



InVENTER

iV-Twin+

Installation and Operating Instructions



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**Disclaimer**

The present documentation is the original installation and instruction manual. It must be passed on to the user (tenant, owner, property manager, etc.) after completion of installation.

The contents of this documentation have been checked for conformity with the hardware and software described. Nevertheless, deviations cannot be ruled out, so that no liability can be assumed for the complete conformity.

This documentation describes the functionality of the standard scope described. For reasons of clarity, the documentation does not contain all detailed information on all types of the product and can not cover every conceivable case of installation installation, operation as well as cleaning and maintenance.

The illustrations in this documentation may differ from the design of the product you have purchased slightly.

The function remains the same despite the difference in detail.

This documentation is updated regularly. Necessary corrections and appropriate supplements are always included in the following releases. For the most recent version please also visit

[www.inventer.de/downloads](http://www.inventer.de/downloads)

**Version** 1.1

# 1 User Informations and Safety Instructions

Thank you for choosing a inVENTer quality product!

This chapter will provide you with an overview of the basic safety precautions for safe and proper operation of your ventilation system.

## 1.1 User informations

### Safety and warning concept

The safety and warning notices in these mounting and operating instructions are uniformly structured and marked with a symbol on the left-hand side of the notice. A signal word in front of the text indicates the hazard level. When multiple hazard levels occur, the safety information for the highest level is always used.

The safety notes and warnings contain the following information:



**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 danger that occurs if it is not avoided:



**WARNING** means: Serious personal injury or death may be imminent.



**CAUTION** means: There is an immediate danger of slight/moderate personal injury.



**NOTE** means: Property damage due to an undesirable event or condition is imminent or possible.

If you see these signs, observe the measures described to avoid possible risks and damage.

### Additional Symbols in the Documentation

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



A **TIP** symbol provides practical and useful tips on how to handle your Ventilation system.



Prior the action sequences, additional tools and aids for the activities involved are enumerated if required.



**Red bar** on top of a graphic: Figure shows the inner wall.



**Blue bar** on top of a graphic: Figure shows the outer wall.

▶ **Instruction:** Prompts the operator to take action.

⇒ **Action result:** Prompts to check the result of the actions.

# 1.2 Safety instructions

The installation and operating instructions are an integral part of your ventilation system and must always be available. When the device/system is handed over to a third party, the installation and operating instructions must also be handed over. Before carrying out any work on the device/system, read the installation and operating instructions carefully and observe all the instructions for installation, operation, cleaning and maintenance given in this chapter. In addition, observe the safety instructions that precede the instructions described. Failure to comply with safety regulations can lead to personal injury and/or damage to property.

### Intended use

The ventilation unit is used for the ventilation of living spaces and similar residential spaces. They are controlled by a controller of the inVENTer system.

### General information

- When installing the device/system, observe the applicable standards, regulations and directives. In particular, the applicable building regulations, fire protection regulations and accident prevention regulations of the employers' liability insurance association.
- Only use the device/system in accordance with the applications described in this documentation and only in conjunction with the components supplied, recommended, approved by the inVENTer GmbH, and mentioned in this documentation. Modifications or alterations to the device/system are not permitted.
- Your ventilation system has been designed exclusively for use in ambient temperatures within -20 – 50 °C.
- Proper and safe operation of the device/system requires proper transport, proper storage and installation as well as careful operation and cleaning/maintenance.

### Installation and installation



- **CAUTION: The system may only be installed by qualified personnel.**
- Before starting the work, you should have at hand a project plan which shows the number of ventilation units, the position of the ventilation units, the ventilation principle (cross ventilation, single room ventilation, exhaust ventilation) and the corresponding controllers. The exact positioning of the individual devices and control units must be checked by the customer and, if necessary, adapted to the local conditions with the involvement of the responsible planner or the user. For optimum functionality, it is recommended that the unit be installed at an appropriate location in the upper wall area.
- **WARNING:** For joint operation with room air-dependent and not room air-independent fireplaces, safety measures must be taken to prevent the creation of negative pressure in the building. The responsible chimney sweep and/or building planner decides which measures are to be taken.
- **NOTE:** The ventilation unit is not suitable for drying out buildings. Do not put it into operation until the construction work has been completed. Seal the ventilation unit dust-tight during the entire construction work (Styrofoam disks enclosed).
- **NOTE:** Contamination of components by e.g. plaster residues leads to damage of the components! Close the ventilation unit/air outlets of the ventilation unit dust-tight during the entire construction work. Do not remove thread locks until final mounting.
- **NOTE:** Do not install the unit near room air thermostats or in the immediate surroundings/ above sensitive pictures or furniture.





- **NOTE:** Observe the specified minimum distances on both sides of the wall and on the front to avoid mixing different types of air and to ensure access to the unit and its components. A minimum distance of 1.2 m must be maintained between adjacent air openings. (📐, page 12 et seq.).
- **NOTE:** The wall sleeve must be integrated diffusion-open to the outside and diffusion-tight to the inside in compliance with structural specifications in the building shell (air-tightness level) ("RAL installation"). Material must be provided on site. After installing the wall sleeve, return the wall structure to the wall sleeve and observe the necessary locking levels to avoid interrupting the thermal insulation composite system. Consult your planner before installation!
- **NOTE:** Install the wall sleeve with a gradient of 1 – 2° to the outer wall to ensure that any condensate that may develop is drained off.
- **NOTE:** Do not install the ventilation unit in places where direct contact with splash water is possible. Observe the requirements of VDE0100 when selecting the installation location.
- **NOTE:** In order to avoid algae colonisation around the weather protection hood, the installation instructions must be followed exactly (attach all sealing strips!). We recommend biocidal presetting/water-repellent pre-treatment of the facade surface around the weather protection hood. Ask your planner!
- **NOTE:** When attaching components to (exterior) walls with insulation, use insulation dowels to ensure secure fastening of the components. Insulation dowels are not included with the product, they are optionally available!
- **NOTE:** To seal the joints on all external closures, only use a permanently elastic sealing compound suitable for outdoor use!
- **NOTE: The structure of the ventilation unit has a separation of the air volume flows in the wall installation sleeve. During and after installation, make sure that the vertical air volume flow separation is ensured over the entire system!**
- **NOTE:** The device has scratch-sensitive plastic surfaces. In particular, do not touch the inner cover with oily and/or dirty hands. Avoid contact with sharp or pointed objects such as rings.

#### Wiring / connection of the reversing fan



- **CAUTION: The electrical connection of the system may only be carried out by qualified electricians.**



- **NOTE:** If the ventilation system is operated with safety extra-low voltage, it has an operating voltage of 6 – 16 V DC. In this case, it must not be connected directly to the 230 V mains supply, but must always be connected and operated via a controller.
- **NOTE:** Laying cables whose sheaths are not plaster-resistant under plaster will result in short circuits and cable fires! Lay cables without a plaster-resistant cable sheath in the empty conduit.
- **NOTE: Remove the cable sheath completely from the fan BUS to avoid cable breakage when inserting the inner cover / otherwise the inner cover cannot be closed.**
- When using several ventilation units controlled by several controllers, you must ensure that the ventilation units are synchronized with each other (see Installation and Operating instructions for Controllers). You should connect all controllers via a mains fuse in the in-house distribution board.

#### Cleaning and Maintenance



- **CAUTION: The cleaning or maintenance of the device must not be carried out by children and/or persons who, due to their physical, sensory or mental abilities or their inexperience or ignorance, are unable to do so safely. Young children must be supervised to ensure that they do not play with the device.**
- **CAUTION:** Disconnect power for cleaning and maintenance and wear gloves.
- **NOTE:** The device has scratch-sensitive plastic surfaces. Do not touch the inner cover with oily and/or dirty hands. Avoid contact with sharp or pointed objects such as rings.
- **NOTE:** Do not use strong cleaning agents or solvents. Use a soft damp cloth to clean the



- plastic surfaces.
- **NOTE:** Never use the device without a filter and inner cover.
- **NOTE:** Remove/avoid obstructions that could prevent access to or removal of components of the ventilation unit.

If your device is defective, contact your local factory representative or our technical service.

Improper use will result in the exclusion of any liability claims.

#### Improper use

Any use which is not mentioned in the chapter "Intended use" shall be deemed as improper use.

In particular, do not install/operate the device in areas where the following may occur:

- Environment with high oil or grease content.
- Flammable, aggressive and corrosive gases, liquids or vapours.
- Extreme dust pollution.
- Ambient temperatures outside -20 – 50 °C.
- Obstacles that hinder access to or removal of components from the ventilation unit.

#### Qualified personnel

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

#### Installation and Mounting

Assembly, electrical connection and initial commissioning of the device/system may only be carried out by qualified personnel. Qualified personnel within the meaning of the safety information in this documentation are persons who are authorized to assemble, commission and mark devices, systems and circuits in accordance with the standards of safety technology.

#### Cleaning and Maintenance

The necessary cleaning and maintenance work can be carried out by the user of the system himself after a short briefing. The cleaning or maintenance of the device must not be carried out by children and/or persons who, due to their physical, sensory or mental abilities or their inexperience or ignorance, are unable to do so safely.

#### Conformity

The ventilation unit complies with the technical safety requirements and standards for household electrical appliances. It is in conformity with the applicable directives of the European Union:

- 2014/30/EC: Electromagnetic compatibility
- 2009/125/EC: Eco-Design
- 2014/35/EC: Low voltage
- 2011/65/EC: RoHS



## 2 System overview

The iV-Twin+ ventilation system was developed as a single-room unit with heat recovery for separate ventilation of separate rooms, or as a supplementary unit to existing ventilation units. It is designed for the ventilation of living spaces in detached houses and apartment blocks, rooms in public facilities and work rooms in office buildings.

As a single room unit, the iV-Twin+ does not require operation in pairs. It is not necessary to create a room network by means of overflow measures. The ventilation unit meets the requirements of protection class IPX4. It can therefore also be used in classic exhaust air rooms such as kitchens, utility rooms, bathrooms and toilets. Special mounting is required for use in protection zone 1 (IPX4h) (see 4.8 Insert the reversing fan, connect it to the controller and check its function).

It is suitable for installation in new buildings and for retrofitting in old buildings. It is generally installed in the exterior wall.

The ventilation unit is mounted in a wall sleeve. This is divided vertically by a separating element with sealing lips. With the help of the sealing lips, tolerances are compensated and a fluidic separation of the wall installation sleeve is guaranteed. An unintentional mixing of out and exhaust air is not possible. A fan unit with integrated filter and a semi-cylinder heat accumulator are inserted into each side of the split wall sleeve. The air fin at the rear of the reversing fan Mini-Xenion serves to straighten the air volume flow and the efficient flow through the heat accumulator. A finger guard in front of the fan unit ensures the mechanical safety requirements according to DIN EN 60335-2-80.

A lockable inner screen covers the iV-Twin+ optically discreet to the interior. Outside, the components of the ventilation unit are concealed by a rain-proof cover. The air volume flow separators integrated in the inner cover and outer panel ensure that no mixing of out and exhaust air takes place outside the wall sleeve.

The standard length of the wall sleeve is 495 mm. For larger wall thicknesses, alternatively, a wall sleeve with a length of 745 mm can alternatively be available. The standard length of the separating element is 765 mm. Both versions of the wall sleeve and the separating element can be shortened by the installer.

The ventilation unit is controlled by one of the following controllers<sup>1)</sup> of the inVENTer system:

- sMove
- MZ-Home

### Components (Figure 1, page 9)

- Inner coverl
- Half-cylinder heat accumulator (2x)
- Fan unit with dust filter class G3 and reversing fan Mini-Xenion (2x), connecting cable
- Partition element wall sleeve
- Wall sleeve
- External closure
- Pollen/activated carbon filter (optional)

### Versions

- **Variant Standard:** Ventilation units iV-Twin+ with rain-proof weather protection hood Flex Twin+, incl. air volume flow separation (white/grey/north/anthracite/special colour)

<sup>1)</sup> The installation and operating instructions for the controllers are not part of this documentation and are enclosed separately.

## 2.1 Installation

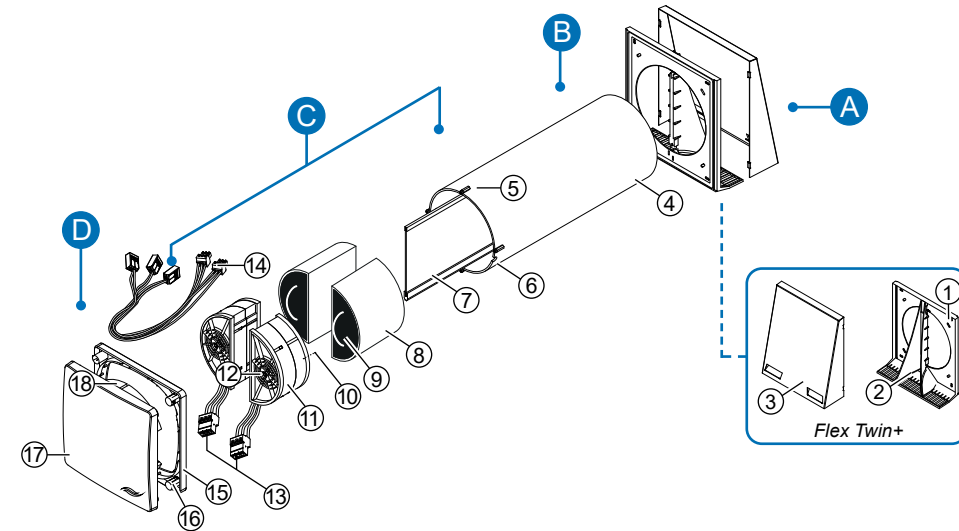


Figure 1: Overview ventilation unit iV-Twin+

### Components

- A External closure  
Weather protection hood Flex Twin+**
- 1 Base plate for weather protection hood
  - 2 Air volume flow separation (pre-assembled)
  - 3 Cover weather protection hood
- B Wall sleeve**
- 4 Wall sleeve R-D200
  - 5 Fastening elements for inner cover
  - 6 Recess for fan BUS cable
- C Heat accumulator insert  
(heat accumulator, fan unit)**
- 7 Position element R-D200x765
  - 8 Half-cylinder heat accumulator (2 x)
  - 9 Heat accumulator handle (2 x)
  - 10 Dust filter G3 (2 x)
  - 11 Half-cylinder fan unit with reversing fan Mini-Xenion (2 x)
  - 12 Knob fan unit (2 x)
  - 13 Fan plug Mini-Xenion guiding vane knob (2 x)
  - 14 Connecting cable iV-Twin+
- D Inner cover Flair Twin+**
- 15 Base plate inner cover
  - 16 Spacer (4 x)
  - 17 Cover inner panel
  - 18 Air volume flow separation

## 2.2 Features

The iV-Twin+ ventilation unit is used to ensure the ventilation of living spaces. It can also be installed in classic exhaust air rooms. The integrated heat accumulator ensures optimum heat recovery with maximum air volume flow.

As an individual room unit, the iV-Twin+ combines a supply and extract air unit in one. To ensure that the ventilation system functions correctly and the pressure stability in the room is guaranteed, the supply air volume must correspond to the exhaust air volume at all times. A separating element divides the wall sleeve vertically into two airtight channels. Each channel contains a fan unit and a semi-cylinder heat accumulator.

Due to a high pressure build-up and the active speed control of the motor (integrated wind pressure stabilizer) in the reversing fan Mini-Xenion, the air volume flow in the system is kept almost constant even with weather-related pressure fluctuations.

A temperature sensor is integrated in the reversing fan Mini-Xenion to ensure full functionality of the ventilation unit throughout the year. This measures the temperature of the air volume flow at the fan. If the temperature at the fan falls below + 5 °C, both reversing fans are automatically switched to exhaust air operation for 4 cycles. This reheats the heat accumulator and prevents the interior from cooling down as a result of the cold supply air flowing in. During this phase, the operating mode set on the controller is ineffective. The controller then switches the ventilation unit back to the originally set operating mode.

### Function of the iV-Twin+ in reversing mode

In standard operation, the ventilation system works according to the principle of regenerative

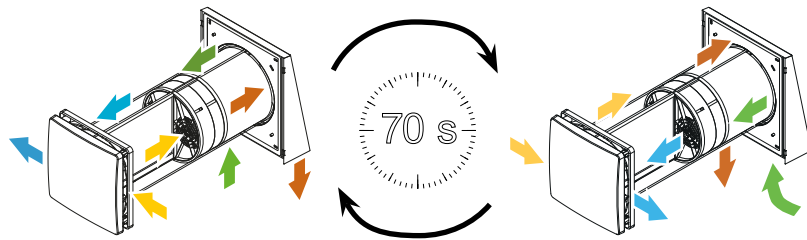
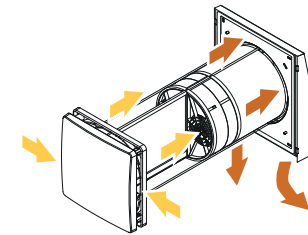


Figure 2: Function of the iV-Twin+ ventilation unit in reverse mode

heat recovery. The integrated heat accumulator is charged with the thermal energy of the room air when it flows to the outside (exhaust air).

After 70 seconds, the reversing fan changes the direction of rotation. After changing the direction of rotation, it releases the stored thermal energy to the fresh air supplied (supply air). The two fans are each operated as a pair in push-pull mode: One reversing fan feeds supply air into the interior, while the other reversing fan feeds used exhaust air out of the interior at the same time.

### Function of the iV-Twin+ in exhaust air mode



If the ventilation mode is selected on the controller, the iV-Twin+ ventilation unit operates in extract air mode.

Both reversing fans are switched to exhaust air operation at the same time, i.e. both fans simultaneously convey used exhaust air from the interior to the outside.

No heat recovery takes place in this operating mode. It is particularly recommended for the rapid removal of moisture and odour peaks.

Figure 3: Function of the ventilation unit iV-Twin+ in exhaust air mode

The ventilation unit is operated via a controller of the inVENTer system. Depending on the controller, you can select the various operating modes and functions in which the ventilation unit is to be operated. We recommend using the iV-Twin+ with a separate controller sMove or, in conjunction with the MZ-Home controller, to consider it as a separate zone. In rooms with humidity ingress, the installation of a separate hygrostat (sMove) or humidity sensor (MZ-Home) in the room is recommended.

2.3 Control elements

sMove controller

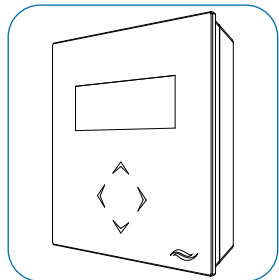


The sMove controller is an electronic control unit for controlling up to four iV-Twin+ ventilation units. It is characterised by its timeless and flat design, simple installation and a simple operating concept by touch.

It is available in flat and standard design: In contrast to the flat version, the standard version has the option of switching off the ventilation unit completely in addition to the pause operating mode.

The ventilation units connected may be controlled in the following operating modes:

- Heat recovery
- Ventilation [Exhaust air operation; p. 11]
- Pause function
- Off (sMove standard version only)



MZ-Home Controller

The MZ Home controller is an electronic control unit for controlling up to eight iV-Twin+ ventilation units.

It is characterised by its Clust-Air technology (multi-zone control), easy installation, operation by touch and its great versatility.

The controller MZ-Home consists of a control unit and at least one (optionally up to a maximum of four) Clust-Air module(s).

Each Clust-Air module controls a maximum of two iV-Twin+ ventilation units per zone within the residential unit. Thus, the MZ-Home can guarantee individual ventilation for up to four different areas (ventilation zones) within a residential unit. For each zone, the operating mode and power level are set via a weekly timer, or manually.

The ventilation units connected may be controlled in the following operating modes:

- Heat recovery
- Ventilation [Exhaust air operation; p. 11]
- Dehumidification
- Off/Pause function

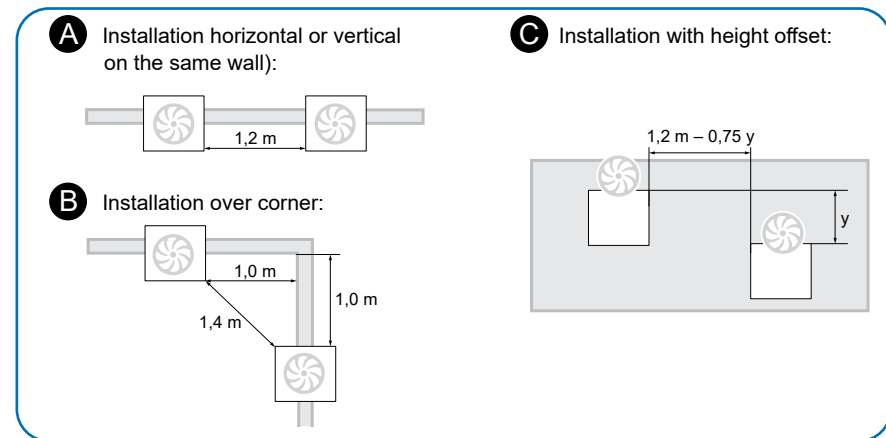
The sMove and MZ Home controller can be extended with additional sensors. An external interface enables the connection of a potential-free switching contact or integration into an existing house control system via an analogue input.

Detailed information can be found in the installation and operating instructions for the controller.

3 Installation preparation

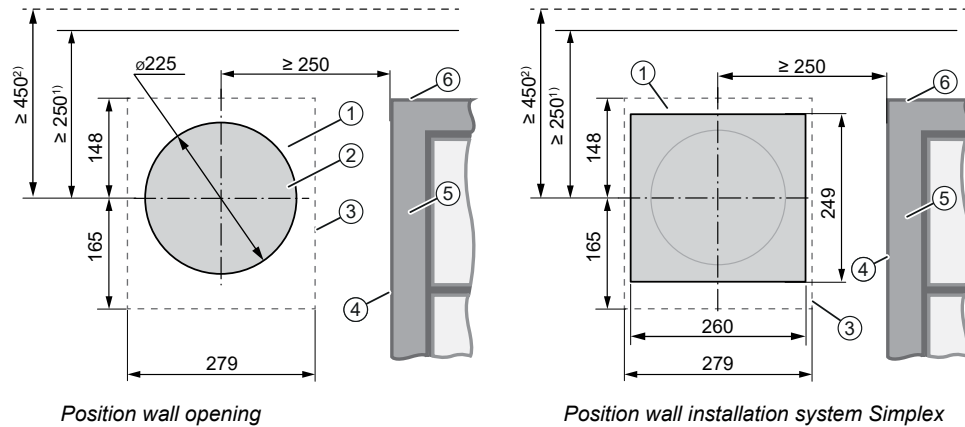
3.1 Installation location

- The installation location can be derived from the positioning proposal of the ventilation planning. The exact positioning of the individual devices and control units must be checked by the customer and, if necessary, adapted on site. **Please ask the responsible planner!** For optimum function, it is recommended that the ventilation unit be installed at the appropriate point in the upper wall area (e.g. 1.80 m upper edge of finished floor).
- Do not place the ventilation unit near radiators, room air thermostats, sensitive furniture or above pictures.
- When selecting the installation location, observe VDE 0100.
- Observe the following **minimum distances from the wall opening for the ventilation unit:**
  - 1 between two ventilation units in a room to avoid mixing different air volume flows:



- 2 to adjacent components on the outer wall (note insulation thickness / roller shutters):
  - upwards: **450 mm** from centre axis wall opening / wall installation system Simplex
  - downwards/laterally: **250 mm** from centre axis wall opening / wall installation system Simplex
- 3 to adjacent components on the inner wall: 250 mm from bore centre/centre axis
- 4 to frontally adjacent components: 300 mm for cleaning works
- 5 between a weather protection hood and another ventilation system: **1.2 m**

### 3.2 Position of the wall opening



Position wall opening

Position wall installation system Simplex

Figure 4: Dimension drawing of wall opening iV-Twin+ (interior view)

- 1 Wall opening new building (Fig. 4, left)
- 2 Wall opening old building
- 3 Shape weather protection cover<sup>3)</sup>
- 4 Reveal
- 5 Door/window frame
- 6 Lower edge of lintel<sup>4)</sup>

<sup>1)</sup> Minimum distance to adjacent components on the inner wall (from central axis) <sup>3)</sup> Attach weather protection hood at lintel height  
<sup>2)</sup> Minimum distance to adjacent components on the outer wall <sup>4)</sup> Insulation thickness and any roller shutters must be observed

### 3.3 Dimensions

Description	Depth / Length [mm]	Width [mm]	Height [mm]
Wall thickness <sup>1)</sup>	> 270	-	
Wall opening for wall sleeve	Wall thickness <sup>1)</sup>	Ø225	
Wall sleeve R-D200x495 (745)	495 (745)	Ø200	
Weather protection hood Flex Twin+	23 - 88	279	313
Inner cover Flair Twin+ V-233x233	61 <sup>2)</sup>	233	233

<sup>1)</sup> with external plaster, insulation, brickwork and internal plaster  
<sup>2)</sup> opened

### 3.4 Sectional drawings

#### Sectional drawing ventilation unit iV-Twin+

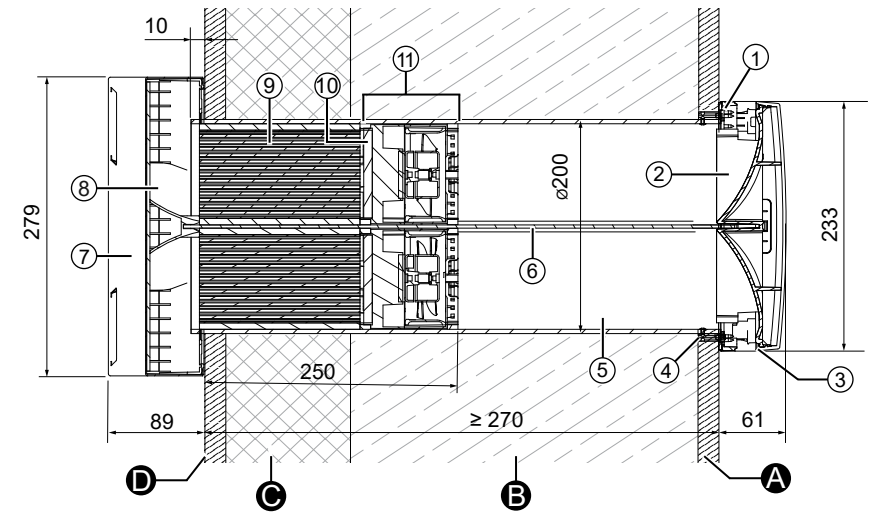


Figure 5: Sectional drawing ventilation unit iV-Twin+ (top view)

- A Internal plaster / internal structure
- B Brickwork
- C Insulation
- D Exterior plaster
- 1 Base plate inner cover
- 2 Separating element inside panel
- 3 Cover inner panel
- 4 Mounting elements for inner cover
- 5 Wall sleeve R-D200
- 6 Separating element wall sleeve
- 7 Weather protection hood Flex Twin+
- 8 Weather protection hood separating element Flex Twin+ (pre-assembled)
- 9 Half cylinder heat accumulator
- 10 Dust filter G3 (part of fan unit)
- 11 Fan unit half cylinder

### 3.5 Components dimensional drawings

#### Inner cover Flair Twin+

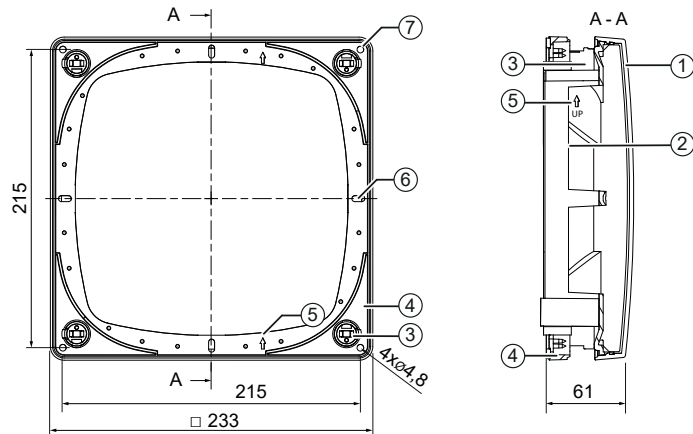
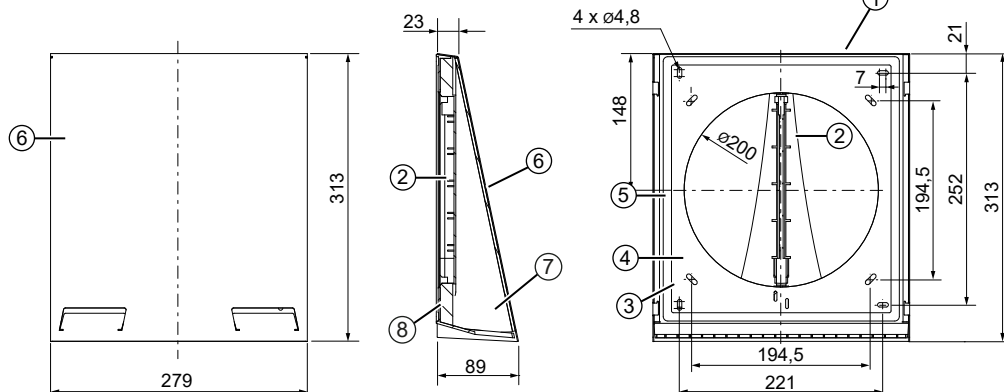


Figure 6: Dimensioned drawing inside panel Flair Twin+ V-233x233

- 1 Cover inner panel
- 2 Separating element inside panel (pre-assembled)
- 3 Spacer (4 x)
- 4 Base plate inner cover
- 5 Marker arrow
- 6 Mounting hole wall sleeve (4x)
- 7 Optional: Fixing hole inside wall, Ø 6 mm, 40 mm deep (4 x)

#### Weather protection hood-Flex Twin+



Weather protection hood

Base plate of the weather protection

Figure 7: Dimensional drawings of the Flex Twin+ weather protection hood

- 1 Base plate for weather protection hood
- 2 Separating element Flex Twin+ (pre-assembled)
- 3 Mounting hole outer wall Ø 8 mm, min. 50 mm deep (4 x)
- 4 Mounting hole Simplex (4 x)
- 5 Guide for sealing strip
- 6 Weather protection hood cover
- 7 Protective grilles
- 8 Drip edge

### 4 Installation and assembly



To avoid installation errors, read the chapter carefully before installation. The ventilation system must be installed and connected by qualified personnel.

#### 4.1 Checking the scope of delivery

On receipt, check the delivery for completeness and transport damage on the basis of the delivery note. Complain for missing items immediately.

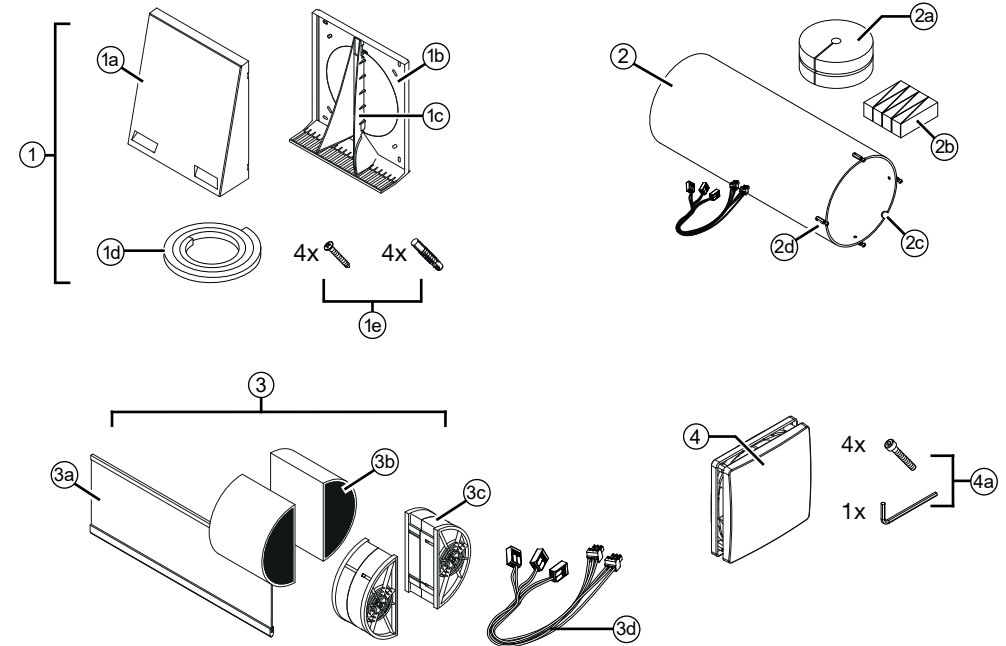


Figure 8: Standard components for ventilation unit iV-Twin+

#### 1 External closure of weather protection hood

- 1 a: Cover WSH Flex Twin+
- 1 b: Base plate WSH Flex Twin+
- 1 c: Separating element
- 1 d: Sealing tape
- 1 e: Mounting material for exterior wall

#### 3 Heat accumulator insert iV-Twin+

- 3 a: Separating element (765 mm)
- 3 b: Heat accumulator half cylinder (2 x)
- 3 c: Fan unit half cylinder incl. dust filter G3 (2 x)
- 3 d: iV-Twin+ connecting cable

#### 2 Wall sleeve R-D200

- 2 a: Styrofoam disks
- 2 b: Mounting wedge set
- 2 c: Fan cable recess
- 2 d: Fasteners

#### 4 Inner cover Flair Twin+ V-233x233

- 4 a: Mounting material

## 4.2 Create wall opening



### CAUTION

#### Falling masonry when creating the wall opening

leads to injury to body parts and/or damage to objects!

- Install protection against falling masonry on the outside of the building.
- Remove objects from the immediate vicinity of the outside of the building.



Drilling machine with attachment core drill or milling drill Ø 225 mm,  
Option Simplex additionally cut-off grinder and spirit level



### Positioning of the wall sleeve (📖 3.1 – mounting position):

Minimum distance to adjacent components on the outer wall (observe insulation thickness / roller shutters):  
upwards: 450 mm from bore centre / centre axis.  
downwards/laterally: 250 mm from bore centre/ centre axis.

Minimum distance to components on the inner wall 250 mm from bore centre  
Minimum distance in front: 300 mm for cleaning and maintenance work  
Do not place the wall opening near radiators.

In new buildings and for timber-frame construction, we recommend the use of the optional D200 wall mounting block or the Simplex wall mounting system.

### Create wall opening through core drilling

Prerequisite:  
The masonry is dry and stable.  
No load-bearing elements in the position of the borehole.

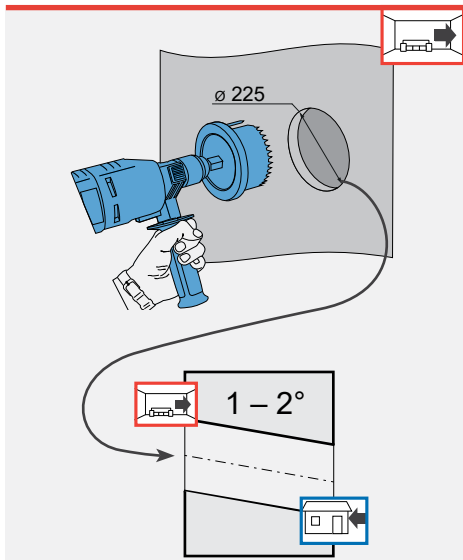


**NOTE: Condensate accumulating in the wall sleeve will damage the masonry and outer wall!**

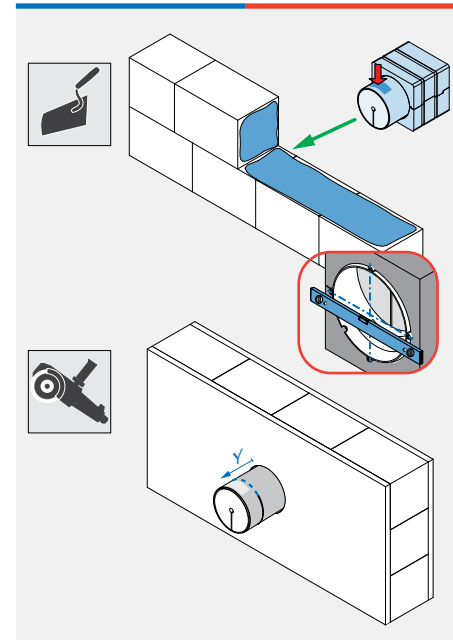
- Create a wall opening with a slope of 1 – 2° to the outer wall.

- ▶ Drill a wall opening, Ø 225 mm with a gradient of 1 – 2° to the outer wall.

⇒ The wall opening for the ventilation unit has been created.



## Use the Simplex wall installation system.



Prerequisite:

The construction project is in the shell construction phase.

- ▶ Insert the Simplex wall installation system into the masonry at the appropriate point.

**Observe** the installation markings on/in the wall installation sleeve (red arrow): The integrated slope is directed towards the outer wall to ensure that any condensate that may form can drain off.

- ▶ Align the fastening elements.

- ▶ Wall-in the mounting block into the masonry.
- ▶ Apply insulation, interior and exterior plaster.

- ▶ Make sure that the outer wall has a protrusion Y of 10 mm.

- ▶ Install the fan BUS (📖 4.3).

- ▶ Continue with the installation of the weather protection hood (📖 4.5).

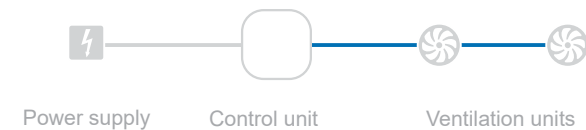
⇒ The Simplex wall mounting system is installed.

## 4.3 Installing the fan BUS

### Schematic sketches for the wiring of the ventilation units:

In a row:

Cable type LiYY, 3-wire, length see 📖 controller




Star-shaped:

Cable type LiYY, 3-wire, max 33 m





**NOTE:** Install the fan BUS only in a de-energized state. Before connecting the cable to the control unit (operating unit sMove or Clust-Air module CAM17), interrupt the power supply to the controller. Do not connect the cable to the control unit unless it is not live. Instructions for laying the fan BUS (including maximum cable lengths) can be found in the enclosed installation and operating instructions for the controller.

 Wall slotting cutter, hammer, chisel, fan BUS (3-wire)

- Prerequisite:  
The wall opening has been created.
- ▶ Mill the plaster/wall slot between the control unit and wall opening. **Make sure** to approach the plaster/wall slot for the cable to the control unit at an angle of 45° to the bottom left of the wall opening.
  - ▶ Seal the wall opening from the inside and outside until the wall installation sleeve is inserted.
    - ⇒ The plaster/wall slot for the cable (fan BUS) has been created.

**NOTE:** The use of a wire cross-section that is too small leads to an excessively high voltage drop and/or the contact is not guaranteed!

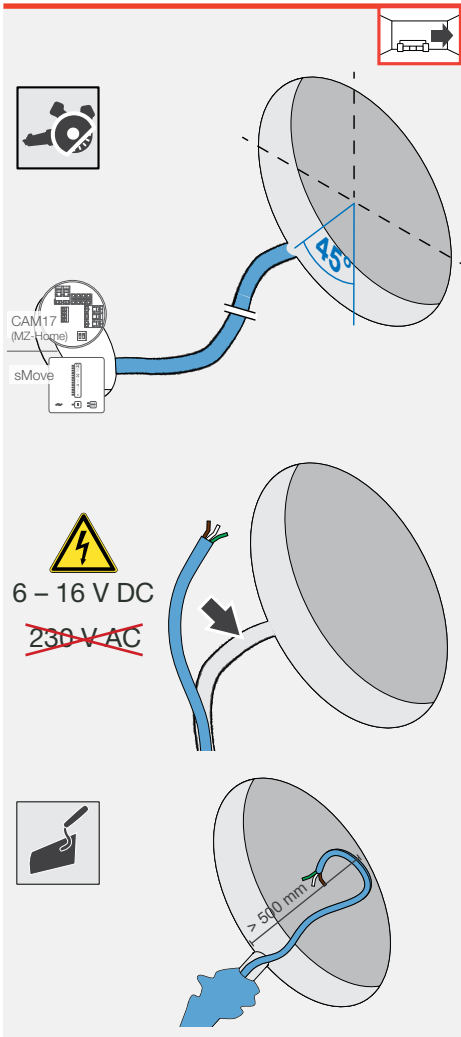
- Use a wire cross-section of at least 0.75 mm<sup>2</sup> for the fan BUS.

**NOTE:** Installation of cables whose sheathing is not resistant to flush-mounted installation, leads to short circuit and cable fire!


- If necessary, lay the cable in the empty conduit.

- ▶ Lay the fan BUS, 3-wire (stranded), from the control unit to the wall opening of the ventilation unit.
- ▶ Plaster the plaster/wall slot. **Make sure** that the end of the cable protrudes approx. 500 (min. wall thickness X, p. 24) mm into the interior.

⇒ The fan BUS is installed.

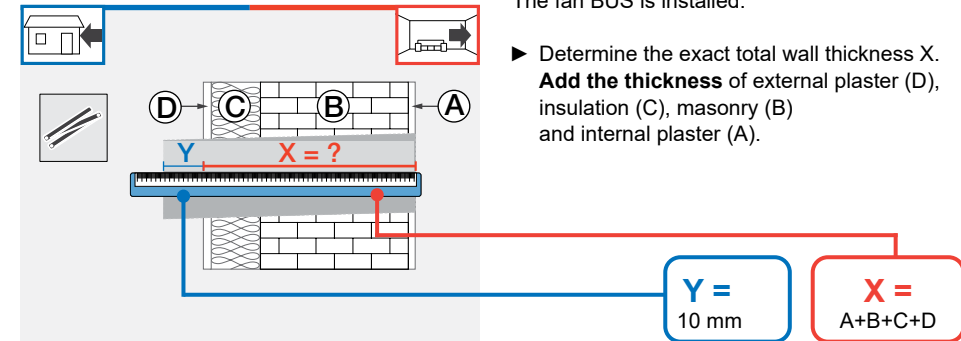


4.4 Mount the wall sleeve

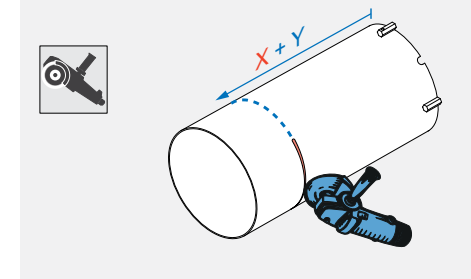
 Measuring tape, angle grinder, spirit level, non-pressing 2-component mounting foam, Blade knife, assembly wedge set, and Styrofoam disks

Prerequisite:  
The wall opening Ø 225 mm is finished.  
The fan BUS is installed.

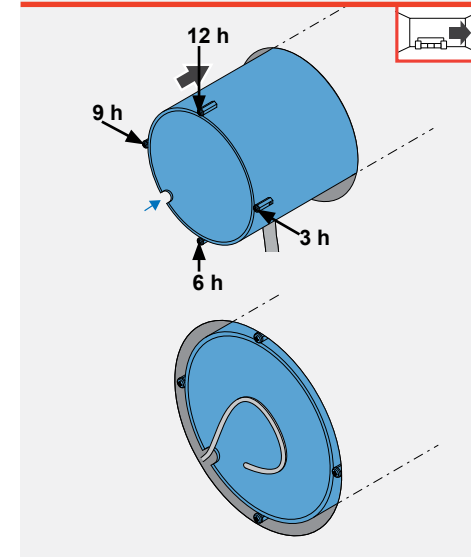
- ▶ Determine the exact total wall thickness X. **Add the thickness** of external plaster (D), insulation (C), masonry (B) and internal plaster (A).



- ▶ Cut the wall installation sleeve onto the dimension X + a protrusion of Y = 10 mm at the outer wall. **Make sure** that the recess for the fan BUS not to be cut away.



- ▶ Remove the Styrofoam disks from the wall opening.
- ▶ Insert the wall sleeve flush with the inner wall into the wall opening. Mind the thickness of the internal plaster. **Make sure** that the recess for the fan BUS is on the inside wall side and near the plaster/wall slot.



- ▶ Guide the fan BUS through the recess in the wall sleeve.

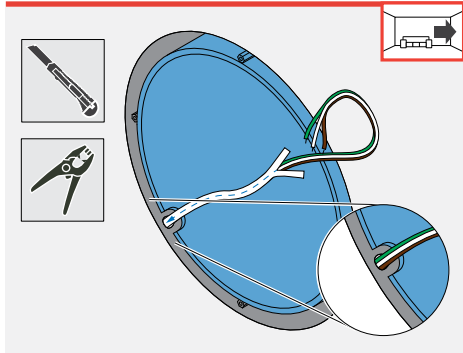




**NOTE:** Before further assembly, strip the 3-wire fan BUS.



Stripping tool, knifer



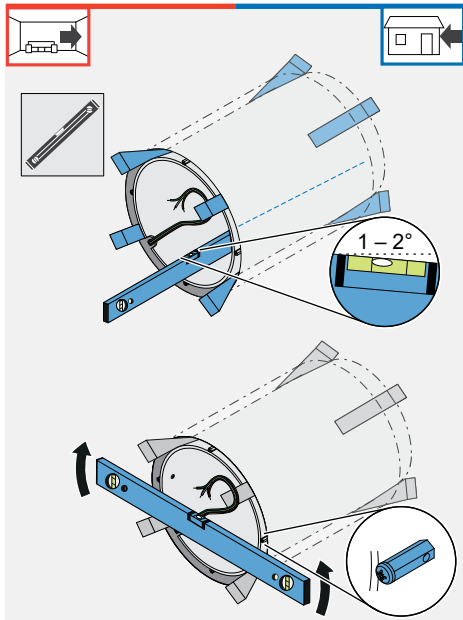
Prerequisite:  
The wall mounting sleeve is inserted into the wall opening, the fan BUS is located in the wall mounting sleeve.

- ▶ Remove the complete cable sheath from the fan BUS.
- Pay attention:** that there is no damage to the coloured insulation of the lines.



**NOTE: Accumulation of condensation water in the wall sleeve.**  
Damage to the exterior wall and masonry as well as the building material!

- Fix the wall installation sleeve with a slope of 1 – 2° to the outer wall.



- ▶ Fix the wall sleeve on the inside and outside walls with the mounting wedges so that it has a gradient of 1 – 2° to the outside wall.
- ▶ Check the inclination of the wall mounting sleeve with a spirit level.
- ▶ Align the two lateral mounting elements of the wall sleeve horizontally.
- ▶ Check the inclination of the wall sleeve with a spirit level.



**NOTE: Avoid contamination of the wall sleeve and the fastening elements!**

- Before foaming the free space between the wall sleeve and masonry, insert the Styrofoam disks.
- Do not remove the thread locks of the fastening elements until the inner cover has been fitted.

- ▶ Insert the Styrofoam disks into the wall sleeve on the inside and outside walls.



**NOTE: Interruption of the thermal insulation composite system.**

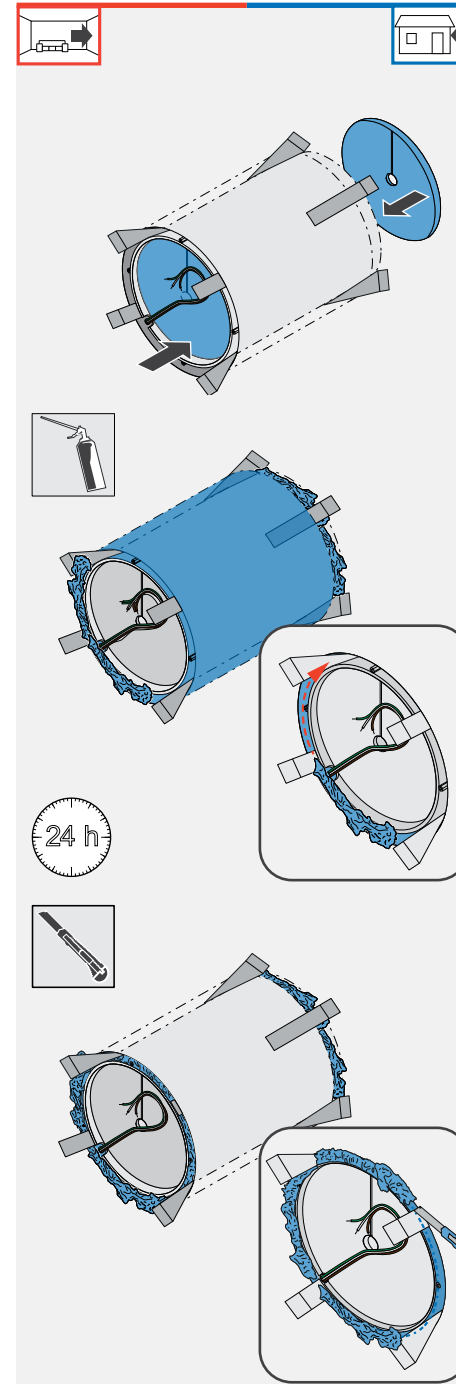
- Damage to the building substance!
- During installation, guide the wall structure back up to the wall installation sleeve.
  - Observe the necessary sealing levels.

- ▶ Before foaming, stabilise the wall sleeve with a suitable material so that it does not deform.
- ▶ Foam the free space between the wall installation sleeve and masonry all around with non-pressing 2-component installation foam.

- ▶ **Allow the 2-component installation foam to harden for 24 hours.**

- ▶ Cut off the 2-component mounting foam and protruding mounting wedges flush with the outer and inner walls.  
**Make sure that you do not damage the fan BUS.**

⇒ The wall sleeve is mounted.



### 4.5 Mount the external closure



**NOTE:**  
Mounting on unfinished outer wall leads to damage of the outer wall!

- Do not install the external closure until the external wall has been completed and completely cured.



**NOTE:**  
Penetration of condensation water and/or algae accumulation around the weather protection hood leads to damage to the masonry/external wall and/or discolouration of the facade!

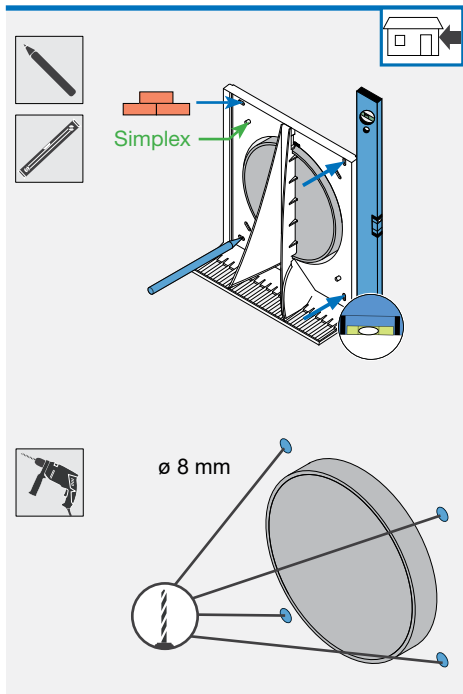
- Prior to installation of the external closure apply all sealing strips on the weather protection hood circumferentially.
- Before installation, make a biocidal presetting/water-repellent pretreatment of the surface weather protection hood (Please consult your planner!).



Spirit level, pen, drill with drill bit Ø 8mm, cordless screwdriver, dowel (for insulated outer walls insulation dowel), permanently elastic outer sealing compound, sealing tape, screws.

Prerequisite:  
The outer wall is finished and level.  
The wall sleeve is mounted.

- Remove the Styrofoam disk from the wall installation sleeve.
- Slide the base plate onto the protruding wall sleeve. The protective grille is directed towards the floor. There are notches for the wall sleeve in the air volume flow separation.
- Align the base plate with a spirit level.
- Mark the four holes:  
Outer holes (blue arrow): Brickwork  
Inner holes (green arrow) Simplex
- Drill the four holes with Ø 8 mm, min. 50 mm deep.



**TIP:** Do not apply the sealing tape until directly before mounting the base plate. This will prevent excessive swelling of the sealing tape and facilitates assembly.

- Attach the sealing tape, 9 mm, on the outside wall and circumferentially along the guide on the base plate. **Be careful** not to seal the mounting holes.

- Insert the dowels into the holes.
- Screw the base plate of the weather protection hood with 4 screws and washers into the dowels.



**TIP:** When attaching the base plate of the Flex Twin+ weather protection hood to external walls with insulation or when using the wall installation blocks/wall installation system Simplex insulation dowels for fastening. These are not included in the scope of delivery, they are optionally available.



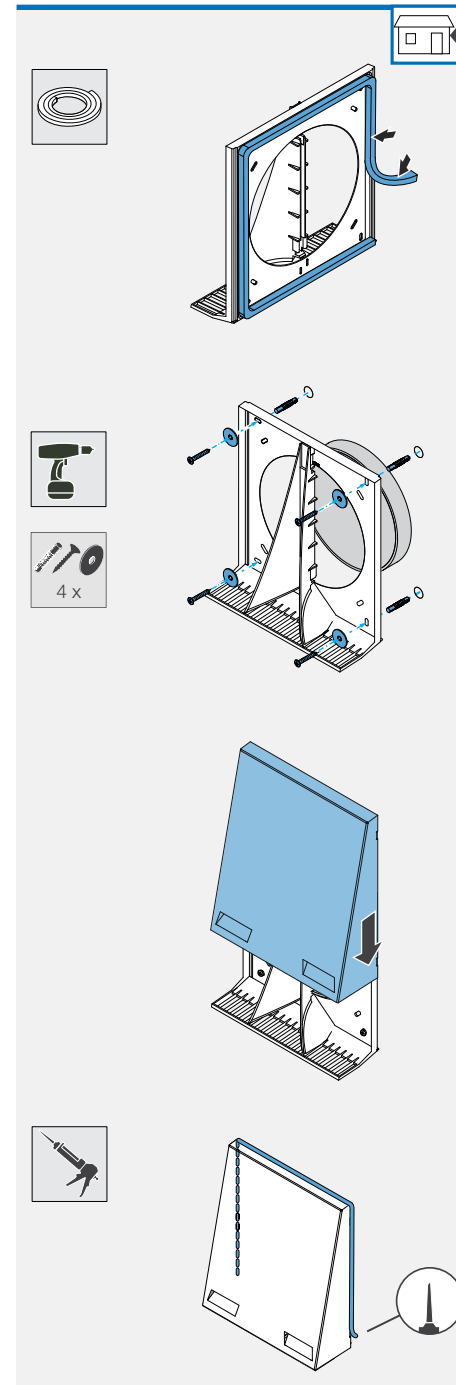
**NOTE:** In case of incorrect sealing of the joint between base plate and façade, the cover cannot be placed.

- After placing the cover, seal the joints between the cover and the façade with permanently elastic external sealing compound on both sides and at the top.

- Place the cover on the base plate from above.
- Pull the cover down as far as it will go. **Make sure** that the guides on the cover hook in behind of the base plate.

- Seal the joint between the cover and the outer wall on the sides and at the top with permanently elastic external sealing compound.

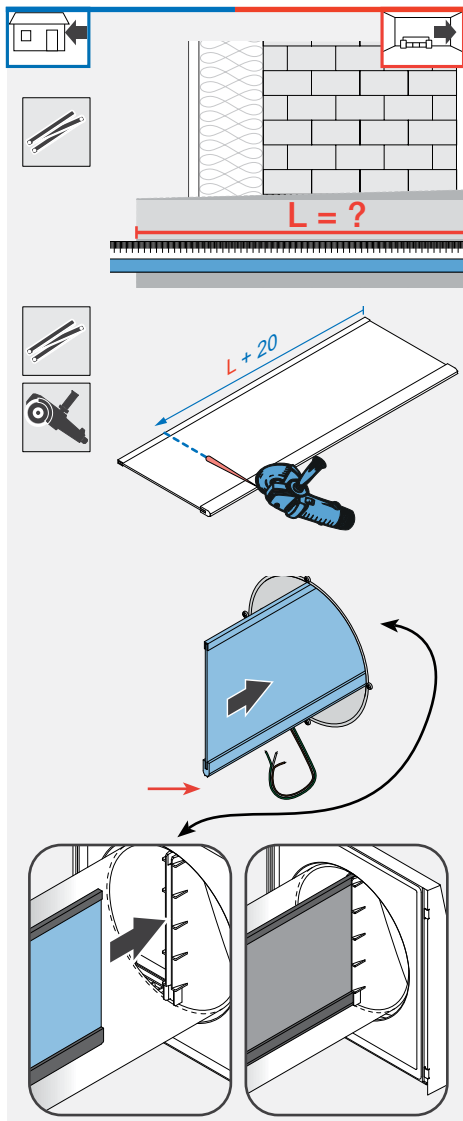
⇒ The Flex Twin+ weather protection hood is installed.



### 4.6 Insert separating element

**NOTE:**  
 If the separating element is not or incorrectly positioned in the wall sleeve, it is possible that outside air and exhaust air are mixed!

- Separating element divides the wall sleeve vertically!
- Insert the separating element into the separator of the weather protection hood!



Prerequisite:  
 The weather protection hood is mounted.

- ▶ Remove the Styrofoam disk from the wall sleeve.
- ▶ Shorten the separating element to the length of the wall sleeve + 20 mm.

**NOTE: Incorrect/no positioning of the separating element leads to mixing of supply and exhaust air of the system!**

- Position the wider sealing lip (red arrow) at the bottom of the separating element in the wall installation sleeve.
- Insert the separating element completely into the wall installation sleeve and the separating insert of the weather protection hood!

- ▶ Push the separating element vertically into the wall sleeve.  
**Make sure** that the separating element is pushed into the holder of the weather protection hood. The separating element has an internal wall protrusion of approx. 10 mm.

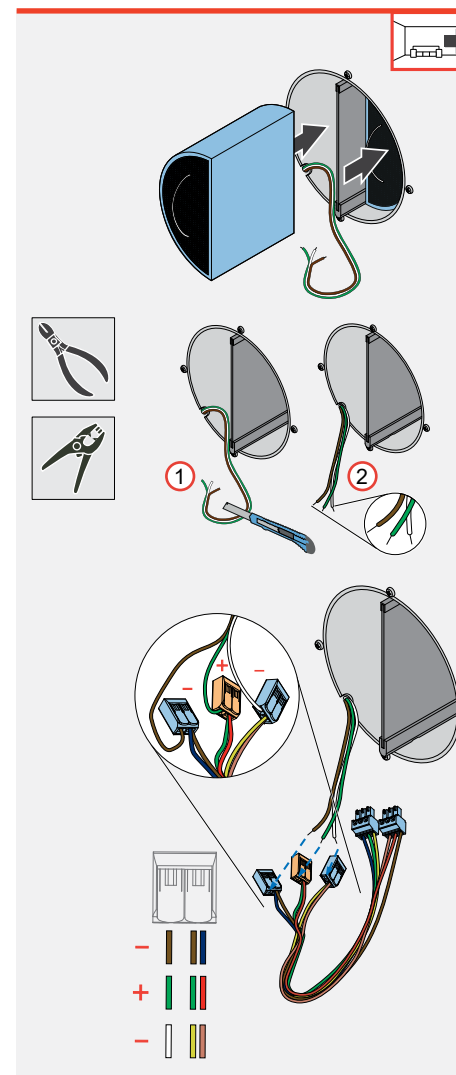
⇒ The separating element is inserted.

### 4.7 Insert the heat accumulator, shorten the fan BUS, insulate the lines and connect with connecting cable iV-Twin+

**NOTE:**  
 Do not store or stack the heat accumulators outside the wall sleeve, This will damage the ceramic of the heat accumulator!

- Use the heat accumulator immediately after removing it from its packaging.

Side cutter, stripping tool, connecting cable ( included)



Prerequisite:  
 The weather protection hood is mounted..  
 Air volume flow separation is installed.

- ▶ Push the heat storage half cylinders to the right and left of the separating element from the interior up to the stop in the direction of the weather protection hood.  
**Make sure that the:**
  - handle points in the direction of the interior.
  - fan BUS protrudes into the interior.

⇒ The heat storage module is inserted.

- ▶ ① Shorten the fan BUS, 3-wire, to your determined wall thickness minus 260 mm, but at least 150 mm.
- ▶ ② Insulate the lines on the fan BUS by approx. 7 mm.
- ▶ Connect the lines to the connecting cable iV-Twin+.

**NOTE:**  
 Pay attention to the correct order of the line colours so that the fans start.

- Attach the three fan connectors to the BUS cables in the free terminal of the corresponding connecting terminal (do not use ferrules):

Cable from the controller		Connecting terminals	
Colour	Meaning	Line colour	Terminal
Brown	GND (-)	Brown / Blue	GND (-)
Green	Operating voltage (+)	Green / Red	(+)
White	GND (-)	Yellow / Pink	GND (-)

⇒ Connecting cable iV-Twin+ and fan BUS are connected.

### 4.8 Insert the reversing fan, connect it to the controller and check its function

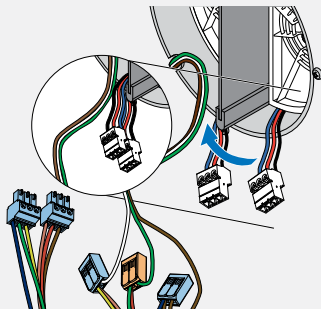
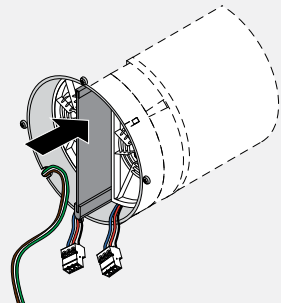
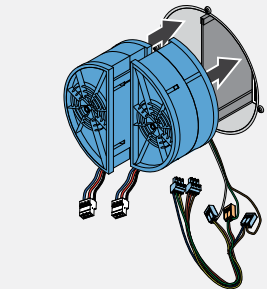
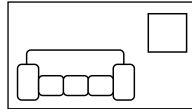


**NOTE**

The reversing fan is installed differently depending on the location of use:

- Use in protection area 2 and higher (standard)
- Use in protection zone 1 (IPX4)

**Use in protection zone 2 and higher (standard)**



Prerequisite:  
The heat storage module is inserted.  
Connecting cable iV-Twin+ and fan BUS are connected.

- ▶ Slide the fan units into the wall sleeve on the right and left of the separating element.  
**Make sure:**
  - that the filters are directed towards the heat accumulator and the finger protection grilles to the interior.
  - that you can reach the plug connections.

- ▶ Push both fan units up to the heat accumulators.

⇒ The fans are located in the wall sleeve.

- ▶ Pass one of the fan cables under the sealing lip in such a way that all lines are on the side with the fan BUS.



**NOTE:**

**Incorrect electrical connection will damage the fan!**

- Always connect the ventilation unit to the mains via a controller.

- ▶ Insert the plugs of the lines on the fan into the sockets of the connecting cable iV-Twin+.



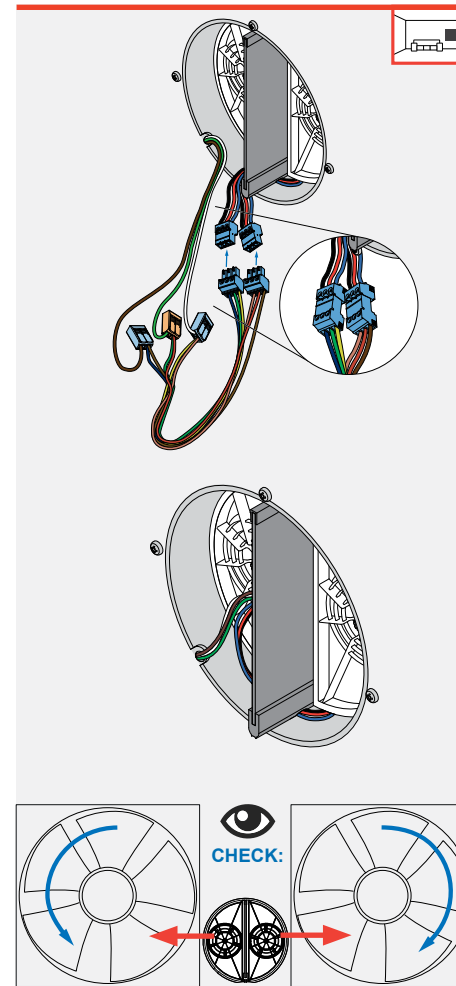
**NOTE:**

The plugs are not assigned to the sockets and can be connected as required.

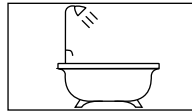
- ▶ Place the cables into the wall mounting sleeve.

⇒ The fan is connected to the controller.

- ▶ Check that the fans start and move.  
In heat recovery mode, the fans move in opposite directions.

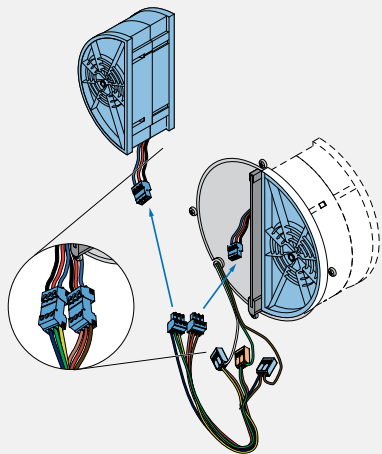
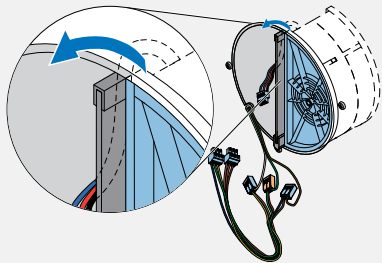
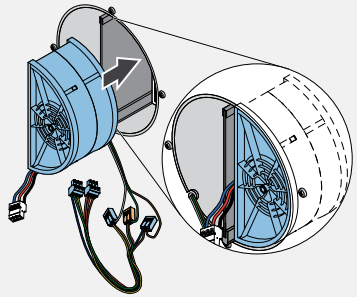


Use in protection zone 1 (IPX4)



Prerequisite:

The heat storage module is inserted.  
Connecting cable iV-Twin+ and fan BUS are connected.



- ▶ Insert a fan unit into the side of the wall mounting sleeve where the fan BUS is not located.

**Make sure:**

- that the filter is directed towards the heat accumulator and the finger protection grille to the interior.
- that the fan unit is only pushed in so far that it is flush with the inner wall.
- that you can reach the plug connections.

- ▶ Lead the cable with the plug connection over the upper sealing lip to the side with the fan BUS. To do this, press the separating element slightly downwards.



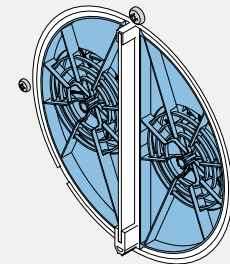
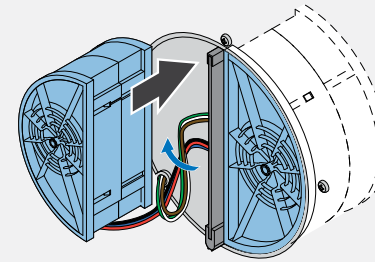
**NOTE:**  
**Incorrect electrical connection** will damage the fan motor!

- Always connect the ventilation unit to the mains via a controller.

- ▶ Insert the plug of the line on the fan into one sockets of the connecting cable iV-Twin+..
- ▶ Insert the plug of the fan cable of the second fan unit into the second socket of the connecting cable iV-Twin+.



**NOTE:**  
The plugs are not assigned to the sockets and can be connected as required.

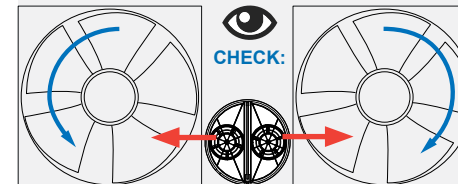


- ▶ Insert the second fan unit into the free side of the wall mounting sleeve (the side on which the fan BUS is located).

**Make sure:**

- that the filter is directed towards the heat accumulator and the finger protection grille to the interior.
- First push the cables and plug connections into the wall mounting sleeve and place them between the heat accumulator and the fan unit.
- Make sure that the fan unit is only pushed in so far that it is flush with the inner wall (no cable visible).

⇒ The fan is connected to the controller..



- ▶ Check that the fans start and move. In heat recovery mode, the fans move in opposite directions.

### 4.9 Mount inner cover

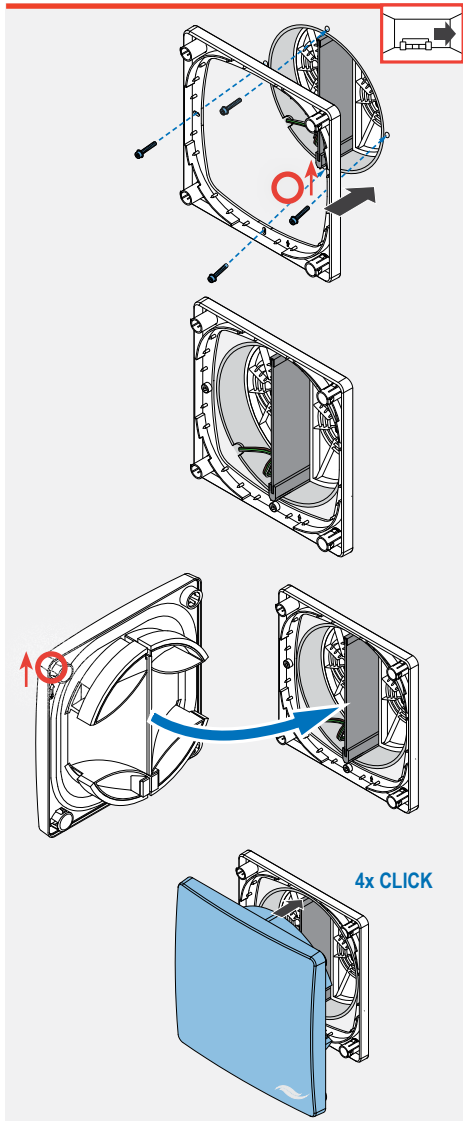


**NOTE:**

The installation of the inner cover is illustrated by the example of the fan units used according to standard assembly. If the fan units are installed for use in protection area 1 (close flush with the wall installation sleeve), the installation of the inner cover is analogous.



Spirit level, pen, screwdriver



Prerequisite:

The heat accumulator plug-in unit is mounted.  
The reversing fans are connected.

- ▶ Remove the thread locking devices from the fastening elements of the wall sleeve.
  - ▶ Place the baseplate inner cover centrally to the wall sleeve on the inner wall.  
**Make sure** that the marking arrow on the base plate points upwards.
  - ▶ Screw the baseplate inner cover together with 4 screws into the fastening elements.
  - ▶ Place the cover on the four spacers. **Make sure** that the position arrows on the back of the cover point upwards.  
Check: The inVENTer logo is at the bottom right.  
**Ensure** that the separator is inserted into the inner cover holder.
  - ▶ Press the latching lugs on the spacers inwards.
  - ▶ Slide the cover onto the spacers.  
All spacers will engage noticeably.
- ⇒ The inner cover cover is mounted.

### 5 Operation

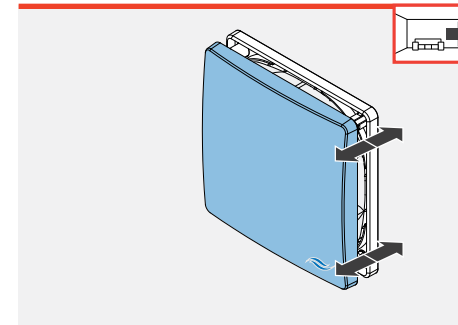
#### Close/open inner cover

For the ventilation system to function correctly, the inner cover of your ventilation unit must be open.

Be sure to close the inner cover when de-commissioning the ventilation unit. Closing prevents unwanted air exchange, e.g. cold air flowing into the living area.

In certain situations, e.g. accidents with smoke or escaping gases, it is necessary to close windows and doors. In this case, your ventilation units must also be switched off and the inner covers closed.

Open the inner covers again before switching on the ventilation unit. The heat storage module is inserted.



Prerequisite: The cover is attached.

**Close the inner cover:**

- ▶ Press the inner cover cover up to the base plate in the direction of the inner wall.

**Open the inner cover:**

- ▶ Pull the inner panel cover forward until all four spacers click into place.

⇒ You have closed/opened the inner cover.



## 6 Cleaning and Maintenance



### CAUTION

#### Maintenance/cleaning by children and persons with limited abilities.

Injury to body parts and/or malfunction of the ventilation system!

- Do not have any cleaning or maintenance work on the ventilation system carried out by children or persons who are unable to do so due to their physical, sensory or mental abilities, inexperience or ignorance.

The iV-Twin+ ventilation system is virtually maintenance-free. The necessary cleaning and maintenance work can be carried out by the user of the system himself after a short briefing.



**TIP:** Disconnect the power supply to the ventilation system for cleaning and maintenance work, and wear gloves.

### Cleaning Agents



### NOTE:

Owing to the scratch-sensitive plastic surface of the inner cover, the surface may be damaged!

- Do not use cleaning agents containing sand, soda, acid or chlorine.

For cleaning, a commercially available detergent in warm water can be used. The following tools can be used for cleaning:

- lint-free, soft cloth
- soft brush
- vacuum cleaner

### Cleaning recommendations

The measures and intervals listed here are recommendations by inVENTer GmbH to maintain the functionality and performance of the iV-Twin+ ventilation system.

Depending on requirements and/or air quality, your individual cleaning schedule may differ from these recommendations.

Interval	Component	Cleaning action
Cleaning from inside		
Monthly	Pollen filter	Replace the used filters.
	Inner cover	Clean the surface of the cover with a damp cloth.
Quarterly	Dust filter	Wash the dust filters in warm water. <b>Or</b> Replace worn out dust filter.
Interval	Component	Cleaning action

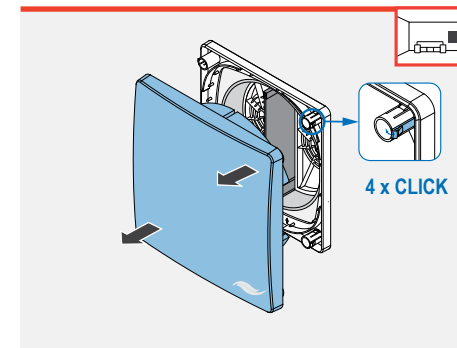
Semi-annually	Heat accumulator	Remove the heat accumulator and clean it under running hot water.
	Fan unit	Clean the fan unit with a brush.
	Activated carbon filter	Replace the used filters.
	Wall sleeve and separators	Wipe the wall sleeve with a slightly damp cloth. Leave the separating element in the wall sleeve. Replace defective separators.
	Base plate Inner cover	Clean the surface of the base plate with a damp cloth.
Cleaning from outside		
Annually	External closure of weather protection hood	Clean the surface of the cover and the protective grille at the outlet opening with a damp cloth.

### 6.1 Remove the cover of the inner cover.

To clean and check the components of the ventilation unit, first remove the cover of the inner cover.

Prerequisite:

The ventilation unit is disconnected from the power supply.



- ▶ Open the inner cover (5.1).
- ▶ Press the lateral latching lugs on the spacers of the inner cover inwards.
- ▶ Pull the inner cover forward.
- ▶ **Make sure** that all spacers disengage.
- ▶ Remove the inner cover to the front.

⇒ You have removed the inner panel cover.

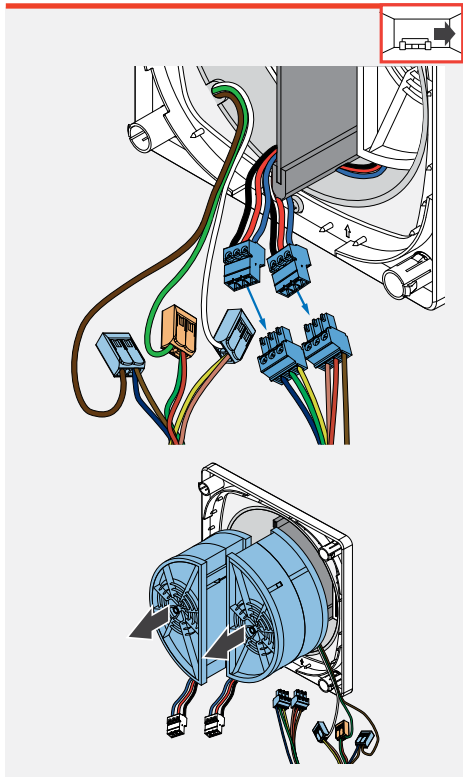


## 6.2 Clean the fan unit and dust filter

**TIP:** inVENTer® Class G3 dust filters are very durable and can be washed several times. We recommend that you clean the dust filters regularly and replace worn filters. For special requirements, pollen and activated carbon filters are available as accessories. Please refer to the filter's instructions for use for the respective installation.

Prerequisite:  
The ventilation unit is disconnected from the power supply.  
The inner cover cover is removed. (📖 6.1)

**NOTE:**  
Depending on the mode of installation of the fan unit (standard installation or installation for use in protection zone 1), the fan units can be dismantled differently.



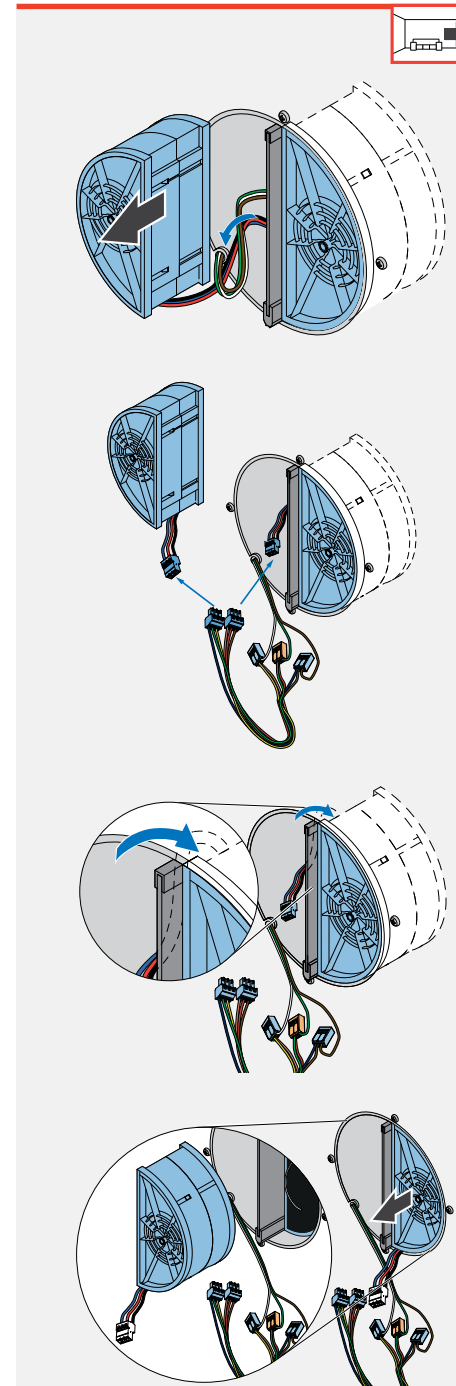
### Dismantling the standard version

▶ Disconnect the two plugs of the fan connectors. The three connection terminals (cable to the controller) are not detached.

▶ Pull the two fan units by the knob out of the wall sleeve.  
**Make sure to carefully** remove the plug connection under the separating plate without loosening the BUS plug connection.

▶ Remove both fan units.

⇒ Both fan units are ready for cleaning and filter replacement (📖 Page 38).



### Dismantling the variant for protection zone 1 (IPX4)

▶ Pull the fan unit, which is located on the side with the fan BUS, a little out of the wall mounting sleeve by the knob.  
**Be careful** to pull carefully, behind this fan unit are the cables and connectors.

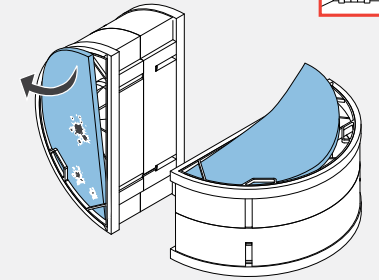
▶ Disconnect the two plugs of the fan connectors. The three connection terminals (cable to the controller) are not detached.

▶ Remove the separate fan unit.

▶ Carefully run the fan cable of the fan unit still in the wall mounting sleeve over the separator back to the side of the fan unit. Remove both fan units. To do this, press the separating element slightly downwards.

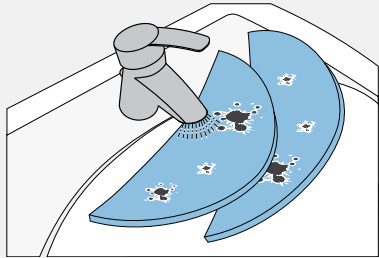
▶ Pull this second fan unit by the knob out of the wall mounting sleeve and put it down.

⇒ Both fan units are ready for cleaning and filter replacement.



▶ Turn the fan units so that the filter holders are visible.

▶ Remove the filters from the filter holder.

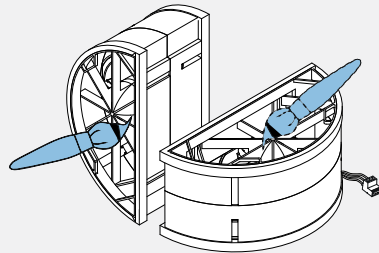


▶ Clean both dust filters under running hot water.

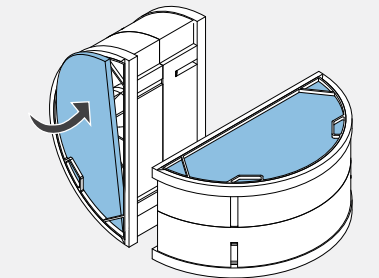
▶ Wait until the dust filters are completely clean and dry.

or

▶ If the filter is defective, dispose of it.



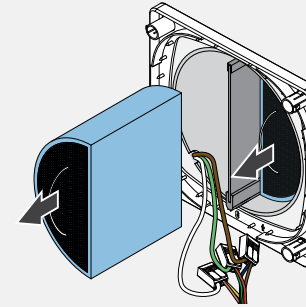
▶ Carefully clean both fan units with a soft brush.



▶ Insert one cleaned or one new dust filter into each filter holder of the fan unit.  
**Be sure** to position the filter firmly between the filter holders.

⇒ You have cleaned/exchanged the dust filter.

### 6.3 Cleaning the heat accumulator



Prerequisite:  
The ventilation unit is disconnected from the power supply. The fan unit is removed. (6.2)

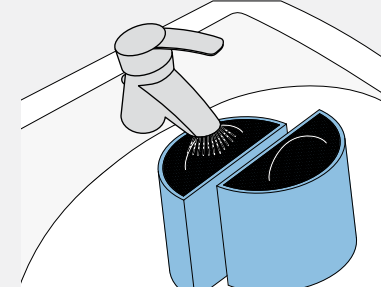
**!** **NOTE: In case of breakage/damage of the ceramic heat accumulator,** the heat accumulators will lose their function!

- Do not throw ceramic heat accumulators.
- Store the ceramic heat storage tank vertically outside the wall sleeve!

▶ Pull out the heat accumulator half cylinders from the wall sleeve by the handle.

**!** **NOTE: Incorrect cleaning of the heat accumulator leads to damage** of the insulation at the heat accumulator.

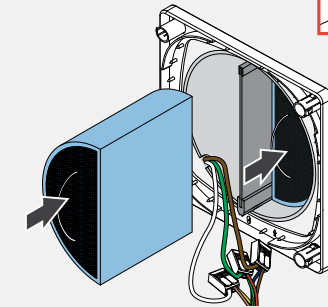
- Never clean in the dishwasher.



▶ Clean both cylinders under running hot water.  
▶ Let the water drip off.  
▶ Wait until the heat accumulator is completely dry.

⇒ You have cleaned the heat accumulator.

### 6.4 Install heat accumulators



Prerequisite:  
The heat accumulator plug-in unit has been removed.

▶ Push the heat storage tank half cylinders to the right and left of the separating element from the interior up to the stop in the direction of the weather protection hood.

**Make sure:**

- that the handle points in the direction of the interior.
- that the fan BUS protrudes into the interior.

### 6.5 Install fan units

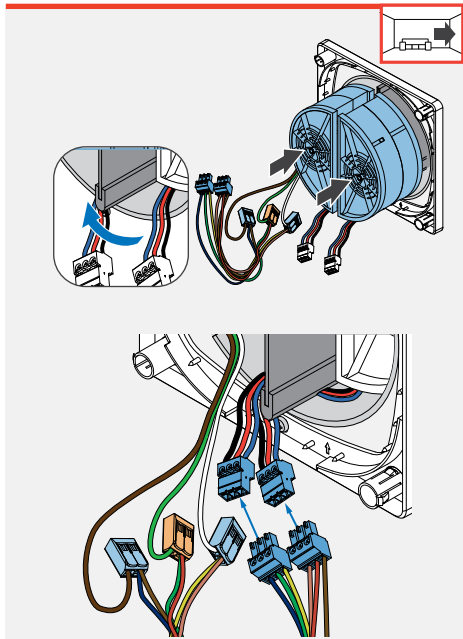


**NOTE:**

The fan units are installed differently depending on where they are used:

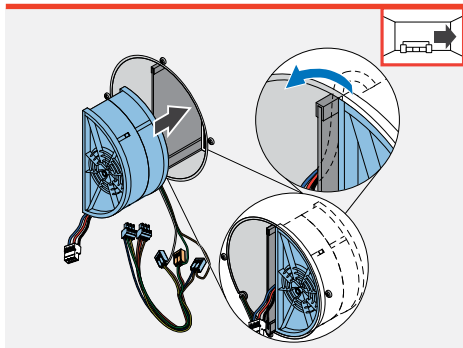
- Use in protection area 2 and higher (standard)
- Use in protection zone 1 (IPX4)

#### Use in protection zone 2 and higher (standard)

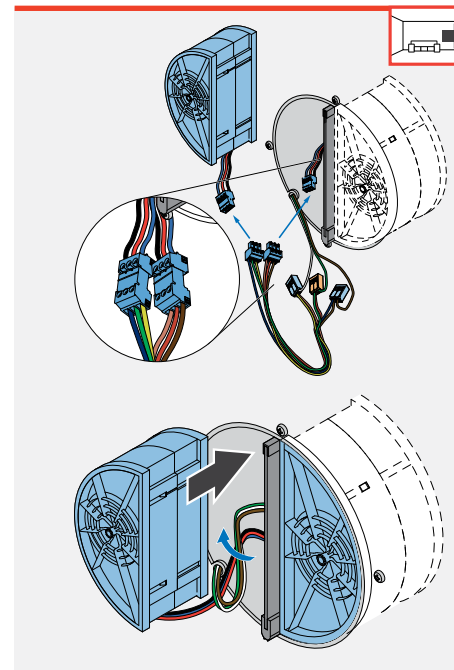


- ▶ Push the fan units back into the wall sleeve so that the filter is directed towards the heat accumulator and the finger protection grille to the interior.
  - ▶ Push both fan units up to the heat accumulators.
  - ▶ Pass one of the fan cables under the sealing lip so that all lines are on the same side of the wall mounting sleeve.
  - ▶ Reconnect the plugs on the fan to the sockets of the connecting cable.
  - ▶ Place the cables into the wall mounting sleeve.
- ⇒ You have reinstalled the heat accumulators and fan units.

#### Use in protection zone 1 (IPX4)



- ▶ Slide a fan unit back into the wall mounting sleeve so that the filter faces the heat accumulator, the finger protection grille to the interior and is flush with the inner wall.
- ▶ Guide the cable with the plug connection over the upper sealing lip to the side with the fan BUS. To do this, press the separating element slightly downwards.

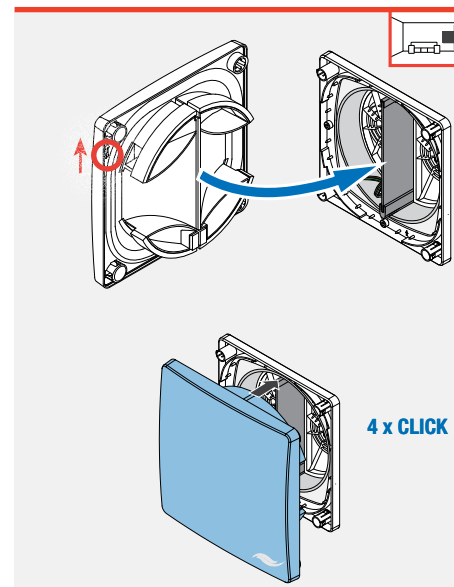


- ▶ Insert the plug of the fan cable of the fan unit already inserted into a socket of the iV-Twin+ connecting cable.
  - ▶ Insert the plug of the fan cable of the second fan unit into the second socket of the connecting cable iV-Twin+.
  - ▶ Slide the second fan unit into the free side of the wall mounting sleeve.
 

**Pay attention:**

    - that the filter is directed towards the heat accumulator and the finger protection grille to the interior.
    - First push the cables and plug connections into the wall mounting sleeve and place them between the heat accumulator and the fan unit.
    - The fan unit must only be pushed in so far that it is flush with the inner wall.
- ⇒ You have reinstalled the heat accumulators and fan units.

### 6.6 Mount the cover of the inner cover



- Prerequisite:  
The heat storage module and fans are installed.
- ▶ Place the cover on the four spacers. **Make sure** that the position arrows on the back of the cover point upwards. Check: The inVENTer logo is at the bottom right. **Ensure** that the separator is inserted into the inner cover holder.
  - ▶ Press the latching lugs on the spacers inwards.
  - ▶ Slide the cover onto the spacers. All spacers will engage noticeably.
- ⇒ You have installed the inner cover.

## 7 Technical Specifications

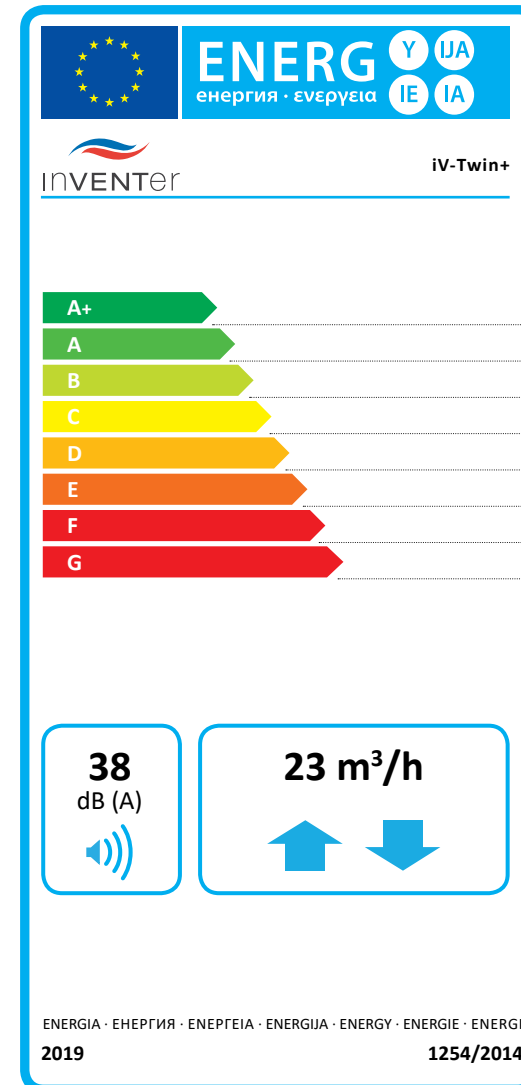
### 7.1 General Specifications

Feature	Parameter
Operating temperature [°C]	-20 – 50
Exhaust air/external air	Without aggressive gases, dusts and oils
Air volume flow in reversing operation [m³/h]	5 – 23
Exhaust air volume flow [m³/h]	10 – 45
Sound pressure level [dB (A)]	12 – 44
Standard sound level difference [dB]	45 – 56
Heat supply rate ( $\eta'_{w}$ )	0.94
Input voltage [V DC]:	6 – 16
Power consumption [W]	0.5 – 3
Volume-flow-related electrical fan power [W/(m³/h)]	0.18
Safety class (DIN EN 61140)	III
Protection class (DIN EN 60529)	IPX4
Filter class Standard filter (DIN EN 779:2012)	G3
Antifreeze	Automatic by reversing operation (down to -20 °C)
Weight [g]	7500
Conformity	CE
Energy efficiency class	A+ / A

### 7.2 Energy label iV-Twin+ according to ErP directive, regulation 1254/2014

You will find the following information from the product data sheet on the energy label:


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




Demand-driven	Manually controlled
MZ-Home sMove with sensors	sMove without sensors
<b>A+</b>	<b>A</b>

7.3 Specifications according to ErP Directive, Regulation 1254/2014

Ventilation unit iV-Twin+, demand-controlled:

 Product data sheet iV-Twin+ according to VO 1254/2014 EU of July 11, 2014				
No.	Description		Parameters	
a	Vendor		inVENTer GmbH	
b	Model ID		iV-Twin+	
c	SEC class / Specific energy consumption (SEV) [kWh/(m <sup>2</sup> a)]	cold		-90.439
		average	A+	-44.95
		hot		-18.89
d	Ventilation type		BVU	
e	Drive type		2	
f	Heat recovery system type		regenerative	
g	Degree of temperature change $\eta_t$ [%]		94	
h	Max. air volume flow [m <sup>3</sup> /h]		23	
i	Electrical input power (incl. regulation) [W]		3	
j	Sound power level $L_{wa}$ [dB (A)]		38	
k	Reference air volume flow [m <sup>3</sup> /h]		16.1	
l	Reference pressure difference [Pa]		0	
m	SEL [W/m <sup>3</sup> /h]		0.18	
n	Controlling factor		0.65	
o	Inner and outer transfer [%]		1.8	
p	Mixing ratio [%]		1.8	
q	Position and description of the filter change indicator		Control	
r	Instructions for controllable supply and exhaust air grilles on the façade (single-direction LG only)		None	
s	Internet address		www.inventer.de	
t	Pressure fluctuation sensitivity [%]		44.5	
u	Air tightness between inside and outside [m <sup>3</sup> /h]		3.2	
v	Annual power consumption [kWh/(m <sup>2</sup> a)]		1.05	
w	Annual savings Heating energy [kWh/(m <sup>2</sup> a)]	cold	93.06	
		average	47.57	
		hot	21.51	

Ventilation unit iV-Twin+, manually controlled:

 Product data sheet iV-Twin+ according to VO 1254/2014 EU of July 11, 2014				
No.	Description		Parameters	
a	Vendor		inVENTer GmbH	
b	Model ID		iV-Twin+	
c	SEC class / Specific energy consumption (SEV) [kWh/(m <sup>2</sup> a)]	cold		-85.346
		average	A	-40.596
		hot		-14.96
d	Ventilation type		BVU	
e	Drive type		2	
f	Heat recovery system type		regenerative	
g	Degree of temperature change $\eta_t$ [%]		94	
h	Max. air volume flow [m <sup>3</sup> /h]		23	
i	Electrical input power (incl. regulation) [W]		3	
j	Sound power level $L_{wa}$ [dB (A)]		38	
k	Reference air volume flow [m <sup>3</sup> /h]		16.1	
l	Reference pressure difference [Pa]		0	
m	SEL [W/m <sup>3</sup> /h]		0.18	
n	Controlling factor		1	
o	Inner and outer transfer [%]		1.8	
p	Mixing ratio [%]		1.8	
q	Position and description of the filter change indicator		Control	
r	Instructions for controllable supply and exhaust air grilles on the façade (single-direction LG only)		None	
s	Internet address		www.inventer.de	
t	Pressure fluctuation sensitivity [%]		44.5	
u	Air tightness between inside and outside [m <sup>3</sup> /h]		3.2	
v	Annual power consumption [kWh/(m <sup>2</sup> a)]		2.48	
w	Annual savings Heating energy [kWh/(m <sup>2</sup> a)]	cold	91.55	
		average	46.80	
		hot	21.16	

## 8 Scope of delivery

### Standard components

All standard components are also available as spare parts.

Component	Product Number
iV-Twin+	1001-0203
External closure Weather protection hood incl. sealing strips	
Weather protection hood-Flex Twin+, white – RAL 9016	1508-0113
Weather protection hood-Flex Twin+, grey – RAL 9006	1508-0114
Weather protection hood-Flex Twin+, Nord – RAL 7011	1508-0115
Weather protection hood-Flex Twin+, anthracite – RAL 7016	1508-0128
Weather protection hood-Flex Twin+, special colour	1508-0116
Wall sleeve with Styrofoam disks and mounting wedges	
Wall sleeve R-D200x495	1506-0070
Wall sleeve R-D200x745	1506-0071
Heat accumulator insert	
Heat storage unit iV-Twin+ insert [incl. separating element 765 mm]	1507-0023
Inner cover	
Inner cover Flair Twin+ V-223x233, white	1505-0040

## 9 Accessories and Spare Parts

To order accessories for your ventilation system, please contact your local factory representative.

### Accessories

Component	Product Number
Dust filter iV-Twin+ (1 Set)	1004-0192
Pollen filter iV-Twin+ (1 Set)	1004-0193
Activated carbon filter iV-Twin+ (1 Set)	1004-0194
Sound protector SPR iV-Twin+ (2 x)	1004-0189
Sound protection insert iV-Twin+ (2 x)	1004-0190

Komponente	Artikelnummer
Round cable LiYY-O 3x0,75 (33m)	1004-0020
Mounting wedge set (block with 16 wedges)	3009-0012
Styrofoam disk R-D196x30 (for wall sleeve)	3007-0088
Simplex 365 incl. wall sleeve R-D200	1506-0090
Simplex 490 incl. wall sleeve R-D200	1506-0091
Wall mounting block D230 V-280x249x120	3008-0078
Styrofoam disk R-D230x30 (for wall mounting block)	3007-0106
WEH R-D200 Extension Set	1004-0176
Insulation dowel set	1004-0067

### Spare Parts

Component	Product Number
Heat accumulator iV-Twin+ half cylinder	2002-0075
Fan unit iV-Twin+ half cylinder	2007-0035
Separator iV-Twin+ R-D200x765	2002-0077
Connecting cable iV-Twin+	2007-0036
Base plate IB Flair V-233x233	2003-0223
Cover IB Flair Twin V-233x233	2003-0231
Base plate spacer IB 25mm white	3006-0151
Base plate WSH-Nova R/Flex, white– RAL 9010	3006-0272
Base plate WSH-Nova R/Flex, grey– RAL 7004	3006-0274
Cover WSH-Flex, white – RAL 9016	2004-0202
Cover WSH-Flex, grey – RAL 9006	2004-0203
Cover WSH-Flex, Nord – RAL 7011	2004-0204
Cover WSH-Flex, anthracite – RAL 7016	2004-0210
Cover WSH-Flex, special colour	2004-0205
Separating insert WSH-Flex Twin+	3006-0303

## 10 Troubleshooting and Disposal

### Troubleshooting

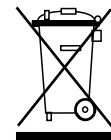
Fault	Possible cause	Correction
Fan failure	No electrical voltage.	Check fuse.
	Installation error.	Check cables for correct polarity. Check all connectors for correct seating. Check use of ferules.
	Fan defective.	Replace fan.
	Controller/power supply defective.	Replace controller/power supply unit.
Fan does not switch off.	Controller defective.	Replace controller.
Air volume flow low	Cover closed.	Open the cover.
	Dust filter very dirty.	Clean/replace dust filter.
	Pollen filter/activated carbon filter inserted.	Pollen or activated carbon filter reduces the air volume flow. Only use the filter during peak periods. Replace filter if heavily contaminated.
	Fan speed too low.	Increase power level.
	Heat accumulator contaminated.	Cleaning the heat accumulator
Noise	Foreign matter in the fan.	Remove foreign matter from fan. Cleaning the ventilation system.
	Fan blades dirty.	Clean fan blades.
	The heat accumulator is not correctly seated in the wall sleeve.	Pull the heat accumulator out of the wall sleeve. Insert again. Push the heat accumulator into the wall sleeve as far as it will go.
	Fan speed very high.	Lower power level on the controller.

Fault	Possible cause	Correction
Supply air cold	Installation error.	Check the position of the plug on the controller. The plug must be firmly fixed in the connector housing.

### Disassembly

Disassemble the ventilation unit in reverse order. You can then dispose of your old unit. Observe the instructions below. Disposal recommendations.

### Disposal



The products described in these Installation and Operating Instructions contain valuable materials that can be recovered and recycled. The separation of the waste materials into different types facilitates the recycling of the recyclable material. For environmentally sound recycling and disposal of your old system, contact an electronic equipment disposal company. This company disposes of the product in accordance with the applicable national regulations. Also dispose of the packaging of the product sorted by type.

In the following table you will find disposal recommendations.

Product	Material	Disposal
Weather protection hood Flex Twin+	powder-coated stainless steel / ASA	Used metal collection / Recyclables collection
Reversing fan	PBTP/PA	Collection point for electronic devices
Fan unit	PC	Recyclables collection
Wall sleeve	PPs	Recyclables collection
Separating element	PPs	Recyclables collection
Wall sleeve	PPs	Recyclables collection
Inner cover Flair Twin+ V-233x233	PS-SZ	Recyclables collection
Heat accumulator	Ceramics	Domestic waste
Dust filter G3	TPU/PES	Domestic waste
Pollen filter	PES	Domestic waste
Activated carbon filter	Polyester fleece with activated carbon	Domestic waste



**11 Warranty and Manufacturer's Warranty**

**Warranty**

Outside Germany, the national warranty regulations of the country in which the system is sold apply. Contact the dealer in your home country.

The warranty covers all defects that existed at the time of purchase. Observe the intended use in order to maintain the warranty claim.

**Manufacturer's Warranty**

inVENTer GmbH offers a 5-year warranty on all electronic components and the wall mounting components. The heat accumulator has a 30 year warranty on the ceramic of the heat accumulator. This covers a premature product wear.

Information on the warranty conditions can be found at [www.inventer.de/garantie](http://www.inventer.de/garantie)

**12 Service**

**Complaints**

On receipt, check the delivery for completeness and transport damage on the basis of the delivery note. Complain any missing items immediately, at the latest within 14 days, to your supplier, dealer or factory representative.

**Warranty and guarantee claims**

In the event of a warranty or guarantee claim, contact the dealer or factory representative responsible for you.

Always return the complete device to the manufacturer.  
The warranty claim is an additional offer of the manufacturer and does not affect any applicable law.

**Accessories and spare parts**

To order components for your ventilation unit, please contact your factory representative or our service staff.

**Technical customer service**

Contact our service staff for technical advice:



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+49 (0) 36427 211-113  
[info@inventer.de](mailto:info@inventer.de)  
<http://www.inventer.de>

**Attachment 1: Cleaning protocol**

We recommend documenting the cleaning activities carried out in the table below. Recommendations for the cleaning interval can be found in Chapter 6: Cleaning and Maintenance - Cleaning Recommendations, page 29.

Date	Number of inspected devices	Cleaning /inspection activity <sup>1)</sup>			Comment	Name /Signature
		A	B	C		

<sup>1)</sup>Cleaning / Inspection Activity: Inspection (I), Cleaning (C), Replacement (R)

Component	Name / Scope	Activity
A	Inner cover	Clean
B	Ceramic heat accumulator, fan unit, wall sleeve, separating element, filter,	all except filters: Clean / Filter: Check, clean if necessary or replace if defective
C	Accessories	Check, clean if necessary or replace if defective

Date	Number of inspected devices	Cleaning /inspection activity <sup>1)</sup>			Comment	Name /Signature
		Component				
		A	B	C		

<sup>1)</sup>Cleaning / Inspection Activity: Inspection (I), Cleaning (C), Replacement (R)

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A	Inner cover	Clean
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C	Accessories	Check, clean if necessary or replace if defective

Date	Number of inspected devices	Cleaning /inspection activity <sup>1)</sup>			Comment	Name /Signature
		Component				
		A	B	C		

<sup>1)</sup>Cleaning / Inspection Activity: Inspection (I), Cleaning (C), Replacement (R)

Component	Name / Scope	Activity
A	Inner cover	Clean
B	Ceramic heat accumulator, fan unit, wall sleeve, separating element, filter,	all except filters: Clean / Filter: Check, clean if necessary or replace if defective
C	Accessories	Check, clean if necessary or replace if defective

**IMPRESSUM**

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