



inVENTer

Installation instructions

iV-Light



Ventilation device
with heat recovery



www.inventer.eu

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Disclaimer

This documentation represents a translation the original German installation instructions. After completion of the installation the information regarding access to these installation instructions must be handed over to the user (tenant, owner, property management, 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. You can also find the latest version at www.inventer.eu/downloads.

Company information

Publisher:

inVENTer GmbH
Ortsstraße 4a
D-07751 Löberschütz
Germany

Phone: +49 (0) 36427 211-0
Fax: +49 (0) 36427 211-113
E-mail: info@inventer.de
Web: www.inventer.eu

CEO: Annett Wettig
VAT ID number: DE 815494982
Jena District Court HRB 510380

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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 device.

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:



SIGNAL WORD: Type and origin of the hazard. Possible consequences of the hazard!
Measures to avoid the hazard.

The signal word indicates the severity of the potential hazard 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 means: 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:



A **TIP** 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 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-Light 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 equipment/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.

These installation instructions only cover the standard variant (referred to as the "Standard variant" in the following text) of the iV-Light ventilation device. Information on the variants can be found in the separate installation instructions for the respective components.

Intended use

The ventilation device is designed to ventilate dwellings and similar residential spaces 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 device (hereinafter 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 on proper transportation, proper storage and installation, as well as careful operation and cleaning / care.
- The ventilation device is based on the free movement of air between individual pairs of ventilation devices. Therefore, internal doors must not have air-tight seals. Provide suitable air transfer measures to create a room network (cross ventilation).

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 devices and control devices must be checked at the installation site and, if necessary, adapted to the local conditions with the involvement of the responsible planner or user. For optimum functionality, it is recommended to install the device at 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 12 f.).
- **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 exterior closures, 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 exterior closures. 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 device 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 reversible fan operates with protective extra-low voltage. It must not be connected directly to the 230 V power grid.
- **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:** Completely remove the cable sheath from the fan BUS. This avoids any malfunction of the ventilation device caused by cable breakage when inserting the inner cover.
- When using several ventilation devices controlled by several controllers, you must ensure that the ventilation devices are synchronised with each other (see installation and operating instructions for controllers). You should connect all controllers via a mains fuse in the house distribution board.

If your device 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 device 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 it 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.eu/downloads/> .

2 System overview: iV-Light ventilation device

The iV-Light ventilation device 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. Installation is generally carried out in the exterior wall.

The ventilation device consists of a wall sleeve in which the thermal accumulator insert is mounted. A lockable inner cover conceals the iV-Light discreetly from the interior. The filter integrated into the inner cover ensures that no pollen or dust from outside enters the interior. Outside, a weather protection hood 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 495 mm. For thicker walls, a wall sleeve with a length of 745 mm can be ordered. Both versions can be shortened on site.

The ventilation device is controlled via one of the following inVENTer system controllers¹⁾:

- Pure
- sMove
- inVENTer Connect²⁾
- MZ-Home

Components

- Inner cover incl. ISO Coarse 60 % filter
- Thermal accumulator insert (thermal accumulator and inVENTron)
- Wall sleeve
- External termination
- Pollen and activated carbon filter (optional)
- Sound and wind protection accessories (optional)

Models

The ventilation devices of the iV-Light product range differ in their external terminations. Additional inner covers are also available. This documentation only contains information on the standard version of the ventilation device. For information on the variants of the external and internal terminations, please refer to the separate installation instructions for the respective component.

- **Standard variant:** iV-Light ventilation devices with weather protection grille (white).

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

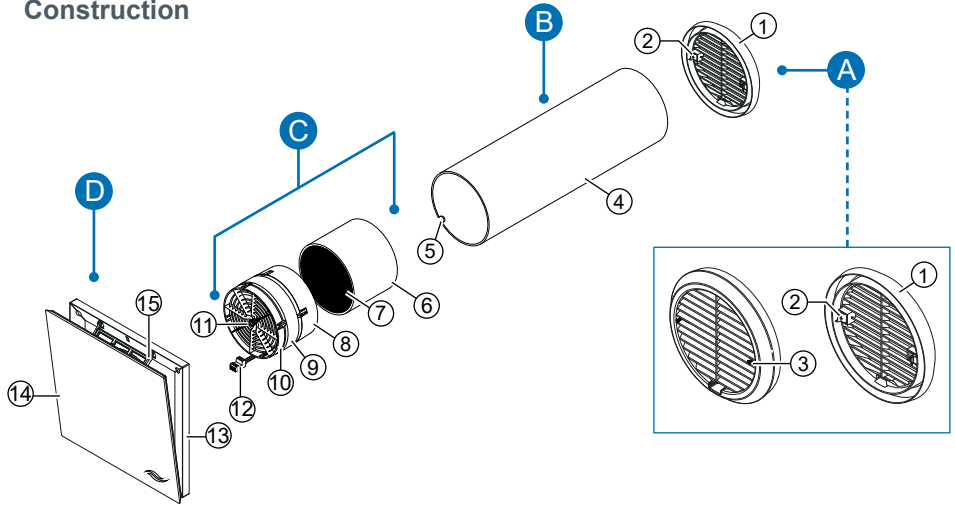


Figure 1: Overview of the iv-Light ventilation device

Components

A External termination: Light weather protection grille¹⁾

- 1 Weather protection grille
- 2 Fixing claws (2 x, pre-installed)
- 3 Fixing screws (2 x, pre-installed)

B Wall sleeve

- 4 R-D160 wall sleeve
- 5 Recess for controller connecting cable

C Thermal accumulator insert (thermal accumulator and inVENTron)

- 6 Thermal accumulator with insulation
- 7 Thermal accumulator handle
- 8 Standard guiding vane (45 mm)
- 9 Xenion reversible fan
- 10 Slim guiding vane (16 mm)
- 11 Guiding vane knob
- 12 BUS plug connection

D Light inner cover

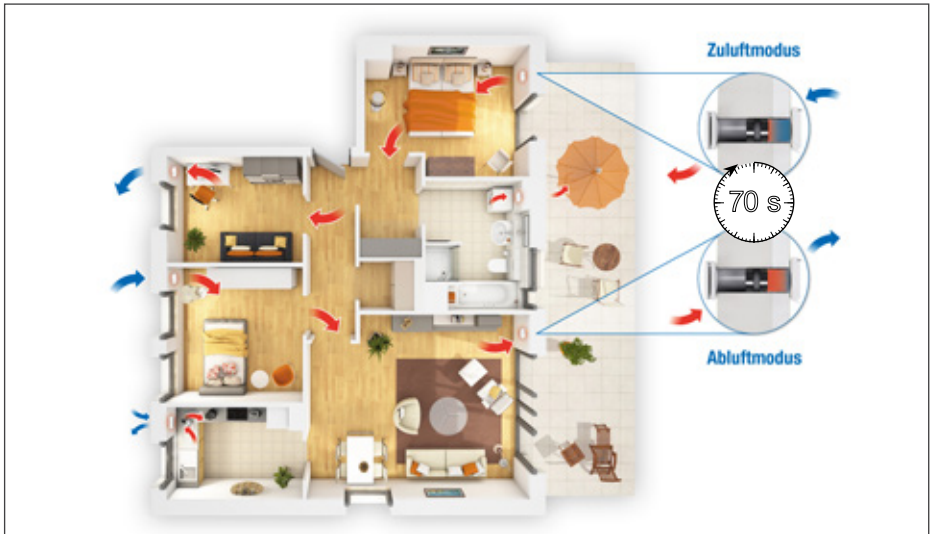
- 13 Inner cover base plate
(incl. ISO Coarse 60 % dust filter)
- 14 Inner cover panel
- 15 Connecting element

¹⁾ The description of the components of all other possible external terminations can be found in the separate installation instructions of the respective external termination.

2.2 Function

Decentralised ventilation

Decentralised ventilation systems combine extract and supply air and are based on free air movement between individual pairs of ventilation devices (cross-ventilation). The cross-ventilation principle allows the air to circulate through the entire residential device and also sufficiently ventilate interior living spaces. Each ventilation device is mounted in its own air duct so as not to obstruct other ventilation processes.



The decentralised iV ventilation systems with heat recovery consist of ventilation devices arranged in pairs with simple air flow. They operate according to the principle of heat recovery by changing the direction of the fan. The integrated thermal accumulator is charged with the thermal energy of the room air as it flows externally (extract air). After 70 seconds, the reversing fan changes the direction of rotation each time. After the direction of rotation has changed, the heat accumulator releases the stored heat energy to the incoming fresh 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 extract air volume, i.e. at least two ventilation devices 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 extract air from the interior to the outside.

You operate the iV ventilation systems intuitively with the matching inVENTer controllers. Different operating modes or the air volume flows can be set individually.

The most important components of the iV system are the ceramic thermal accumulator, the reversing fan, air guiding vanes for straightening the air volume flow, filters for different hygienic requirements, a closable inner cover and an outer cover. A control device (controller) completes the system.

Ventilation device iV-Light

The iV-Light ventilation devices are used to provide ventilation for living rooms and bedrooms. An integrated ceramic thermal accumulator ensures optimum heat recovery.

It 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 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 at 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.

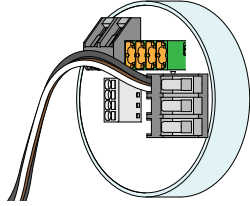

As standard, a washable ISO Coarse 60 % class dust filter is unobtrusively and easily accessible integrated into the inner cover. This filters coarse dust and allergenic particles (such as coarse flower pollen) from the air before they can enter the interior. The dust filters can be used regardless of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

Optional pollen and activated carbon filters are available for special requirements.

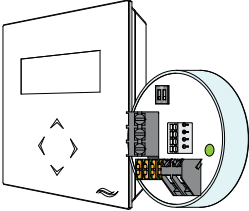
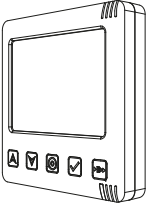
2.3 Control elements

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 s8: Max. 8
Multi-zone control	No	No
Operating concept	<ul style="list-style-type: none"> • Switch 	<ul style="list-style-type: none"> • Touch
Operating modes	<ul style="list-style-type: none"> • Heat recovery • Through-ventilation • OFF (standard version only) 	<ul style="list-style-type: none"> • Heat recovery • Through-ventilation • OFF (standard version only)
Functions	<ul style="list-style-type: none"> • Pause-Function (1 h) 	<ul style="list-style-type: none"> • Pause-Function (1 ... 8 h) • Boost-Function (1 h)
Fan speed	3 Output levels, predefined	infinitely adjustable, 4 Output levels, predefined
Unit communication	<ul style="list-style-type: none"> • Cable 	<ul style="list-style-type: none"> • Cable
External interface	1 potential-free switching contact per control module: <ul style="list-style-type: none"> • Pressure switch (NC) • Other sensors (NO) 	1 potential-free switching contact per controller: <ul style="list-style-type: none"> • Pressure switch (NC) • Other sensors (NO)

Multi-zone control

Designation	MZ-Home	inVENTer Connect
	 <p><i>Operating Unit & Clust-Air module</i></p>	 <p><i>Easy Connect e16</i></p>
Number of controllable ventilation devices	Max. 16 (excl. sensors)	Max. 16 (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	<ul style="list-style-type: none"> • Touch • Weekly timer 	<ul style="list-style-type: none"> • Touch • Ventilation profiles (time controlled) • App control
Operating modes	<ul style="list-style-type: none"> • Heat recovery • Through-ventilation • OFF 	<ul style="list-style-type: none"> • Heat recovery • Through-ventilation • OFF
Functions	<ul style="list-style-type: none"> • Pause function (1... 8h) per zone • Dehumidification with variable air volume flow 	<ul style="list-style-type: none"> • Dehumidification with variable air volume flow and other demand ventilation • Pause function (global and zonal) • Boost function (global and zonal) • Basement ventilation • Summertime ventilation
Fan speed	4 Output levels, freely selectable	4 Output levels, freely selectable
Unit communication	<ul style="list-style-type: none"> • Cable 	<ul style="list-style-type: none"> • 868 MHz wireless network • Cable
External interface	1 potential-free switching contact per Clust-Air module (max. 4) <ul style="list-style-type: none"> • Pressure switch (NC/NO) • Other sensors (NO) 	Several different sensors per controller platform (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 devices 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 [UEFF]).
- 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 internal and external wall:

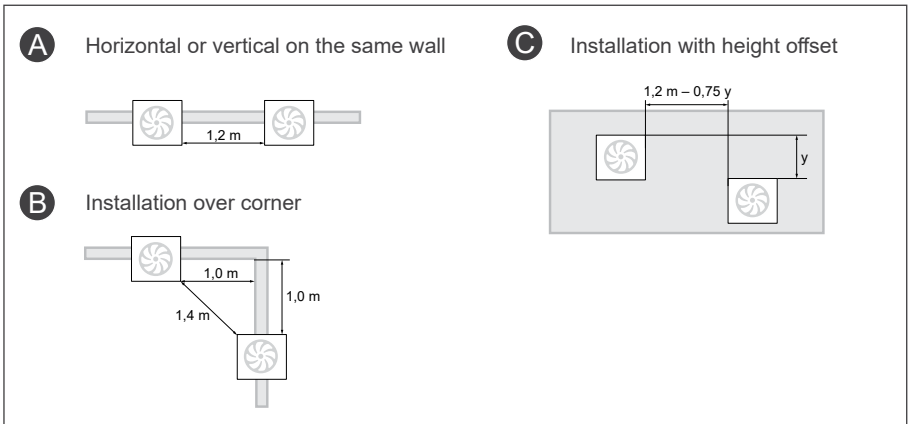


NOTICE: Malfunction due to incorrect positioning of the ventilation device.

- Note insulation thickness and possibly shutters!
- Do not install near radiators!
- Observe minimum distance of 1.2 m to adjacent air openings!

Terminal component	Distance from centre of hole on the		
	External wall [mm]	Internal wall [mm]	frontal [mm]
Light weather protection grille	250 circumferential	–	–
Light inner cover	–	250 circumferential	300

- between two ventilation devices (pair of devices) operating in push-pull mode in a room



3.2 Position of the wall opening

For the positioning of the wall sleeve of other variants of your ventilation device, see the installation instructions for your specific external termination.

Standard ventilation device variant [Light weather protection grille]

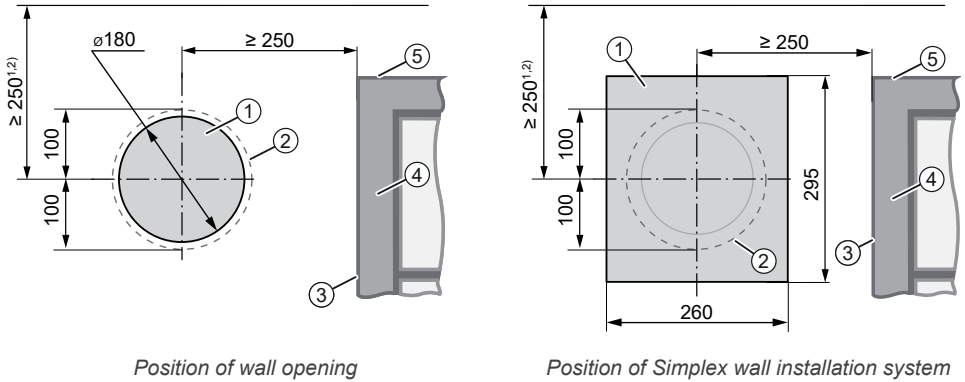


Figure 2: Dimensioned drawing of the iV-Light wall opening (interior view)

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 Wall opening (Fig. 2, left)
Simplex wall installation system (Fig. 2, right) 2 Contour of weather protection grille²⁾ | <ul style="list-style-type: none"> 3 Outer edge of reveal (insulation with plaster) 4 Door/window frame 5 Bottom edge of reveal (lintel)³⁾ |
|---|--|

¹⁾ Minimum distance to adjacent components on the interior wall

³⁾ Note insulation thickness and any roller shutters

²⁾ Ensure a minimum distance to adjoining components on the exterior wall

3.3 Dimensions

Designation	Depth/length [mm]	Width [mm]	Height [mm]
Wall opening for wall sleeve	Wall thickness ¹⁾	Ø180	
R-D160 wall sleeve	495 (745)	Ø160	
Light weather protection grille	43	Ø200	
Light V-220x220 inner cover	72 ²⁾	220	220

¹⁾ with render, insulation, masonry and plaster

²⁾ Open, incl. connecting piece

3.4 Sectional drawings of the ventilation device

For sectional drawings of other variants of your ventilation device, see the installation instructions for your specific external termination.

Sectional drawing of the iV-Light ventilation device

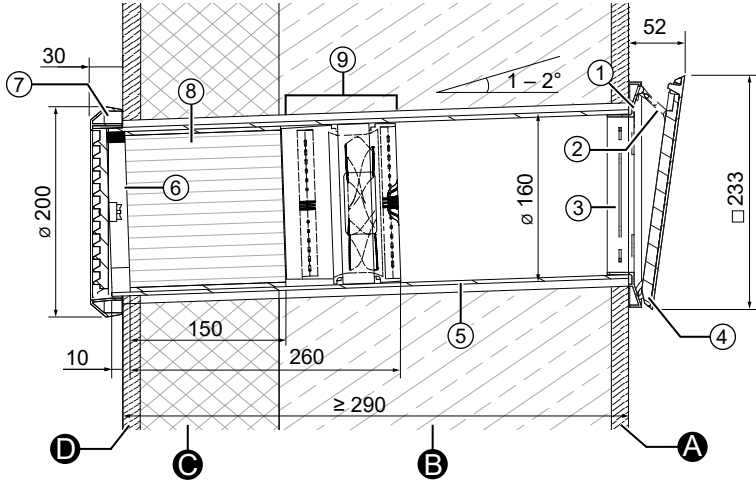


Figure 3: Sectional drawing of the iV-Light ventilation device

A Interior plaster/ interior structure
 B Masonry

C Insulation
 D Render

1 Inner cover base plate
 2 Connecting element
 3 Filter holder
 4 Inner cover panel
 5 R-D160 wall sleeve
 6 End-stop tape

7 External termination:
 Weather protection grille
 8 Thermal accumulator
 9 inVENTron:
 Xenion reversible fan embedded in double
 guiding vane

3.5 Dimensional drawings of components

Light weather protection grille

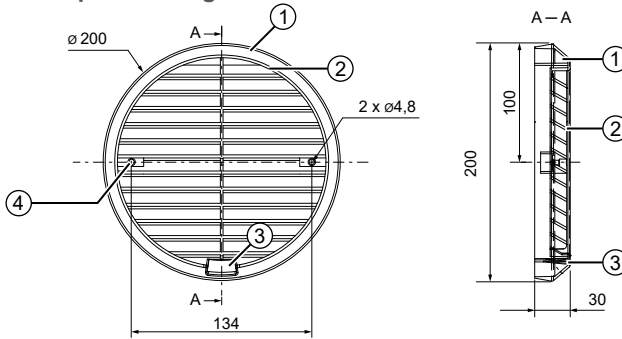


Figure 4: Dimensional drawing of the Light weather protection grille

- | | |
|-----------|-----------------------|
| 1 Frame | 3 Condensate drip |
| 2 Louvers | 4 Fixing screws (2 x) |

Light inner cover

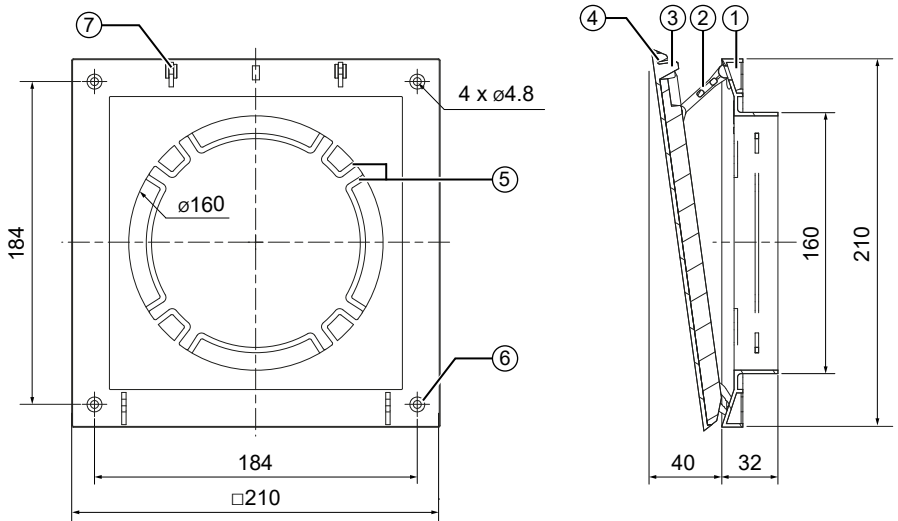


Figure 5: Dimensional drawing of Light V-220x220 inner cover

- | | |
|--------------------------|--|
| 1 Inner cover base plate | 5 Filter holder |
| 2 Connecting element | 6 Interior wall fixing hole (optional) |
| 3 Locking hook | 7 Connecting element fixing |
| 4 Inner cover panel | |

4 Installation and assembly



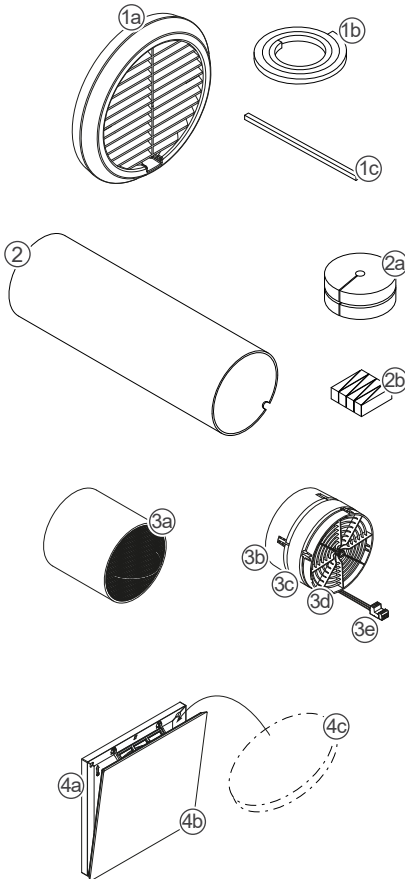
Read the section carefully before installation to avoid installation errors. The installation and connection of the ventilation device must be carried out by qualified personnel.

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 external terminations variants, 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 External termination

- 1 a: Light weather protection grille incl. fastening elements for exterior wall
- 1 b: Sealing tape
- 1 c: End-stop tape

2 R-D160 wall sleeve

- 2 a: Styrofoam discs
- 2 b: Mounting wedges set

3 iV-Light thermal accumulator insert

- 3 a: Insulated thermal accumulator
- 3 b: Standard guiding vane (45 mm)
- 3 c: Xenion reversible fan
- 3 d: Slim guiding vane (16 mm)
- 3 e: BUS plug connection

4 Light inner cover

- 4 a: Inner cover base plate with connecting element
- 4 b: Inner cover panel
- 4 c: ISO Coarse 60 % dust filter

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.

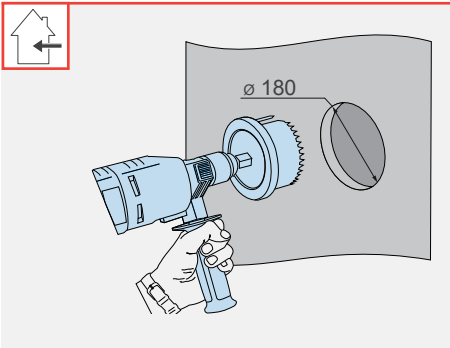
In new buildings we recommend the use of the optional Simplex D160 wall installation system, D180 wall block, or Woodplex for timber post and beam construction.

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 \varnothing 180 mm, additionally if flush-mounted inner cover is installed: chisel

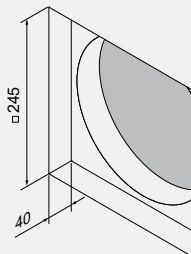
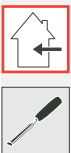


Requirements:

- The masonry must be dry and in a load-bearing condition.
 - No load-bearing elements in the position of the drill hole.
- ▶ Drill a wall opening, \varnothing 180 mm at installation position of ventilation device.
- 👁️! The wall sleeve must have a slope of 1 – 2° to the exterior wall side. Alternatively the drilling can be carried through 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.

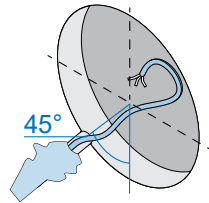


NOTICE: Cable to the wall opening of the ventilation device not

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 controllers 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 device, 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 mm ²	Pure controller module
sMove			sMove operating device
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 mm ²	House distribution, ventilation sub-distribution
	Unit communication (only if the system components communicate by cable [otherwise radio])	RS485 data cable, e. g.: Type J-Y(ST)Y 2x2x0.8 mm ²	Easy Connect e16 operating device

Principle sketches for cable laying

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

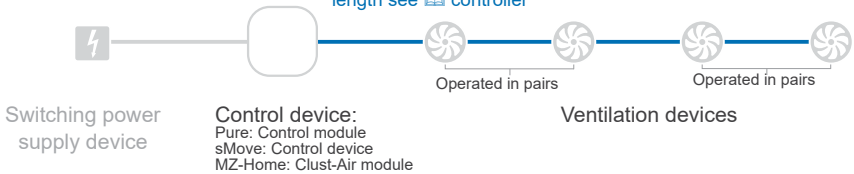
Pure, sMove and MZ-Home controllers



~~6 – 16 V DC~~
~~230 V AC~~

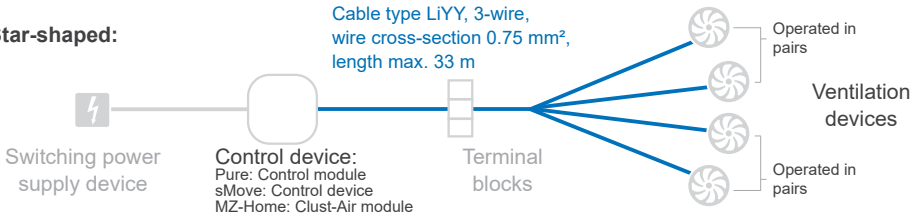
One after the other:

Cable type LiYY, 3-wire, wire cross-section 0.75 mm², length see controller



Star-shaped:

Cable type LiYY, 3-wire, wire cross-section 0.75 mm², length max. 33 m

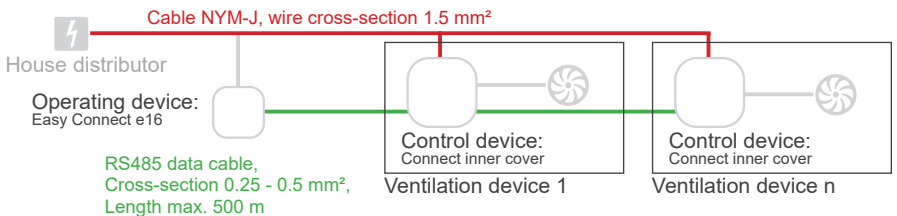


inVENTer Connect controller platform

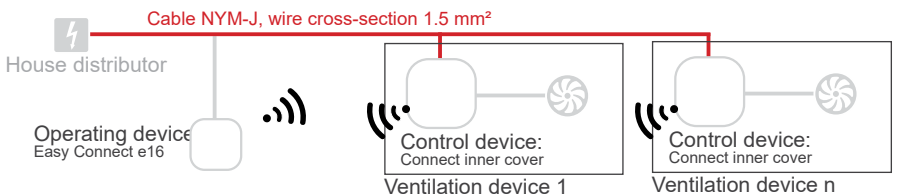


~~6 – 16 V DC~~
~~230 V AC~~

System communication by cable:



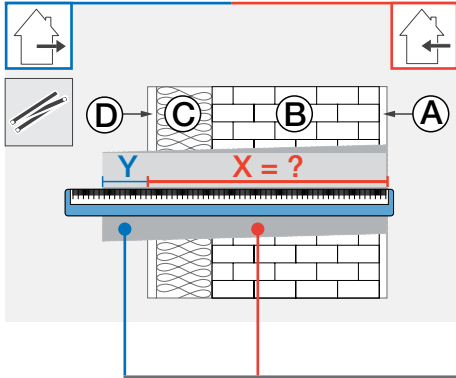
System communication by radio:



4.4 Installing the wall sleeve



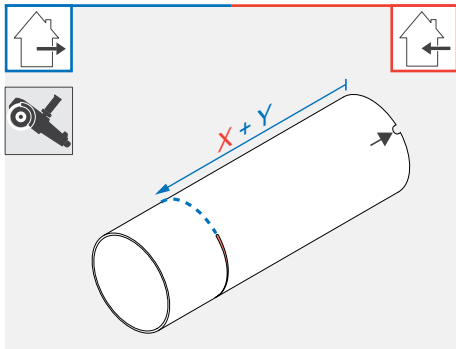
Measuring tape, angle grinder, spirit level, non-pressing 2K polyurethane foam, cutter, mounting wedge set and styrofoam discs



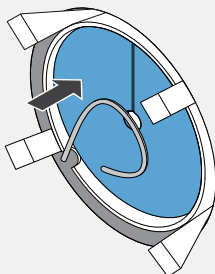
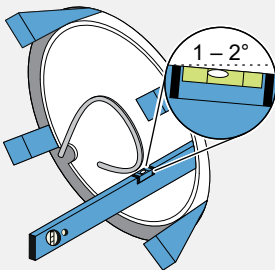
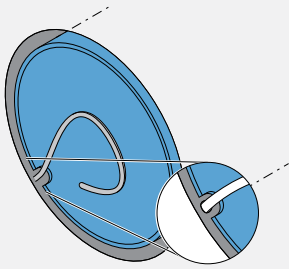
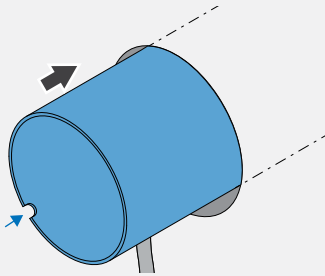
Requirements:

- 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
 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 or masonry)


	X in [mm] =		Y in [mm] =
Inner cover	Light	Connect UP	
External termination	Connect AP	Undercover	
Standard	A + B + C + D	A + B + C + D - 38	10



- 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.
- File the edges.



- ▶ Remove the styrofoam discs from the wall sleeve.
- ▶ Insert the wall sleeve into the wall opening so it is flushed 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 of condensation water in the wall 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.

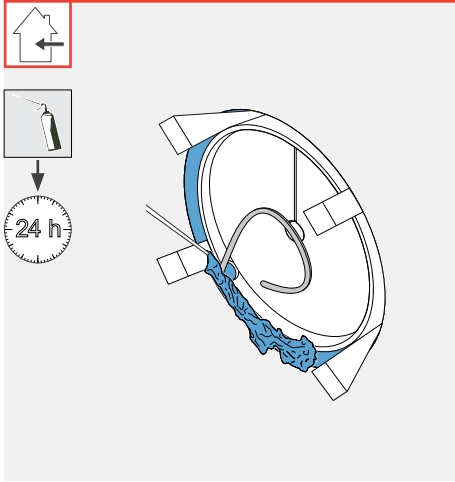
- ▶ Check the angle of the wall sleeve using a spirit level.



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.

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



Light:

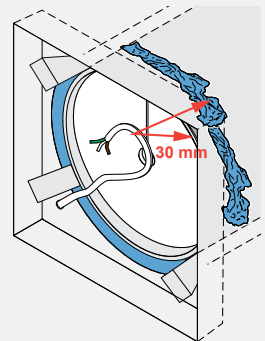
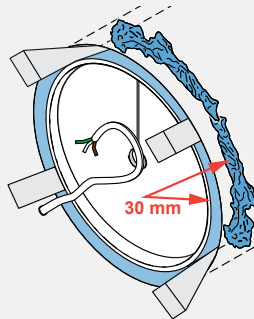
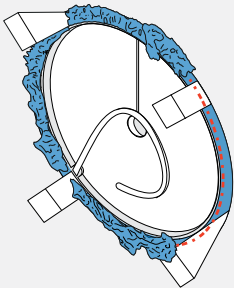
- Flush with the interior wall,
- Flush with the exterior wall

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



Take care not to damage the connecting cable on the interior wall.

⇒ The wall sleeve is installed.

4.5 Installing the ventilation device's external termination

The assembly of the external termination variants is not part of this documentation!
It can be found in the installation instructions for the respective external termination.



NOTICE

Installation on unfinished exterior walls leads to damage to the external termination!

- Only install the external termination once the exterior wall is finished and has fully dried.



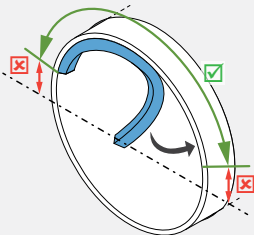
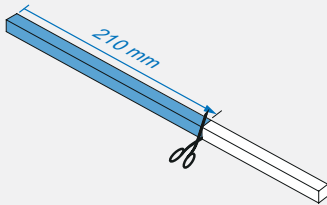
NOTICE

Penetration of condensation water and/or algae accumulation around the external termination leads to damage to the masonry/external wall and/or discolouration of the façade!


- Secure sealing tape all the way around the weather protection grille before installing the external terminal.
- Attach end-stop tape on the exterior wall side in the top half of the wall sleeve.
- Before installation, carry out a biocidal pre-treatment/water-repellent pre-treatment of the surface around the external termination (consult your planner regarding this!).

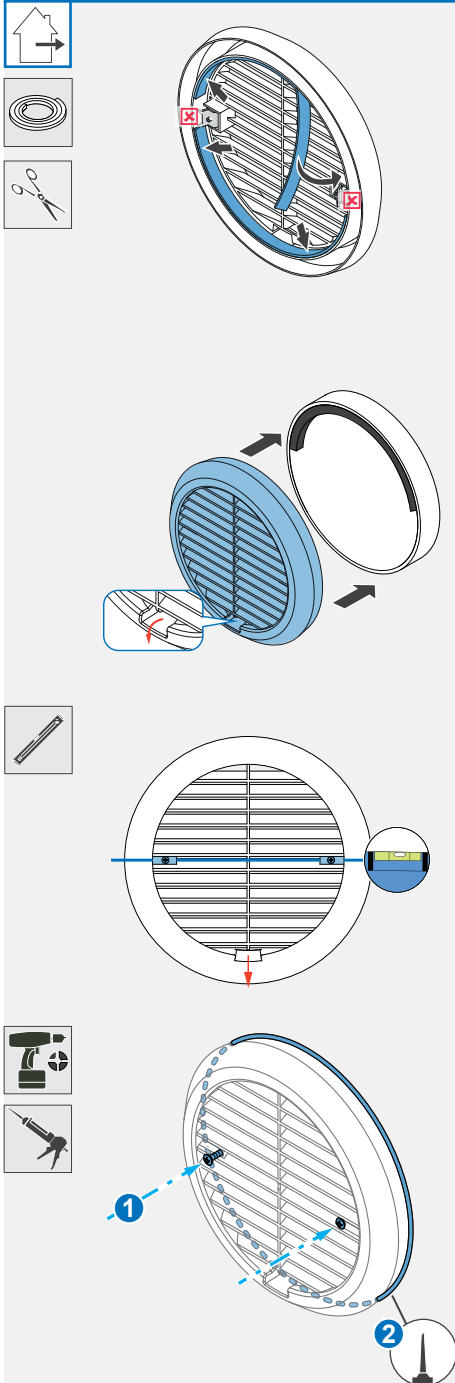


Spirit level, cordless screwdriver, permanently elastic external sealant, sealing tape, screws, scissors



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.
- ▶ Shorten the end-stop tape to 210 mm.
- ▶ Attach the shortened end-stop tape, 210 x 15 mm, on the exterior wall side exclusively in the upper area of the wall sleeve.
-  **!** Both ends of the end-stop tape are located above the horizontal central axis, so that the fixing claws on the weather protection grille are able to hook into the wall sleeve on the left and right.



TIP: 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.

- ▶ Secure the 9 mm sealing tape above and below the fixing claws all the way around the inner ring on the back of the weather protection grille.



Do not affix any sealing tape to the fixing claws.



NOTICE: Damage to masonry/external wall caused by incorrectly aligned condensate drip!

- The condensate drip must point towards the floor.

- ▶ Slide the weather protection grille onto the projecting wall sleeve.



The slope of the condensate drip points towards the floor and is positioned away from the wall.

- ▶ Align the fixing screws with a spirit level.

- ▶ Screw the weather protection grille onto the pre-installed fixing screws. (1)
⇒ The fixing claws hook into the wall sleeve.

- ▶ Seal the joint between the panel and the exterior wall all the way around with a permanently elastic exterior sealant. (2)

⇒ The weather protection grille is installed.

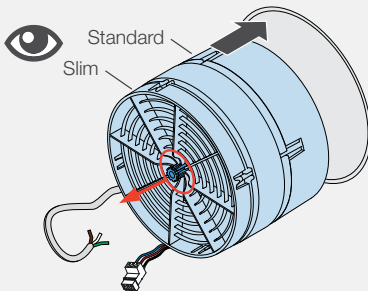
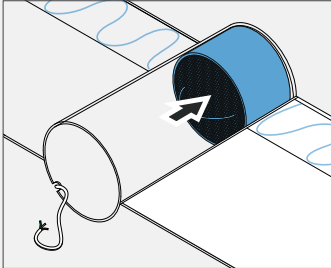
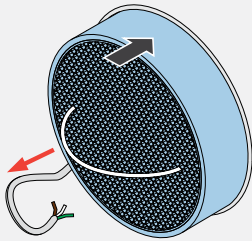
4.6 Inserting the thermal accumulator insert



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 external terminal is fitted.
- ▶ 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 external terminal as far as the end-stop tape.

- ▶ Insert the inVENTron from the interior into the wall sleeve so that you can reach the BUS plug connection.
 - 👁️! **The narrow Slim guiding vane [16 mm] is aligned towards the interior.**

⇒ The thermal accumulator insert has been inserted.

4.7 Electrical connection of the reversible fan

The function of the iV-Light ventilation system requires the simultaneous operation of two iV-Light ventilation units in push-pull mode. This section therefore describes the connection of a pair of units, not a single unit.



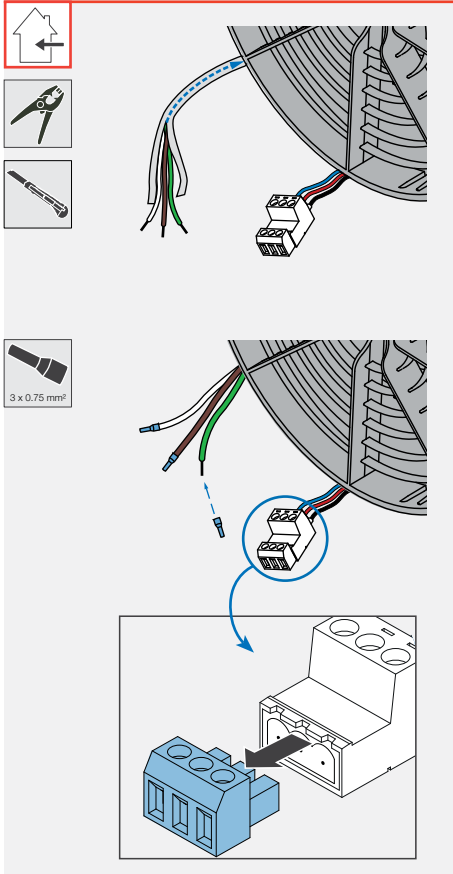
NOTICE

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:

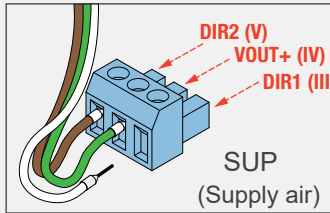
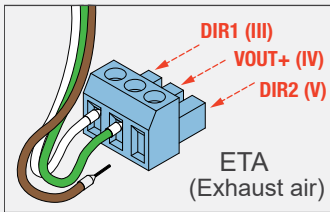
- The reversible fan is inserted into the wall sleeve.
- ▶ Shorten the controller connecting cable, 3-wire, to your determined wall thickness minus 200 mm.
- ▶ Remove the cable sheath from the controller connecting cable.



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 (controller connecting cables) in the plug-in connector.
- 👁️ ! Pair one with starting direction with exhaust air and the other with starting direction supply air

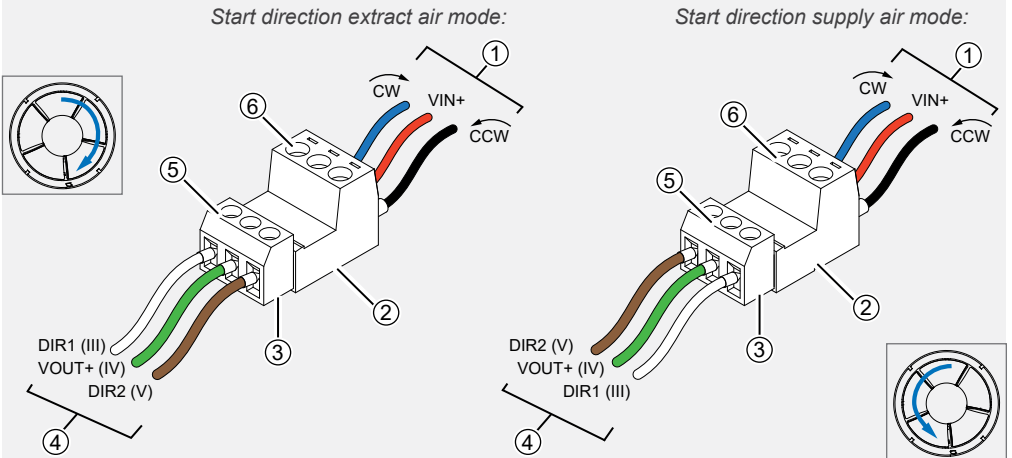
Exhaust air mode:

- (White) cable DIR1 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 V (-) in the left pole.
- (Green) cable IV (+) in the middle pole.
- (White) cable III (-) in the right pole.

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



- 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

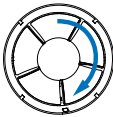
Plug-in connector on the fan cable		Plug-in connector (cable coming from controller)					
		Start direction extract air			Start direction supply air		
Terminal block	Colour	Terminal block	Meaning	Colour	Terminal block	Meaning	Colour
CW	Blue	DIR1 (III)	Signal direction 1	White	DIR2 (V)	Signal direction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

⇒ The reversible fan is connected to the controller.

4.8 Check function and complete fan installation

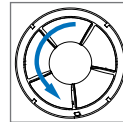
- ▶ Set unidirectional ventilation operating mode (DL - through ventilation) on the connected controller (see the controller's installation and operating instructions).
- ▶ Make sure that all reversible fans rotate in the direction appropriate to their connections.

Start direction extract air mode



Direction of fan clockwise

Start direction supply air mode

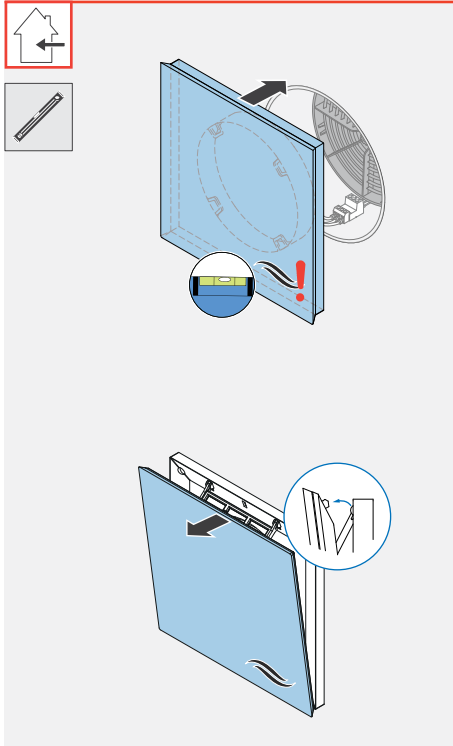


Direction of fan counter clockwise

⇒ inVENTron is connected and installed

4.9 Installing the inner cover

The installation of the interior termination variants is not part of this documentation!
It can be found in the separate installation instructions for the respective component.



Requirements:

- The thermal accumulator insert has been installed.
- ▶ Slide the pre-assembled inner cover into the wall sleeve.
 - 👁️! The inVENTer logo is located at the bottom right.
- ▶ Level the inner cover base plate using a spirit level.





TIP: If the inner cover does not sit firmly enough in the wall sleeve, it can optionally be screwed onto the interior wall. To do this, use the 4 corner drill holes in the inner cover base plate.

- ▶ Pull the panel forwards at the upper edge until you feel locking hook snap into place.

⇒ The inner cover is installed.

5 Technical data

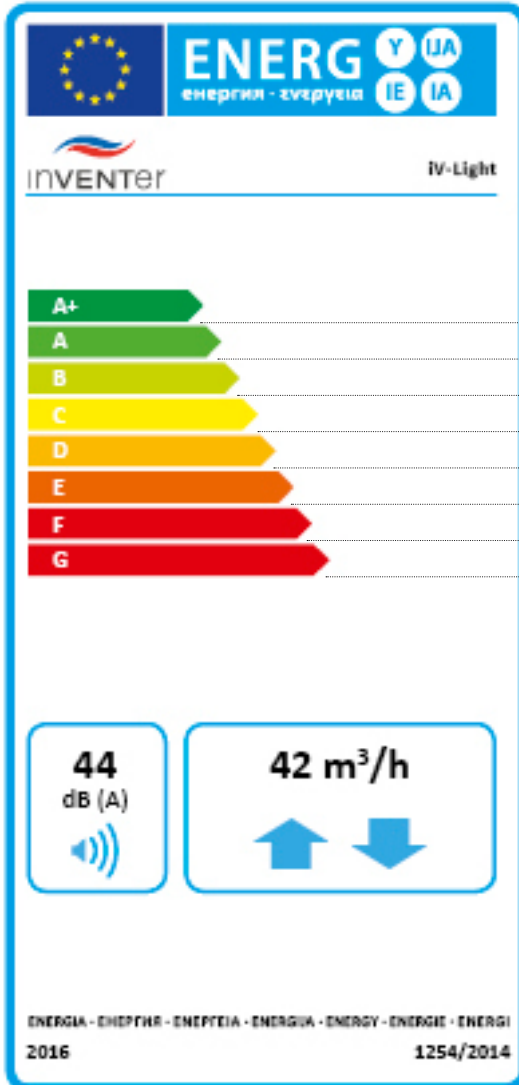
5.1 General specifications

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]	5 – 21
Extract airflow [m³/h] (EN 13141-8)	10 – 42
Sound pressure level, distance 2 m [dB (A)]	14 – 36
Standard sound level difference [dB]	34 – 47
Thermal efficiency of heat recovery ($\eta'w$)	0.84
Input voltage [V DC]	6 – 16
Power consumption [W]	1 – 3
Specific fan power input [W/(m³/h)]	0.2
Protection class (EN 61140)	III
Type of protection (EN 60529)	IP20
Standard filter filter class ISO 16890 EN 779:2012	ISO Coarse 60 % G4
Sensitivity of the air flow at ± 20 Pa (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)
Conformity	 

5.2 iv- Light 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 sensor sMove with sensor Easy Connect e16 MZ-Home	Pure without sensors sMove without sensor

5.3 Specifications according to ErP Directive, Regulation 1254/2014

iV-Light ventilation device, demand-controlled:

 iV-Light product data sheet according to EU Ordinance 1254/2014 dated 11 July 2014				
Pt	Description	Values		
a	Supplier	inVENTer GmbH		
b	Model identifier	iV-Light		
c	SEC class / Specific Energy Consumption (SEC) [kWh/(m ² a)]	Cold		-85.671
		Average	A+	-42.513
		Warm		-17.789
d	Ventilation type	BVU		
e	Type of drive	2		
f	Type of heat recovery system	Regenerative		
g	Degree of temperature change η_t [%]	84		
h	Maximum air flow rate [m ³ /h]	42		
i	Electrical input power (incl. control) [W]	6		
j	Sound power level L_{wa} [dB (A)]	44		
k	Reference air flow [m ³ /h]	29.4		
l	Reference pressure difference [Pa]	0		
m	SEL [W/m ³ /h]	0.18		
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 device		
r	Instructions regarding controllable supply and extract air grilles on the façade (unidirectional ventilation devices only)	None		
s	Internet address	www.inventer.de		
t	Sensitivity to pressure changes [%]	28.5		
u	Airtightness between interior and exterior [m ³ /h]	1.2		
v	Annual power consumption [kWh/(m ² a)]	1.05		
w	Annual savings Heating energy [kWh/(m ² a)]	Cold		88.60
		Average		45.29
		Warm		20.48

iV-Light ventilation device, manually controlled:

 iV-Light product data sheet according to EU Ordinance 1254/2014 dated 11 July 2014			
Pt	Description	Values	
a	Supplier	inVENTer GmbH	
b	Model identifier	iV-Light	
c	SEC class / Specific Energy Consumption (SEC) [kWh/(m ² a)]	Cold	-78.012
		Average	A
		Warm	-13.265
d	Ventilation type	BVU	
e	Type of drive	2	
f	Type of heat recovery system	Regenerative	
g	Degree of temperature change η_t [%]	84	
h	Maximum air flow rate [m ³ /h]	42	
i	Electrical input power (incl. control) [W]	6	
j	Sound power level L_{wa} [dB (A)]	44	
k	Reference air flow [m ³ /h]	29.4	
l	Reference pressure difference [Pa]	0	
m	SEL [W/m ³ /h]	0.18	
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 device	
r	Instructions regarding controllable supply and extract air grilles on the façade (unidirectional ventilation devices only)	None	
s	Internet address	www.inventer.de	
t	Sensitivity to pressure changes [%]	28.5	
u	Airtightness between interior and exterior [m ³ /h]	1.2	
v	Annual power consumption [kWh/(m ² a)]	2.48	
w	Annual savings Heating energy [kWh/(m ² a)]	Cold	84.69
		Average	43.29
		Warm	19.58

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-Light complete set	1001-0200
External termination: Light weather protection grille incl. sealing tapes	
Light weather protection grille, white – RAL 9010	1508-0110
Wall sleeve with styrofoam discs and mounting wedges	
Wall sleeve R-D160x495	1506-0068
Wall sleeve R-D160x745	1506-0069
Thermal accumulator insert	
iV-Light thermal accumulator insert	1507-0021
Inner cover	
Light V-220x220 inner cover, white	1505-0039

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 Light or Undercover manual inner cover.

7 Troubleshooting and disposal

Troubleshooting

Fault	Possible cause	Remedy
Fan failure	No electrical power.	Check fuse.
	Installation error.	Check wiring for correct polarity. Check all connectors for correct fit. 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. Clean the ventilation device.
	Thermal accumulator is not correctly positioned in the wall sleeve.	Slide the thermal accumulator out of the wall sleeve. Insert it again. Slide the thermal accumulator into the wall sleeve as far as the end-stop tape.
	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 ventilation mode.	Select heat recovery mode on the controller.

8 Warranty and guarantee

Warranty

Outside Germany, the national warranty provisions of the country in which the system is sold apply. Please contact the distributor for your country.

The warranty covers all defects that were present at the time of purchase. Failure to observe the intended use will invalidate all warranty claims.

Manufacturer guarantee

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.

Further information about the warranty is available at www.inventer.eu/guarantee

9 Service

Claims

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.

Warranty and guarantee claims

In the case of a warranty or guarantee claim, contact your local distributor or factory representative.

In all cases, please return the complete device to the manufacturer.

The warranty is an additional offering by the manufacturer and in no way affects the applicable law.

Accessories and spare parts

To order components for your ventilation device, contact your nearest distributor or our service staff.

Technical customer service

For technical support contact our service staff:



+49 (0) 36427 211-0

+49 (0) 36427 211-113

info@inventer.de

<http://www.inventer.eu>

inVENTer GmbH
Ortsstraße 4a
D-07751 Löberschütz
Germany
www.inventer.eu

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Item number: 5001-0042
Version: 2.0 – 06/2022

