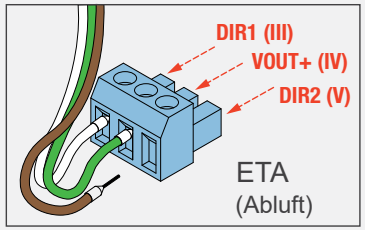
► Completely remove the cable sheath from the fan BUS.

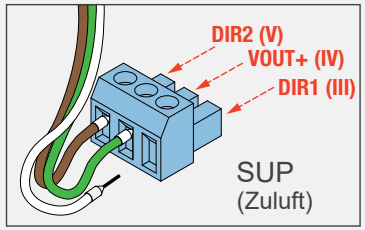
**NOTICE: Using the wrong wire end ferrules to connect the cables in the plug-in connector** will lead to a short circuit in the fan BUS!
- Use wire ferrules with collars to connect the wire strands.

► Press wire end ferrules onto the cables, cable cross-section 0.75 mm².

► Loosen the plug connections on the reversible fans of the two ventilation devices.

► Align the plug connectors on the ventilation devices so that the clamping screws on both are facing in the same direction (e.g. upwards).




In paired operation, one reversible fan starts in extract air mode, the other in supply air mode. This start direction is determined by the different connection sequence of the three fan BUS cables in the plug-in connector.

► Secure the three fan BUS cables in the plug-in connector:

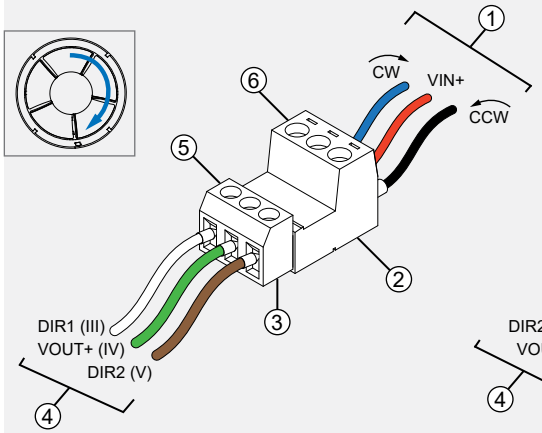
! For each pair of units, connect one plug-in connector with start direction extract air mode, the other fan with start direction supply air mode.

**Extract air mode:**
- (White) cable DIR (III) in the left pole.
- (Green) cable VOUT+ (IV) in the middle pole.
- (Brown) cable DIR2 (V) in the right pole.

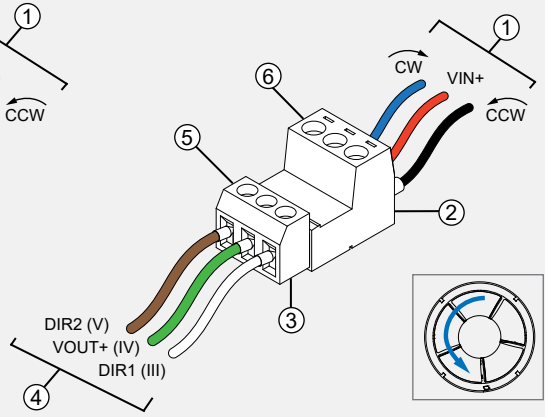
**Supply air mode:**
- (Brown) cable DIR2 (V) in the left pole.
- (Green) cable VOUT+ (IV) in the middle pole.
- (White) cable DIR1 (III) in the right pole.

► Reconnect the connected plug-in connector to the plug-in connector on the reversible fan.

*Start direction extract air mode:*




*Start direction supply air mode:*




- *The clamping screws of the plug connection are directed to the same side.*
- *The connections of the white and brown cable are swapped.*

1 Fan cable [to the fan]
2 Plug-in connector on the fan cable
3 Plug-in connector on the controller cable
4 Fan BUS [to controller]
5 Clamping screws on the controller plug-in connector
6 Clamping screws on the fan plug-in connector





| Plug-in connector on the fan cable | | Plug-in connector (cable coming from controller) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Start direction extract air | | | Start direction supply air | | |
| Terminal | Colour | Terminal | Meaning | Colour | Terminal | Meaning | Colour |
| CW | Blue | DIR1 (III) | Directional signal 1 | White | DIR2 (V) | Directional signal 2 | Brown |
| VIN+ | Red | VOUT+ (IV) | Operating voltage | Green | VOUT+ (IV) | Operating voltage | Green |
| CCW | Black | DIR2 (V) | Directional signal 2 | Brown | DIR1 (III) | Directional signal 1 | White |

⇨ The reversible fan is connected to the controller.

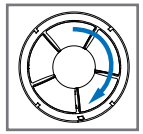
## 4.8 Check the function of the reversible fan

► Set the unidirectional ventilation operating mode (DL) on the connected controller. (see the controller's installation and operating instructions)

► Make sure that all reversible fans rotate in the direction appropriate to their connections.

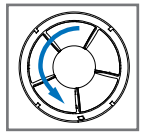
*Start direction extract air mode:*

Fan rotation: Clockwise



*Start direction supply air mode:*

Fan rotation: Counterclockwise

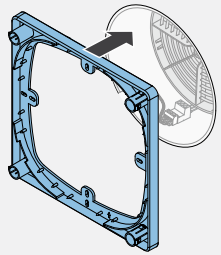


⇨ inVENTron is connected and installed.

## 4.9 Installing the inner cover

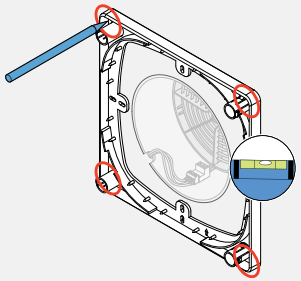
The installation of the internal termination variants is not part of this documentation!
It can be found in the separate installation instructions for the respective inner cover/the Connect controller platform.

Spirit level, pencil, drill with 6 mm bit, cordless screwdriver, rawl plugs



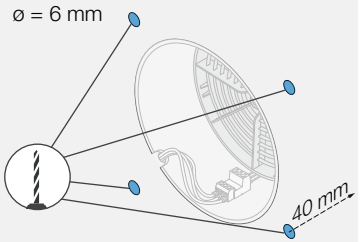
**Requirements:**
- The thermal accumulator insert has been installed.

► Place the inner cover base plate on the interior wall centred around the wall sleeve.

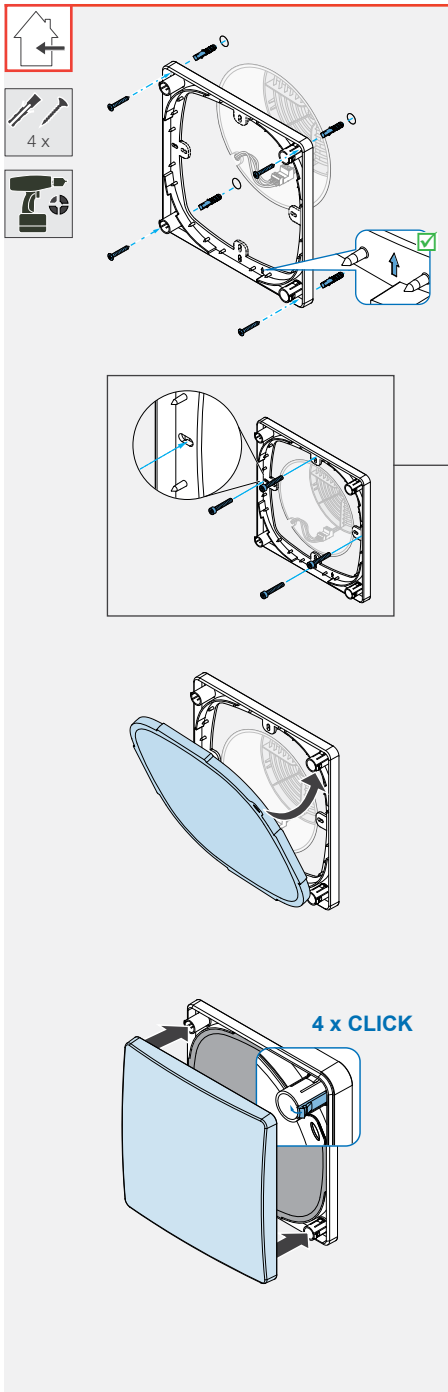


► Level the inner cover base plate using a spirit level.

► Mark the four corner drill holes.




► Drill the four holes with Ø 6 mm, min. 40 mm deep.




► Insert the rawl plugs.

► Screw the base plate into the rawl plugs with the screws.

! The position arrow on the base plate points upwards.

**TIP:** Optionally, the inner cover can be screwed to the tabs of the base plate, e.g. when using the wall installation block or the Simplex wall installation system. In this case, use rawl plugs suitable for insulation.

Ensure you install the dust filter properly to avoid a malfunction of the ventilation device.

► Insert the dust filter into the base plate.

! • Push the filter ring firmly between the fixing tabs and the inner edge of the base plate.

! • The tab on the filter ring faces the inside and is located in the cut-out provided in the base plate.

► Place the panel on the four spacers.

! The position arrows on the back of the inner cover panel point upwards.
**Check**: The inVENTer logo is located at the bottom right.

► Press the locking lugs inwards on the spacers.

► Slide the inner cover panel onto the spacers.

⇨ All spacers noticeably snap in.

⇨ The inner cover panel is fitted.

# 5 Technical data

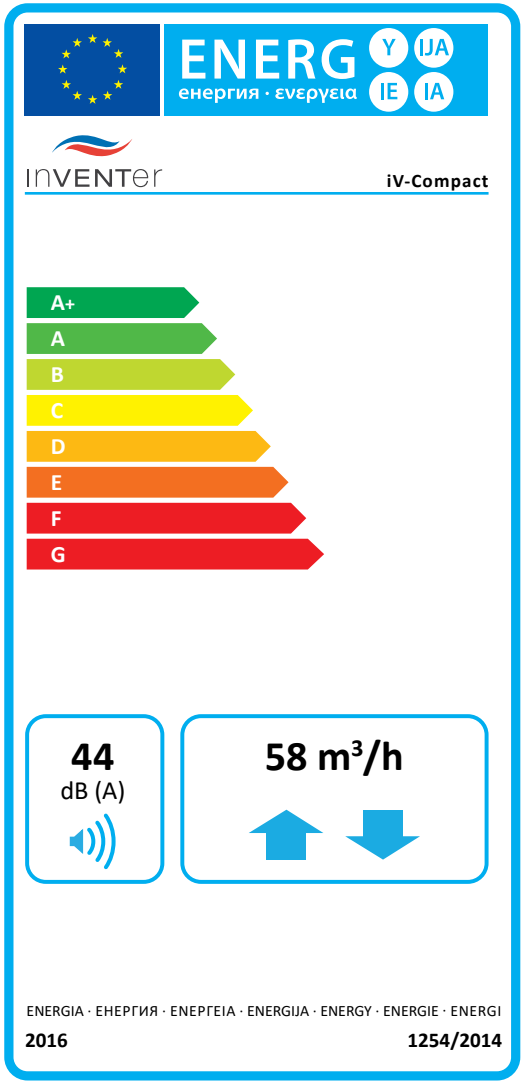
## 5.1 General specifications

| Feature | Value |
|---|---|
| Operating range [°C] | -20 – 50 |
| Extract air/outdoor air | Free from aggressive gases, dust and oils |
| Flow rate in reversed mode [m³/h] | 10.5 – 29 |
| Extract airflow [m³/h] (DIN EN 13141-8) | 21 – 58 |
| Sound pressure level, distance 2 m [dB (A)] | 12 – 37 |
| Standard sound level difference [dB] | 32 |
| Thermal efficiency of heat recovery (η'w) | 0.72 |
| Input voltage [V DC] | 6 – 16 |
| Power consumption [W] | 1 – 3 |
| Specific fan power input [W/(m³/h)] | 0.13 |
| Protection class (DIN EN 61140) | III |
| Type of protection (DIN EN 60529) | IP20 |
| Standard filter filter class<br>ISO 16890<br>DIN EN 779:2012 | <br>ISO coarse 60 %<br>G4 |
| Sensitivity of the air flow at ± 20 Pa (DIN EN 13141-8) | S3 |
| Electrical protection area (in accordance with VDE 0100) | Outside protection areas 0 – 2 |
| Frost protection | Automatic by reversing operation (down to -20 °C) |
| Wall thickness (incl. plaster) [mm] | > 90 |
| Wall opening [mm] | Diameter 180 |
| Wall sleeve | Diameter 160 |
| Conformity | CE UKCA |

## 5.2 iV- Compact energy label according to ErP Directive, Regulation 1254/2014

On the energy label you will find the following information from the product data sheet:

- Energy efficiency class (SEC class)
- Sound power level $L_{wa}$
- Maximum air flow (supply air)




| Demand-controlled | Manually controlled |
|---|---|
| Pure with sensors<br>sMove with sensors<br>Easy Connect e16<br>MZ-Home | Pure without sensors<br>sMove without sensors |
| A+ | A |

TECHNICAL DATA

## 5.3 Specifications according to ErP Directive, Regulation 1254/2014

### iV-Compact ventilation device, demand-controlled:

| iV-Compact product data sheet according to EU Ordinance 1254/2014 dated 11 July 2014 | | | | |
|---|---|---|---|---|
| Pt | Description | | Values | |
| a | Supplier | | inVENTer GmbH | |
| b | Model identifier | | iV-Compact | |
| c | SEC class / Specific Energy Consumption (SEC) [kWh/(m²a)] | Cold | | -81.498 |
| | | Average | A+ | -40.735 |
| | | Warm | | -17.383 |
| d | Ventilation type | | BVU | |
| e | Type of drive | | 2 | |
| f | Type of heat recovery system | | Regenerative | |
| g | Degree of temperature change ηt [%] | | 72 | |
| h | Maximum air flow rate [m³/h] | | 58 | |
| i | Electrical input power (incl. control) [W] | | 6 | |
| j | Sound power level Lwa [dB (A)] | | 44 | |
| k | Reference air flow [m³/h] | | 40.6 | |
| l | Reference pressure difference [Pa] | | 0 | |
| m | SEL [W/m³/h] | | 0.13 | |
| n | Control factor | | 0.65 | |
| o | Internal and external transfer [%] | | n. a. | |
| p | Mixing quota [%] | | n. a. | |
| q | Position and description of the indicator for filter change | | Control unit | |
| r | Instructions regarding controllable supply and extract air grilles on the façade (unidirectional ventilation devices only) | | None | |
| s | Internet address | | www.inventer.eu | |
| t | Sensitivity to pressure changes [%] | | 29.3 | |
| u | Airtightness between interior and exterior [m³/h] | | n.a | |
| v | Annual power consumption [kWh/(m²a)] | | 0.76 | |
| w | Annual savings Heating energy [kWh/(m²a)] | Cold | 83.39 | |
| | | Average | 42.63 | |
| | | Warm | 19.28 | |

### iV-Compact ventilation device, manually controlled:

| iV-Compact product data sheet according to EU Ordinance 1254/2014 dated 11 July 2014 | | | | |
|---|---|---|---|---|
| Pt | Description | | Values | |
| a | Supplier | | inVENTer GmbH | |
| b | Model identifier | | iV-Compact | |
| c | SEC class / Specific Energy Consumption (SEC) [kWh/(m²a)] | Cold | | -72.195 |
| | | Average | A | -34.715 |
| | | Warm | | -13.245 |
| d | Ventilation type | | BVU | |
| e | Type of drive | | 2 | |
| f | Type of heat recovery system | | Regenerative | |
| g | Degree of temperature change ηt [%] | | 72 | |
| h | Maximum air flow rate [m³/h] | | 58 | |
| i | Electrical input power (incl. control) [W] | | 6 | |
| j | Sound power level Lwa [dB (A)] | | 44 | |
| k | Reference air flow [m³/h] | | 40.6 | |
| l | Reference pressure difference [Pa] | | 0 | |
| m | SEL [W/m³/h] | | 0.13 | |
| n | Control factor | | 1 | |
| o | Internal and external transfer [%] | | n. a. | |
| p | Mixing quota [%] | | n. a. | |
| q | Position and description of the indicator for filter change | | Control unit | |
| r | Instructions regarding controllable supply and extract air grilles on the façade (unidirectional ventilation devices only) | | None | |
| s | Internet address | | www.inventer.eu | |
| t | Sensitivity to pressure changes [%] | | 29.3 | |
| u | Airtightness between interior and exterior [m³/h] | | n.a | |
| v | Annual power consumption [kWh/(m²a)] | | 1.79 | |
| w | Annual savings Heating energy [kWh/(m²a)] | Cold | 76.97 | |
| | | Average | 39.19 | |
| | | Warm | 17.72 | |

# 6 Scope of supply

## Standard components

All standard components are also available as spare parts. Further accessories and spare parts can be found in the separate accessories overview. Contact your local distributor to order components for your ventilation system.

| Component | Item number |
|---|---|
| iV-Compact | 1001-0194 |
| External termination: Weather protection hood including sealing tapes | |
| Compact weather protection hood, grey – RAL 9006 | 1508-0094 |
| Compact weather protection hood, white – RAL 9016 | 1508-0111 |
| Compact weather protection hood, anthracite – RAL 7016 | 1508-0180 |
| Compact XL weather protection hood, grey - RAL 9006 | 1508-0109 |
| Compact XL weather protection hood, white - RAL 9016 | 1508-0202 |
| Compact XL weather protection hood, anthracite - RAL 7016 | 1508-0203 |
| Wall sleeve with Styrofoam discs and mounting wedges | |
| Wall sleeve R-D160x230 | 1506-0051 |
| Wall sleeve R-D160x285 | 1506-0081 |
| Wall sleeve R-D160x495 | 1506-0068 |
| Thermal accumulator insert | |
| iV-Compact thermal accumulator insert | 1507-0016 |
| Inner cover | |
| Flair V-223x223 inner cover, white | 1505-0036 |
| Flair V-223x223 inner cover, white, incl. SDE | 1505-0037 |

1) In connection with the Connect controller platform, the inner cover is not part of the scope of delivery. The Connect inner cover is ordered as part of the Connect controller platform and replaces the Flair or Undercover manual inner cover.





# 7 Troubleshooting

## Troubleshooting

| Fault | Possible cause | Remedy |
|---|---|---|
| Fan failure | No electrical power. | Check fuse. |
| | Installation error. | Check wiring for correct polarity.<br>Check all connectors for correct fit.<br>Check the use of wire ferrules. |
| | Fan defective. | Replace fan. |
| | Controller/power supply defective. | Switching controller/power supply. |
| Fan does not switch off. | Faulty controller. | Replace controller. |
| Low flow rate | Panel closed. | Open panel. |
| | Fans are not operating in paired mode. | Connect the first fan in extract air mode and the second fan in supply air mode. |
| | The rotational speed of the fan is too low. | Increase the output level. |
| Noises | Foreign body in the fan. | Remove foreign body from the fan.<br>Clean the ventilation system. |
| | Thermal accumulator is not correctly positioned in the wall sleeve. | Slide the thermal accumulator out of the wall sleeve. Insert it again.<br>Slide the thermal accumulator into the wall sleeve as far as will go. |
| | The rotational speed of the fan is very high. | Set a lower output level on the controller. |
| Supply air is cold | Installation error. | Make sure that the device label on the Xenion fan is directed towards the thermal accumulator. |
| | | Check the connector plug on the controller. The connector plug must be sitting firmly in the connector housing. |
| | The controller is operating in unidirectional ventilation mode. | Select heat recovery mode on the controller. |

# 8 Guarantee and warranty

### Guarantee:

The guarantee covers all defects that were present at the time of purchase.

Failure to observe the intended use will invalidate all guarantee claims. Outside Germany, the national guarantee provisions of the country in which the system is sold apply. Please contact the distributor for your country.

### Warranty:

inVENTer GmbH provides a five-year warranty for all electrical components and the wall sleeve, as well as a 30-year warranty on the ceramic component of the thermal accumulator. This covers premature product wear.

### Guarantee and warranty claims:

Further information about guarantee and warranty claims is available at www.inventer.de/garantie.

In the case of a guarantee or warranty claim, contact your local distributor or factory representative. In all cases, please return the complete unit to the manufacturer. The warranty is an additional offering by the manufacturer and in no way affects the applicable law.

# 9 Service

### Complaint:

Check the delivery for completeness and transport damage upon receipt using the delivery note. Report missing items immediately, and at the latest within 14 days to your supplier, distributor or factory representative.

### Accessories and spare parts:

To order components for your ventilation device, contact your nearest dealer or our factory representative.

### Technical customer service:

For technical support, contact our service staff

+49 (0) 36427 211-333

service@inventer.de

In addition, product complaints/technical defects can be reported to our technical customer service or directly via the form on our website:
www.inventer.de/reklamation.

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**Version: 2.0 – 10/2022**