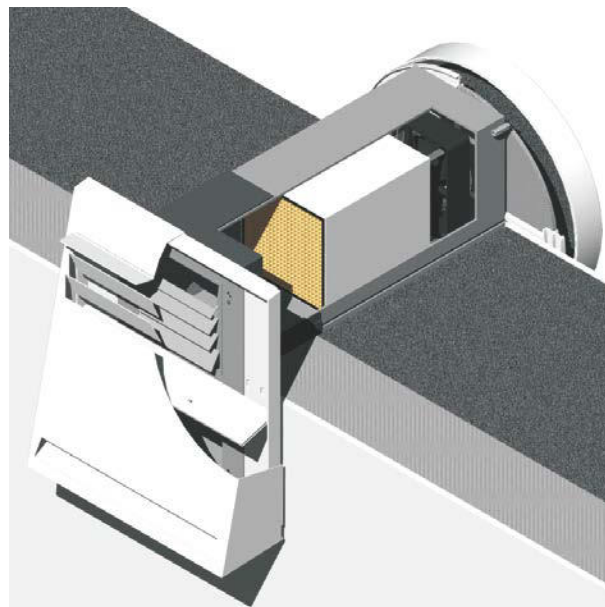




iV-Twin ventilation system

Installation and operating instructions



Manufacturer

inVENTer® GmbH

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1. Assembly Instruction "General Part"



Immediately after receipt please check the goods for transportation damages and completeness (delivery note). Attributable complaints are no longer accepted 3 months after delivery. Please store the goods in a dry and secure place until installation. Carefully store the delivery note.

The ventilation system can only be commissioned after finishing all building activities!

Identification points of the device

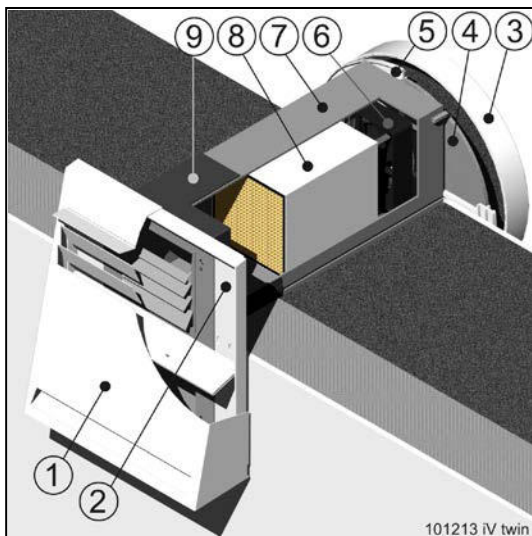
inVENTer iV-Twin, according to construction permit DIBt: Z-51.3-198
Manufacturer: inVENTer GmbH, Ortsstraße 4a, D-07751 Löberschütz



Year of manufacture: 2012

Overview:

- 1: Cover of weather protection hood
- 2: Base plate of weather protection hood
- 3: Panel of inner cover
- 4: Dust filter
- 5: Base plate of inner cover
- 6: Reverse fan (2 x)
- 7: Wall sleeve (double channel)
- 8: Thermal accumulator (2 x)
- 9: Sliding sleeve



inVENTer iV-Twin



inVENTer iV-Twin

inVENTer® Quality and Guarantee

The inVENTer ventilation system is manufactured according to the DIBt permit and strict quality guidelines. Only high-quality and corrosion resistant materials such as plastic, ceramic and stainless steel are used.

The inVENTer ventilator is designed for continuous operation. With only an average 2.5 W connection capacity per ventilator (including controller losses), about 40 times more (heat) energy is saved than used.

We are subject to a statutory warranty period of 2 years. For an additional fee it is possible to extend the warranty for another 3 years. Additionally, we provide a supplemental guarantee of 8 years on the ceramic heat storage tank.



The manufacturer does not assume warranty if the installation was not completed according to the assembly instruction.

Intended use

The inVENTer ventilation system is used to ventilate and aerate living spaces and similar rooms (e.g., offices, medical offices, etc.) and is installed on exterior walls. When planning, installing and operating, please follow the stipulations and valid building codes. The iV-Twin was especially developed for individual room ventilation.

- The inVENTer ventilation system may not be used in rooms that are subject to high levels of dust accumulation (e.g., in model construction) and may not be used in rooms with aggressive or corrosive gases.
- The inVENTer ventilation system may not be operated without a dust filter and inner cover.
- Please close the inVENTer dust-tight during construction work, and put the ventilation system into operation only after concluding the construction work. Please inform the respective contract builders and responsible construction manager.
- The inVENTer ventilation system is not suitable for building drying during the construction phase and for ventilation while working with high levels of dust accumulation (e.g. sanding plaster board).

The manufacturer is not liable for damages created by improper installation and non-compliance with intended use.

Safety



Please always follow the safety, warning and processing information of the materials and tools used, as well as the points specified in this instruction. Furthermore, when carrying out the work and using materials and tools, the current applicable legislature must be followed. Non-compliance can lead to damages to the device or bodily injuries.

The inVENTer ventilation system works with a low-voltage protector. Therefore, the inVENTer ventilation device may never be directly connected to the 230 V mains supply; rather it must be connected via a controller. Damages caused by incorrect installation are not included in the warranty obligation.

Attention for fireplaces!

Please follow the valid building codes and regulations (e.g., FeuVO [Firing Regulation])! Before installing the ventilation system please talk to your chimney sweeper!



Attention! Please carefully read all of the instructions before starting the assembly. For questions please contact your authorised dealer and construction manager. Assembly faults can impair proper function, cause injuries and/or lead to loss of warranty.

Only trained qualified personnel may complete the assembly work. Only qualified experts may complete the electrical installation.

Ventilation planning / General notes

Before starting the work, a project should be presented that indicates the number of ventilation devices, the principal locations of the ventilation devices, the ventilation principle (cross ventilation, single room ventilation, aeration), and the respective applicable controllers. The following principle rules apply for the ventilation function:

Operate ventilators in pairs: The supply air should correspond to the extract quantity. Every supply air conveying ventilation device has a fan that transmits extract air at the same time. The ventilation devices are allocated via the project, which must be checked and possibly changed after controller start-up. During the delivery state the fans are set to "extract". With correct installation, the iV-Twin ensures operation in pairs.

Synchronisation: When utilising several ventilators activated by several controllers, synchronous collaboration must be observed. See notes in the controller instruction. All controllers should be connected via the mains fuse to the main circuit of the house. The iV-Twin works autosynchronous if assembled correctly.

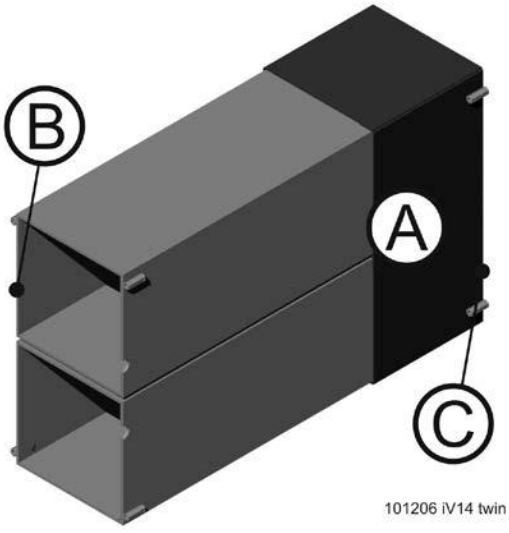
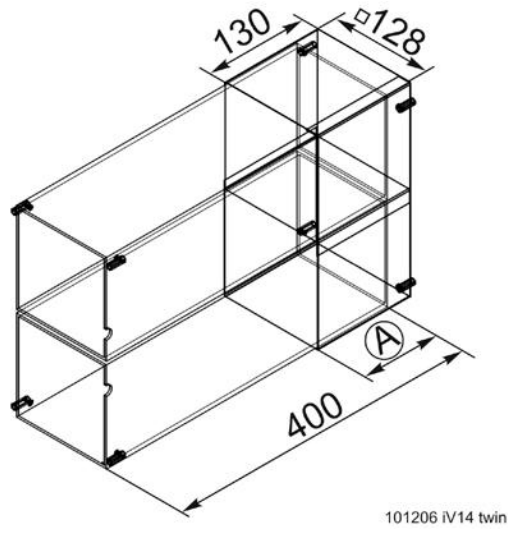
Cross ventilation: The local ventilation system is based on free air movement between the individual inVENTer ventilation devices in paired operation. Therefore, **inside doors** may not be closed airtight. Overcurrent measures must be planned: Air space of about 10 mm below the door, unscrewing the door hinges by 5mm, using a ventilation grille or similar. For the iV-Twin these measures are not necessary.

Please find out from your planner if a "RAL installation" is necessary before installation. Suitable materials are already provided on site if necessary.

2. Assembling the wall sleeve (channel iV-Twin)

With the sliding sleeve, slight length adjustments may be made (extension up to 50 mm).

Technical data

Channel iV-Twin with sliding sleeve (Art. no. 1506-0004)	
 <p>101206 iV14 twin</p>	 <p>101206 iV14 twin</p>
A: Locking area B: Inside C: Outside	

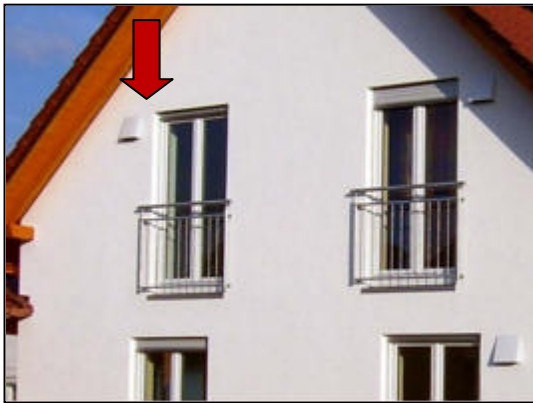
Scope of supply

- Channel iV-Twin: 400 mm (Art. no. 1506-0004) / 550 mm (Art. no. 1506-0010) / 700 mm (Art. no. 1506-0011) / 900 mm (Art. no. 1506-0012)
- Sliding sleeve
- Mounting wedges
- Plaster cover (can be cut)
- Accessory kit (foam tape, dowel + screws + expansive bands for weather protection hood, stop strap)

Accessories (optional)

- Sound mat (Art.-no. 1004-0073)
- Wind protection (Art.-no. 1004-0071)
- Fabric tape for stopping the sliding sleeve (Art. no.1004-0051)
- Insulation anchor (Art.-no. 1004-0067)
- Flat cable 6 x 0.25 mm² (Art. no. 1004-0006 [33 m] / Art. no. 1004 - 0007 [lfm])
- Round cable 3 x 0.75 mm² (Art. no. 1004-0020 [33 m] / Art. no. 1004 - 0049 [lfm])

Specify the installation location, wall opening and cable installation

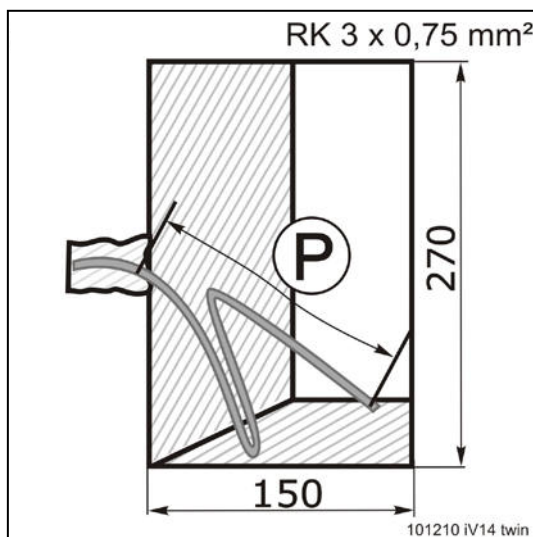
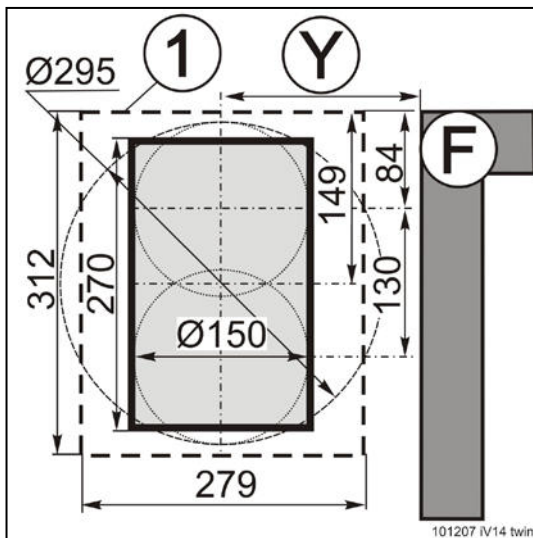


Inside

- Minimum distance of 100 mm surrounding from the edge of the wall sleeve to the wall/ceiling
- Later, there must be a space of at least 250 mm in front of the wall for maintenance work (do not cover with cupboards).

Exterior

- When specifying the installation location consider the outside view (e.g., weather protection hood flush with lintel), see drawing to the left.
- Observe the minimum distance to bordering components [F = edge of the window reveal] → $Y \geq 250$ mm
- When creating the opening, make sure that no one on the outside can be injured by falling masonry.
- Create a wall opening of 270 x 150 mm² in height and width. Options would be, for example, creating two hollowed drill holes of $\varnothing 150$ mm or one of $\varnothing 295$ mm (see drawing to the left).
- Please take note of slight gradient towards the outside (about 1° to 2°).
- In the wooden pillar construction, a duct section shall be inserted with the same interior dimensions as the framing wall.
- Position the connecting line 3 x 0.75 mm² (round cable RC) to the fan in a manner that the line reaches the left centre (as seen from the inside).
- Leave about 500 mm [P] room for the necessary electrical connection. For longer pipe lengths, leave more room accordingly.



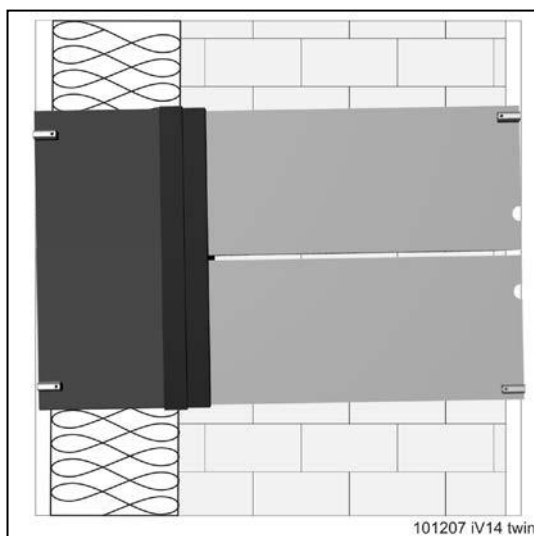
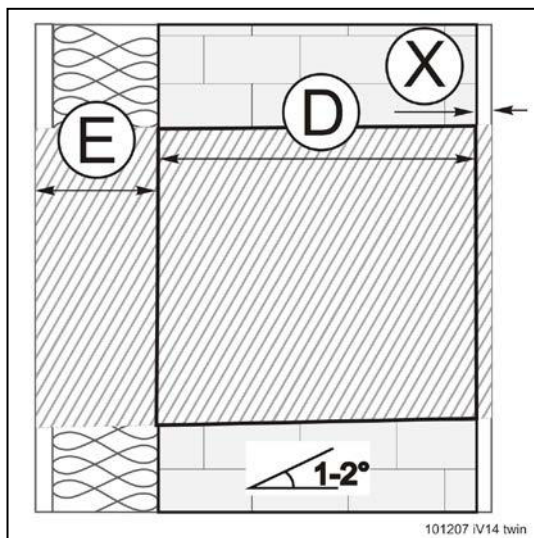
Attention!



- When installing the wall sleeve, deformations caused by outside pressure should generally be prevented, so that the thermal accumulator can easily be installed and removed! Otherwise the warranty does not apply.

2. Assembly of wall sleeve (channel iV-Twin)

- The thermal accumulator or suitable material must therefore be in the wall sleeve during installation.
- The screws in the fastening elements of the wall sleeve are removed only after finishing the wall mounting work (thread protection).

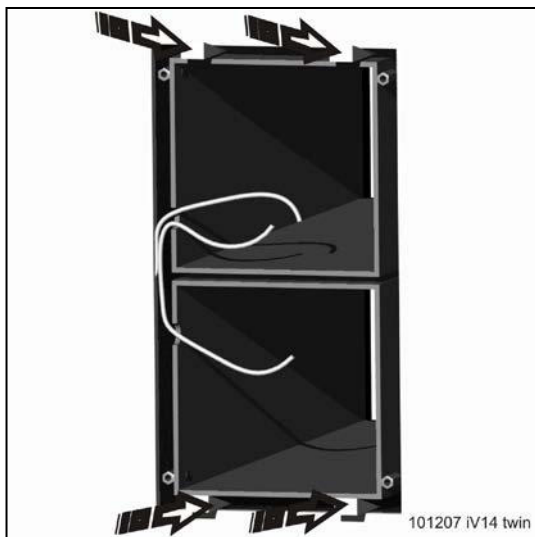


- Please specify the total dimension of the wall installation from the dimension wall strength shell construction dimensions [D] and the measurement for the wall connection outside [E] (e.g., heat insulation + plaster) and inside [X] (e.g., plaster + tiles).
- After installation, the wall sleeve must be flush with the outside plaster and end on the inside.
- If necessary, shorten the wall sleeves outside to meet the overall measurement, including sliding sleeve, and de-grate these afterwards.
- The wall sleeves are placed on top of each other (the milling for the connecting line must be close together) and blocked with the already attached adhesive tape.
- Block the sliding sleeve at the wall sleeve with a water tight adhesive tape (e.g., fabric tape, optional).
- Slide the wall sleeve into the prepared wall opening.
- Now seal from the outside all seams between the sliding sleeve and the wall sleeves using a permanent elastic sealant.
- Guide the round cable for connecting the ventilation device to the controller laterally into the wall sleeve.

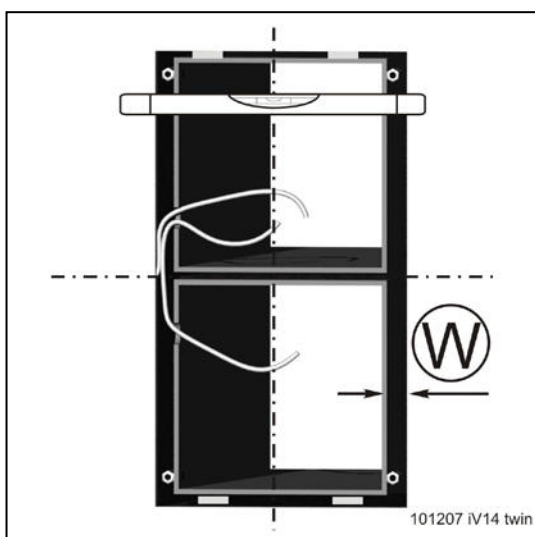
2. Assembly of wall sleeve (channel iV-Twin)



- Guide a second approx. 1 m long cable (loop) from the top into the bottom pipe (as shown on the left). It is used later for connecting the two fans. For larger wall sleeve lengths, use longer cables accordingly
- Inside, the wall mounting sleeve is initially protruding by the length [x].
- The fastening elements (inside) must be designed horizontally.
- From the outside, the sliding sleeve protrudes from the wall mounting sleeve by the length [E].



- The distance between the wall sleeve and the wall breakthrough (fill area [W]) must be about 10 mm.
- Secure the wall sleeve using the enclosed mounting wedge inside and out.
- Pay attention to the slope of about 1° to 2° towards the outside.
- Measure the distances to the wall inside and outside, to make sure that the wall sleeve is flush to the plaster.
- Stabilize the wall sleeve by sliding-in the thermal accumulator or similar suitable materials.
- Fill the hollow spaces with non-pressing installation foam or similar material.
- Check again the correct position of the wall sleeve and correct it if necessary before solidifying.



Interior

- Inside, cut off the protruding mounting wedges and fill material.

Inside



Outside

Exterior

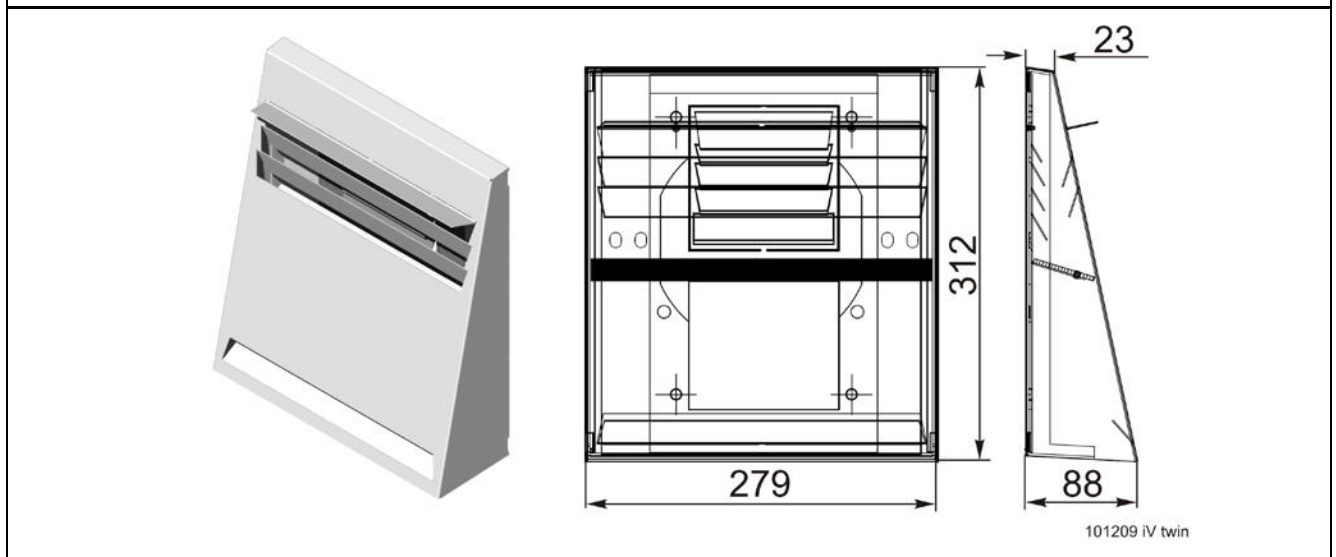
- Outside, cut off the protruding mounting wedges and fill material.
- Now, from the inside, attach the end-stop strap at both wall sleeves on the left, right and top sides.
- Thereafter, attach the plaster cover to the wall sleeve, inside and outside. (Plaster cover must be adjusted).

3. Assembly of weather protection hood 09

The weather protection hood 09 is a component of the inVENTer ventilation system. It consists of a base plate and a stainless steel cover painted in "white", "grey" or "Nord" (iron grey).

Technical data

Weather protection hood 09 for iV-Twin in white (Art. no. 1508-0014), grey (Art. no. 1508-0026) or iron grey (Art.-no. 1508-0028).



Scope of supply

- Cover of weather protection hood 09 (stainless steel) in "white" (RAL9016), "grey" (RAL9006) or "Nord" (RAL7011)
- Base plate of weather protection hood



Attention! To avoid accumulation of algae around the weather protection hood, the notes regarding assembly must be strictly followed (attach all sealing tapes!). In vulnerable areas it is recommended, before installing the weather protection hood, to have a biocide preset / water retardant pre-treatment of the plaster surface around the weather protection hood.

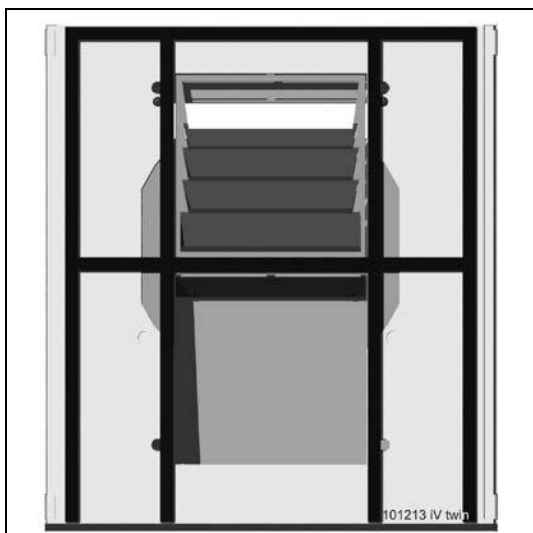
Please ask your planer!

The weather protection hood can only be installed if the outside plaster is finished and fully hardened.



- Remove the plaster cover.
- The enclosed 5 cm wide foam tape, protruding 1 cm on the outside, will be attached to the bottom of the bottom channel of the wall sleeve or the sliding sleeve. The protrusion is pressed down into the finished and dried outside wall onto the plaster.

Preparing the base plate

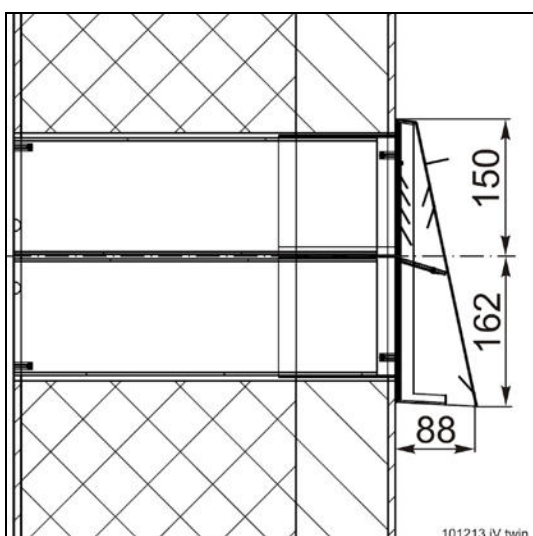


Prepared base plate for fastening to the wall sleeve

- The board is fastened either to the facade using 4 dowels or directly to the sliding sleeve.
- Only break the openings on the board that you need for the fastening. (The customer side must seal possible other openings of the board to the facade!)
- Seal the outside plate to the facade using an expansive band (suitable for unevenness up to 3 mm). For larger gaps, the respective expansive band must be provided by the customer. The interior framing must be bonded according to the wall msleeve, so that the expansive band is tightly attached on the sleeve on the facade (see image to the left).

Preparing the base plate

Inserting the exterior hood



- Fasten the board to the wall (or sliding sleeve). Pay attention to, in case you select the fastening above the insulating material dowel, the coverage evenness between outside plate and sliding sleeve (see drawing). Mask possible openings to the wall.
- The base plate can be used as a dowel measurement mould.
- Thereafter, slide the cover from the top onto the base plate.
- Close possible gaps between the weather protection hood and plaster on top and at the sides using a permanent elastic sealant, which is also suitable for the outside.

4. Finalisation of the iV-Twin from the inside

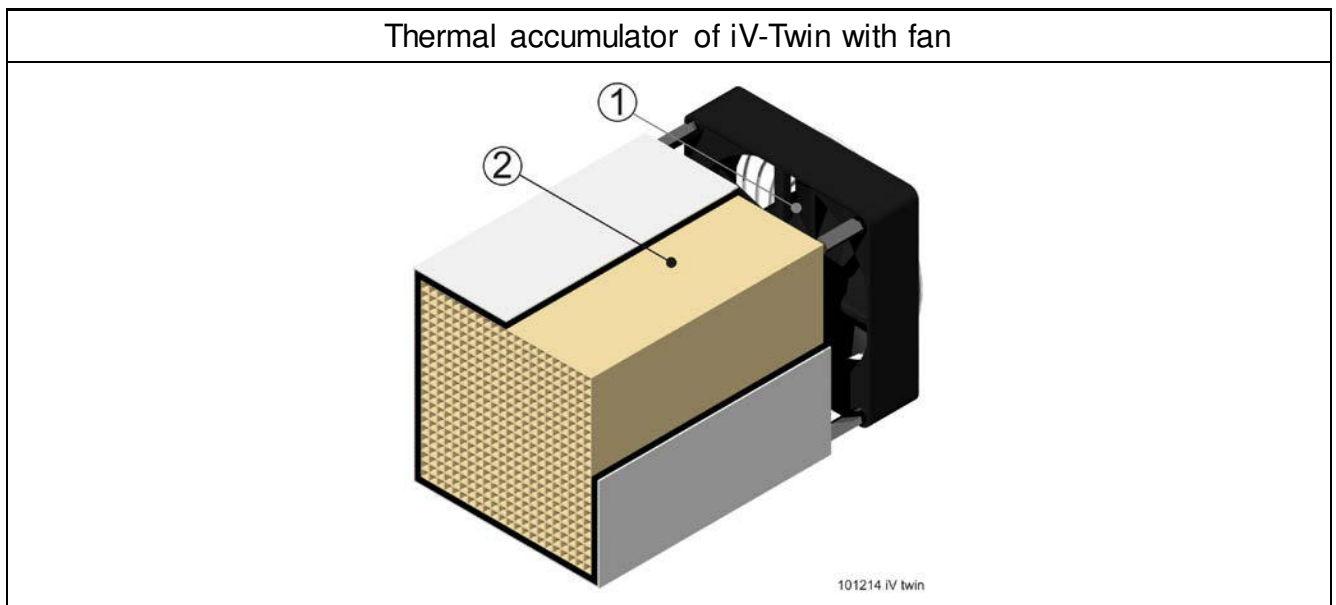
4.1 Assembling the thermal accumulator, fan and electrical connection

The thermal accumulator and reverse fan are components of the inVENTer ventilation system. The thermal accumulator consists of a ceramic block that is enclosed by a closed-pored insulating material.



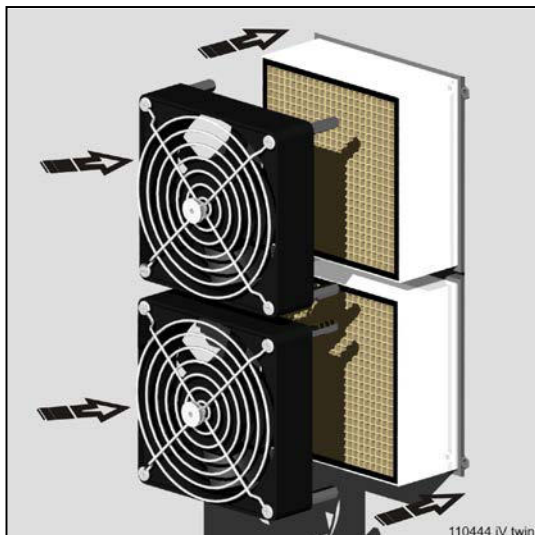
Attention! The thermal accumulator may not be stored or stacked horizontally outside of the wall sleeve!

Technical data



Scope of supply

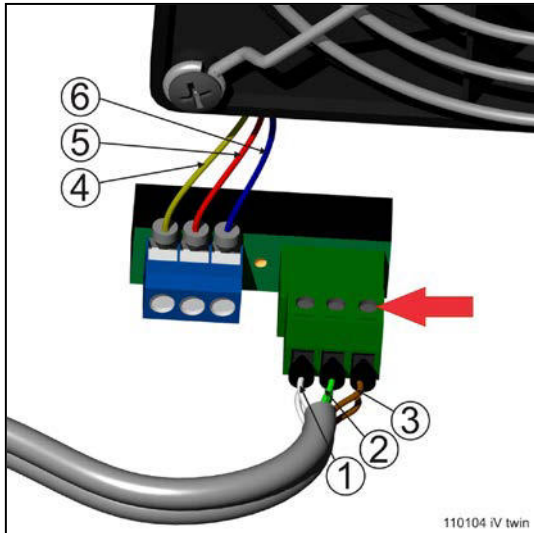
- Thermal accumulator [2] (consisting of ceramic and closed-pored insulating material complete with drive (reverse fan [1])).



- Remove the interior plaster cover.
- Slide the thermal accumulator carefully into the wall sleeve up to the end-stop tape.
- Now slide the fan into the wall sleeve until it fits closely to the thermal accumulator.
- With help of the grip piece attached centrally to the protective grid, you are able to remove the fan for maintenance purposes.
- The green loop on the thermal accumulator must not impair the ventilation operation.
- With help from the green loop the thermal accumulator may be removed for maintenance purposes.

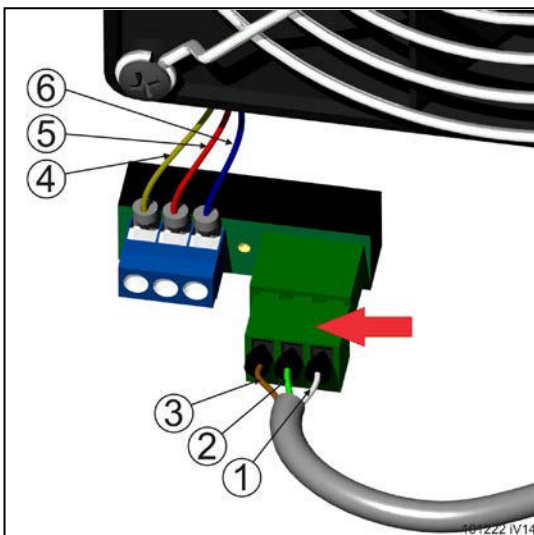
Electrical connection

This description refers to utilising the inVENTer round cable. Other cables (**Braids!**) must be connected correspondingly.



Cable in-bound from controller plus loop (starting direction "exhaust")

- | | |
|----------|--------------------|
| 1. white | 4. yellow or green |
| 2. green | 5. red |
| 3. brown | 6. blue |



Plug twisted (starting direction "supply air")



- For connecting the braids please use wire end sleeves with flange to avoid unwanted short circuits.
- Close the braids of the two cables (those coming from the controller and the loop), as shown on the left, to the 3-pole plug (it is plugged into the socket on the fan motor). Here, squeeze 2 braids into one wire end sleeve (max. 1.5 mm² per connection). Colour sequence: see controller instruction / image to the left.


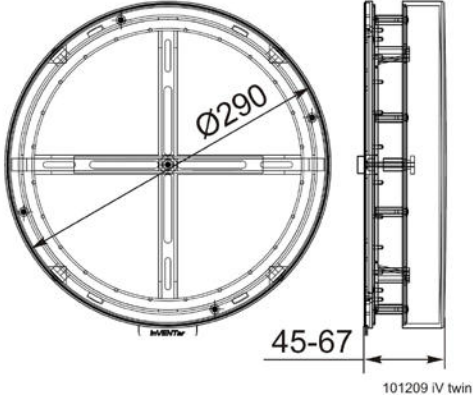

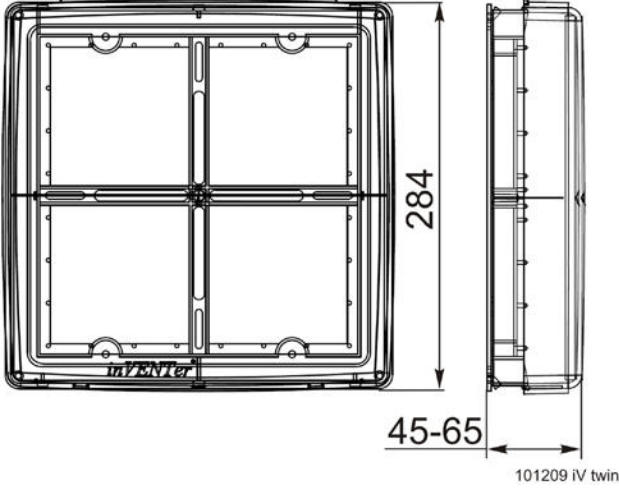
- By turning the 3-pole plug the starting direction of the fan and rotational direction are changed. It must be noted here that operation in pairs must start with the fan in extract mode (image left top) and the other fan must be in supply mode (image left).

- Attach the sockets connected to the plugs with the enclosed clamp, as presented in the image on the left.
- After completing the maintenance work, the correct positioning of the plug for the supply and extract air operation must be checked and, if necessary, corrected.

4.2 Assembly of the inner cover

The inner cover is a necessary component of the inVENTer ventilation system. It is closeable and only suitable for indoor spaces. Therefore, it may not be used outdoors. A dust filter is included in the first delivery. Pollen and micro filters are available upon request. Replacement dust filters are also provided by your dealer. Operation of the ventilation system is only permitted with inner cover plate and dust filter. Also see "Intended use" in the general operating instructions. The inner cover is to be locked after the system is shut off.

Technical data

Inner cover R-D290 (Art.-No. 1505-0006, round)	
	
optional: Inner cover V-284x284 (Art.-No. 1505-0009, square)	
	

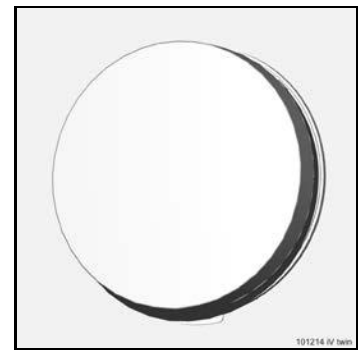
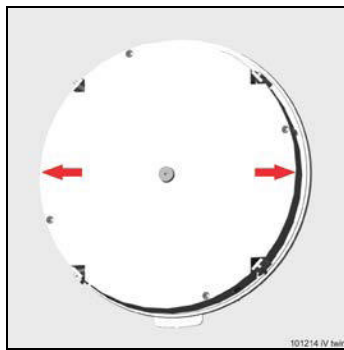
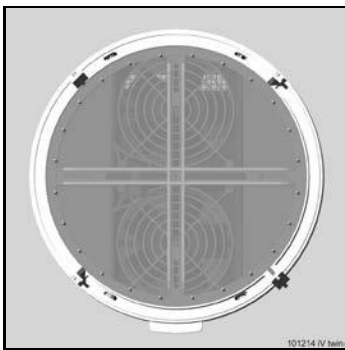
Scope of supply

- Base plat of inner cover with hex key (not shown in image)
- Dust filter R-D290 (Art.-No. 1004-0033) / Dust filter V-284x284 (Art. -No. 1004-0062)
- White panel for inner cover
- Accessory kit (with 4 "short" and "long" screws)

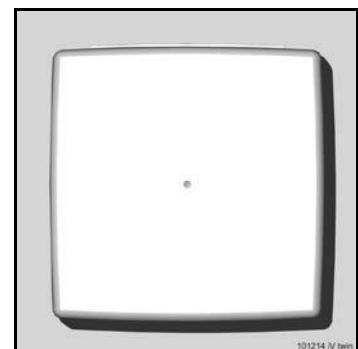
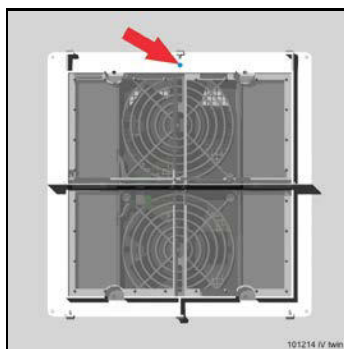
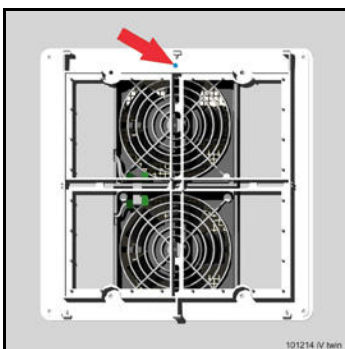
Accessories (optional)

- Pollen filter R-D290 (Art.-No. 1004-0065) / V-284x284 (Art. -No. 1004-0063)

- Check if the wall surface is smooth. "Rough" surfaces must be smoothed out.
- Attach the base plate of the inner cover with four screws (two lengths included in the accessory kit) to the wall sleeve (evenly and to not over-tighten). The "inVENTer" inscription should be at the bottom of the inner cover's panel.
- The base plate of the inner cover should be tightly attached to the wall surface after assembly, in order to prevent draught between the inner cover's base plate and the wall surface when the panel of the inner cover is closed. If necessary, a second gasket strip (1 cm width) can be glued on, which is respectively higher. This gasket strip is already provided on site.
- The dust filter is attached in the centre on the stud bolt and is lightly pressed on the lower section fixing tappet. Thereby, all fixing tappets should be collected.
- Subsequently, the air flow separator disc is inserted and fixed in the centre of a knurled screw; thereby, make sure the separating strip is positioned horizontally on the back.
- The panel is attached on top of the strip with the grooves and pressed into the strip below. The cap is opened by turning it to the left and closed by turning it to the right.



- During assembly of the square inner cover's base plate, the blue dot should be facing upwards. The dust filter is pressed onto the fixing tappet. Thereby, all fixing tappets should be collected.
- The separating plate is slid horizontally into the centre, as shown below. In the open position, the cap is positioned in such a way that the word "inVENTer" can be read.
- In order to close the inner cover, this must be taken off and the separating plate removed. For storage, the separating plate is clamped to the inside of the cap, then the cap is turned 180° and positioned flush to the lower section.



5. Servicing and maintenance



Attention! The thermal accumulator is made of ceramic. It must not be thrown (risk of breakage). Installation and removal should be carried out wearing gloves (risk of injury due to sharp edges). All work may only be conducted with the system switched off (switch off control unit and disconnect from power supply!).

General

- We recommend that the inVENTer runs all year round. An average of 40x more heating energy is saved with an input power of approx. 2.5 watts per fan (effective).
- The inner cover must be open at all times in order for the inVENTer to fully function.
- If the inVENTer is not in operation, then the inner cover should be closed.
- The use of the inVENTer ventilation system is only permitted with a inserted filter.
- inVENTer operation always takes place via the controller (see controller operation instruction). In the case of a short-circuit, an electronic fuse switches off the controller and therewith the ventilator. After the short circuit has been fixed, the controller must be switched off and back on. (Attention: Controllers are only temporarily short-circuit proof).
- The fans are protected electronically against blockage caused by foreign bodies. After fixing the problem, they will start again independently.

Maintenance

The inVENTer[®] ventilation system is maintenance-free as far as possible. The following activities are to be carried out regularly:

The **dust filters** are very durable and can be washed multiple times. We recommend cleaning the dust filter if necessary (quarterly is recommended). Remove the filter and clean it in warm soapy water or in a dishwasher/washing machine.

The **pollen filter** should only be used during critical high pollen times, as it limits ventilation. It cannot be cleaned and thus, must be replaced. The unclean pollen filter can be disposed of with normal waste.

Filters can be ordered (by entering the article number) at your inVENTer dealer or at www.inventer.de.

The **thermal accumulator** should be checked once a year and, if necessary, cleaned with a vacuum cleaner, high pressure air or in rinsing warm water. In addition, the system is to be switched off and disconnected from the power source. After opening the inner cover's panel and unscrewing the base plate, disconnect the power supply, remove the fan and the thermal accumulator (pull the green strap) from the wall sleeve. Now the thermal accumulator can be cleaned. If necessary, the wall sleeve can be cleaned from the inside with, e.g., a damp cloth.

Installation takes place in reverse order. Make sure that the ventilation screen is visible after plugging the ventilator back in and the 3-pin plug is correctly inserted. Check the starting direction of the ventilator.

Check the **fan** annually to make sure it is clean. The fan blades can be carefully cleaned with a soft, damp cloth.

Fixing malfunctions

Should malfunctions arise, please check first whether the problem can be fixed by using the following instructions. If the malfunction cannot be fixed, then please contact your authorised dealer.

Malfunction	Possible cause	Repair
Fan is not working	No electrical voltage	Turn power off and back on via the mains fuse in the junction box.
	Installation failure	Check all cables for correct connection and if the plug is inserted correctly
	Fan sticks	Switch controller off! Remove object
	Controller in "Service function" mode	The ventilator can be stopped for 60 mins with the service function. Resetting the service function takes place via the mains fuse in the junction box.
	Controller is not correctly calibrated	Calibrate controller as described in the instructions (only with remote variations)
	Controller is defective	Replace controller
	Fan motor is defective	Check fan and replace if necessary
Cold air supply	Controller in "ventilation" mode	Check controller operation mode in which heat recovery does not take place in operating mode "ventilation".
	Installation failure	Check that the 3-pin plug is correctly inserted
Air flow is limited	Inner cover opened incorrectly	Make sure inner cover is completely open
	Air filter very soiled	Cleaning the filter
	Micro filter inserted / very soiled	Air flow is limited with the use of a micro filter or soiled pollen filters. Micro filters should only be used seasonally, replace pollen filter if necessary.
	Heat storage tank very soiled	Cleaning the thermal accumulator
Noise level	Fan blades very soiled	Cleaning the fan blades
	Thermal accumulator not moved outside	Slide the thermal accumulator into the wall sleeve until it is against the end-stop strap.
	Additional noise insulation required	Outside noise (street noise) can be reduced by using a noise insulation mat.

Personal notes (e.g., responsible authorised dealer; invoice number / delivery note number):

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Subject to technical changes!

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