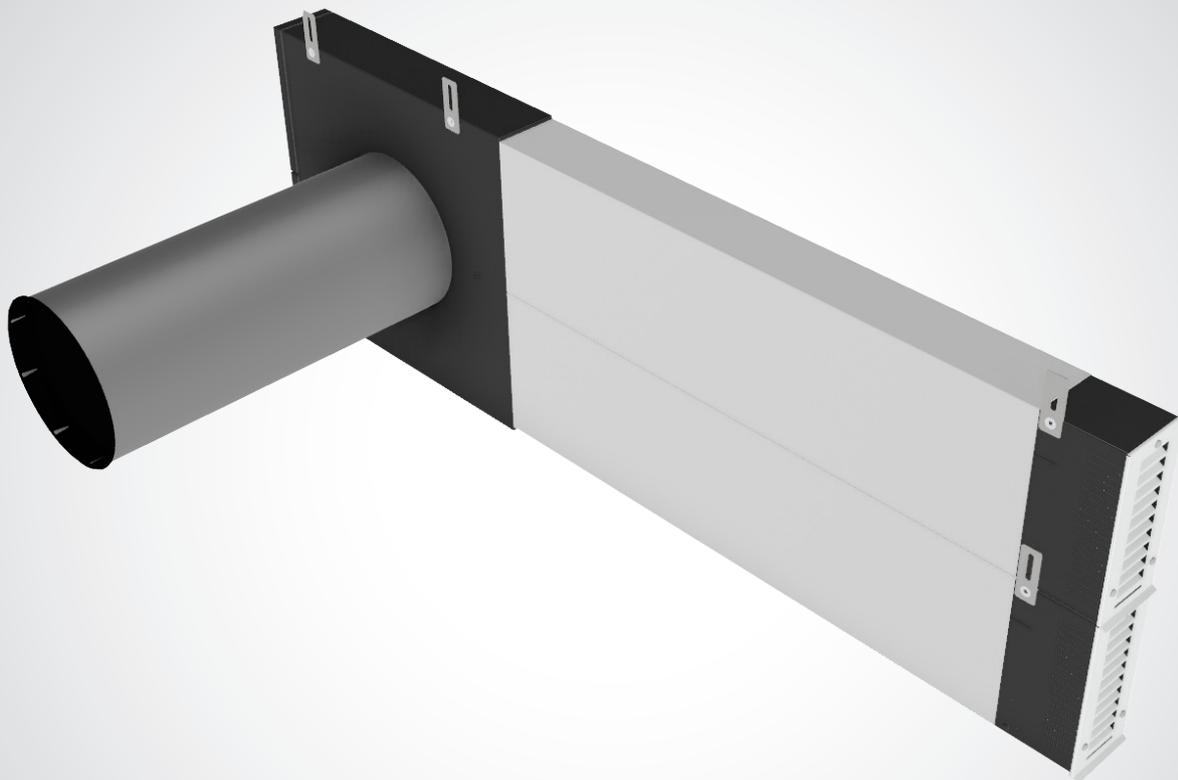


# Zehnder ComfoAir 70

Embrasure module installation instructions



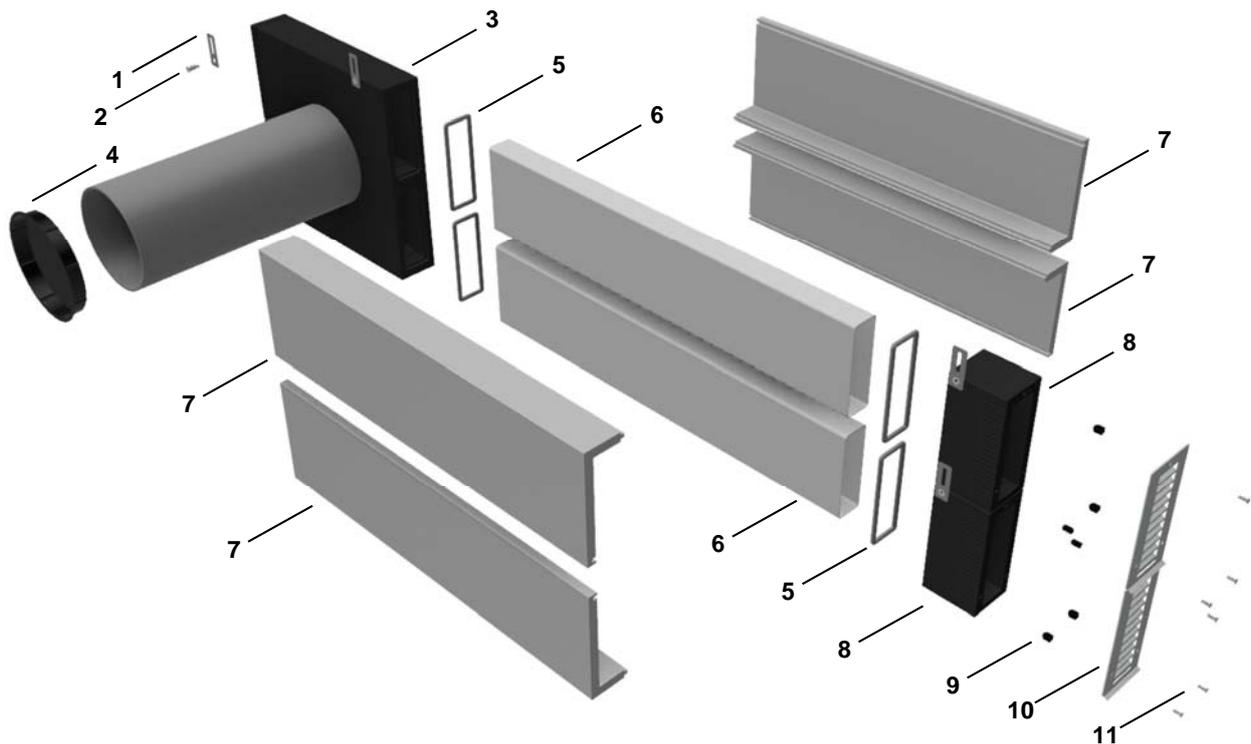
## Contents

<b>1</b>	<b>Scope of delivery .....</b>	<b>3</b>
<b>2</b>	<b>Installation conditions .....</b>	<b>3</b>
<b>3</b>	<b>Installation versions .....</b>	<b>4</b>
<b>4</b>	<b>Installation position .....</b>	<b>5</b>
<b>5</b>	<b>Preparing for installation.....</b>	<b>6</b>
5.1	Drilling the core hole .....	6
5.2	Preparatory work for direction-change adapter installation .....	6
5.3	Preparatory work for duct adapter installation .....	7
<b>6</b>	<b>Installation .....</b>	<b>8</b>
6.1	Installation steps before installing the thermal insulation composite system.....	8
6.1.1	Installing the direction-change adapter.....	8
6.1.2	Adapting/shortening the flat ducts.....	8
6.1.3	Installing the flat ducts/duct adapters/duct insulating elements.....	9
6.2	Installation steps while building up the facade.....	11
6.2.1	Thermal insulation composite system.....	11
6.2.2	Facade finish .....	12
6.3	Finishing the installation.....	12

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## 1 Scope of delivery



Item	Description	Quantity
1	Fixing clip (2x per direction-change adapter; 1x per flat duct adapter)	4
2	PVC screw dowel (1x for mounting each fixing clip)	4
3	Direction-change adapter with fixed wall mounting pipe	1
4	Blanking plug for wall mounting pipe	1
5	Flat duct gasket (56 cm blank from round profile gasket)	4
6	Flat duct 204 x 60	2
7	Flat duct insulating element	4
8	Duct adapter	2
9	M5 EPP insert (3x per duct adapter)	6
10	Discharge grille with prefabricated swelling sealing tape	2
11	M5x16 countersunk screw (3x per discharge grille)	6

## 2 Installation conditions

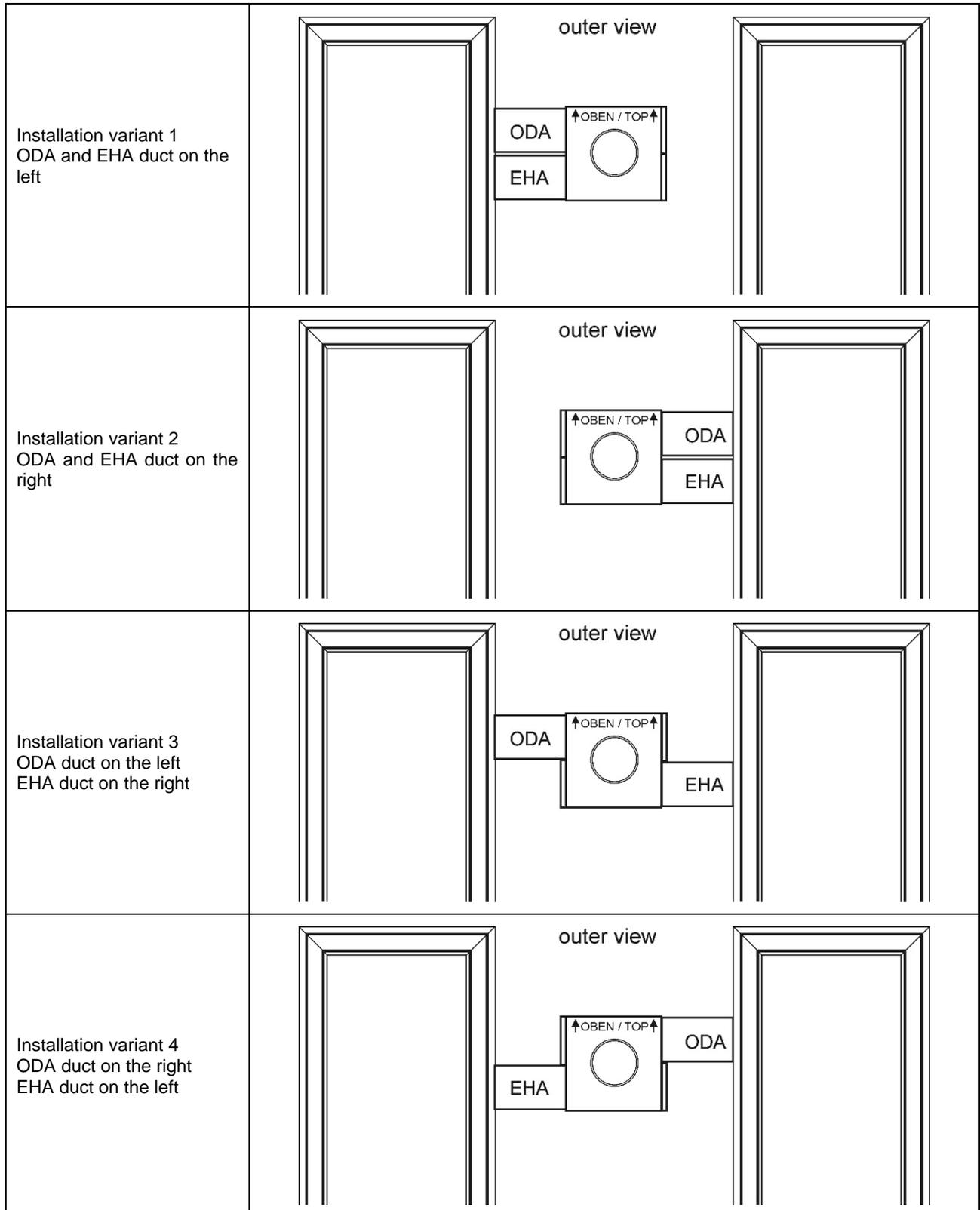
Please observe the following instructions for the installation and use of the embrasure module for the facade-integrated outdoor and exhaust air ducts of the ventilation system.

- **The facade element is installed in the thermal insulation composite system in question. The relevant building regulations must be observed.**
- **Compliance with the relevant fire protection requirements must be ensured in advance.**
- **The embrasure module can only be installed with a minimum insulating layer thickness of 120 mm and is to be provided with an insulating layer in the direction of the facade surface that is at least 20 mm thick and made of the facade insulation material used on site. Any planned measures for external shading must be taken into account.**
- **The wall thickness without thermal insulation composite system must not be less than the required minimum wall thickness of 275 mm for the installation of ComfoAir 70. If the dimension falls below this value, the difference can be compensated for by placing insulation under the embrasure module.**
- **The embrasure module cannot be used in conjunction with the square wall mounting pipe to accommodate the ComfoAir 70 ventilation unit.**
- **The thermal limits of -20°C and +40°C for the operation of the ventilation unit also apply to the embrasure module for air conveyance.**
- **Ensure that the module can be easily accessed for maintenance.**

### 3 Installation versions

The symmetrical design of the direction-change adapter offers four options for installing the embrasure module, whereby the outdoor air (ODA) airflow is generally conducted via the upper duct connections/discharge grille and the exhaust air (EHA) airflow is conducted via the lower duct connections/discharge grille.

The **↑ OBEN / TOP ↑** embossing on the EPP housing indicates the prescribed installation position. The illustrations show the system as viewed from the outside of the outer wall.



## 4 Installation position

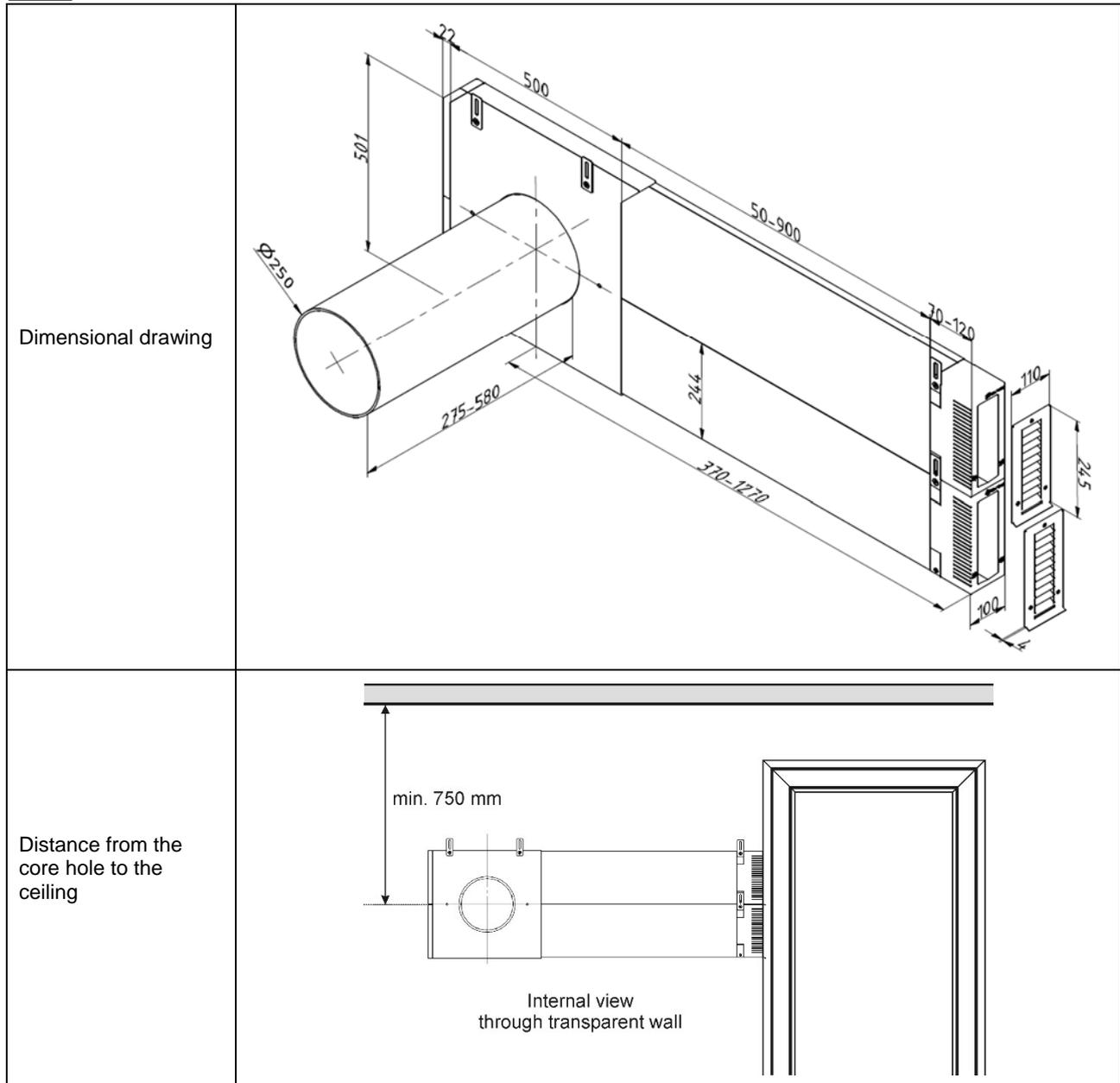
The embrasure module must be mounted on the outside of the outer shell wall, whereby the flat ducts must run horizontally or with a minimal gradient to the discharge grilles in the mounting plane of the thermal insulation composite system. The module can be positioned according to section **3 Installation versions**, provided that the required installation area for ComfoAir 70 on the inside of the outer wall is taken into account (see section **5.1 Drilling the core hole**).

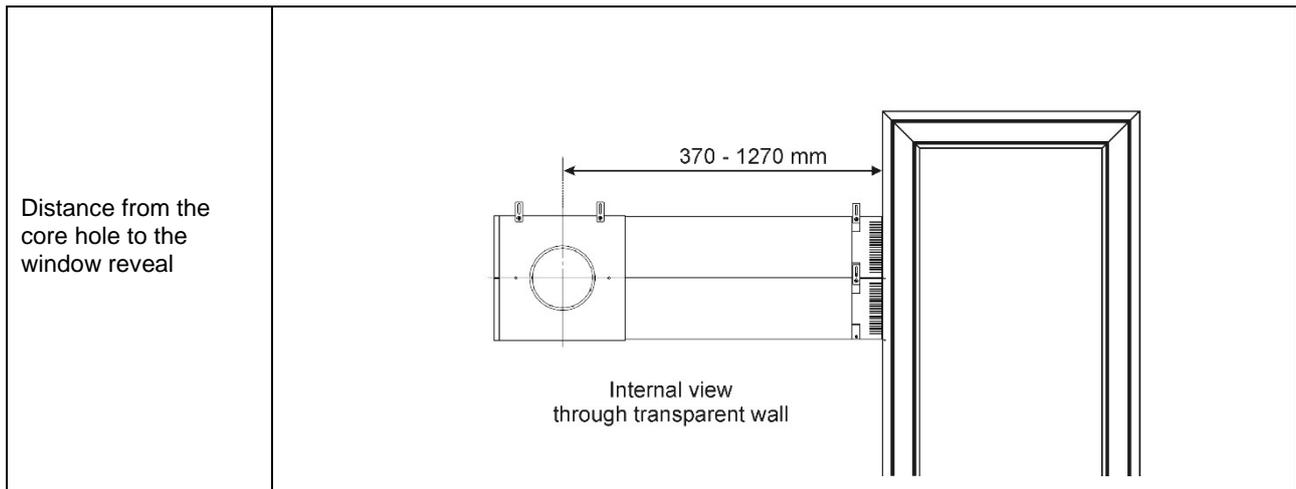


*The unit (core hole pipe axis) must be positioned so that the distance to the ceiling of the room is at least 550 mm.*



*The unit (core hole pipe axis) must be positioned so that the distance to the window reveal is between 370 mm and 1270 mm. It can be adjusted by shortening the flat ducts. The ducts must not be extended.*





## 5 Preparing for installation

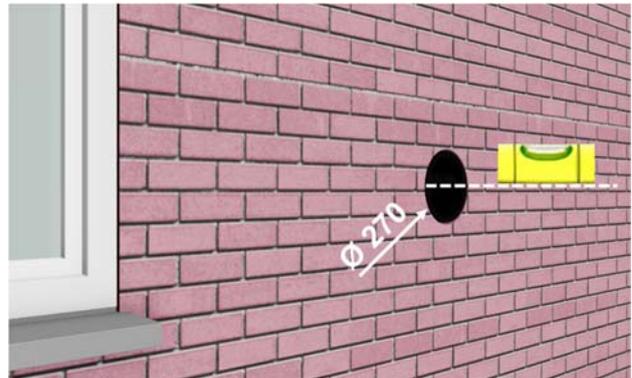


*A vertical outer wall and a flat surface on the outside of the shell wall are required to properly install the embrasure module. Any uneven surfaces must be compensated for in the area where the embrasure module is fitted to the shell wall surface.*

### 5.1 Drilling the core hole

Before drilling the core hole, select one of the four possible embrasure module installation variants. The minimum wall thickness must be 275 mm. If the shell wall is not thick enough, the difference must be compensated for by placing insulation under the embrasure module in the thermal insulation composite system plane.

1. Determine the core hole position based on the relevant installation variant in section **3 Installation versions**. Ensure that there is sufficient clearance around the installed ComfoAir 70 unit and that there is enough room for maintenance work to be carried out (at least 32 cm on the left, 42 cm on the right, 80 cm at the front and 55 cm at the top – in relation to the pipe axis of the wall mounting pipe; viewed from the inside of the outer wall).
2. Drill the core hole ( $\varnothing$  270 mm) in the horizontal axis of the drill hole, observing the explanations given in section **4 Installation position**.



### 5.2 Preparatory work for direction-change adapter installation

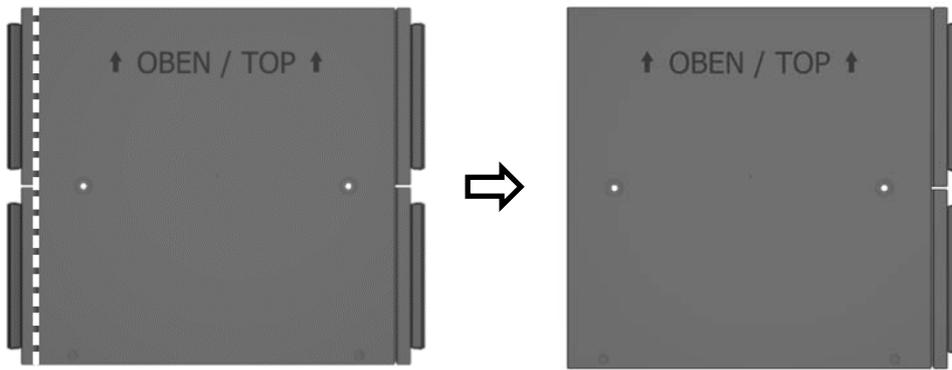
Depending on the intended installation variant, the moulded parts serving as duct closure openings must be separated from the EPP housing and the fixing clips (1) must be attached.

The processing measures are shown in the following sections based on installation variant 1: ODA and EHA duct on the left.

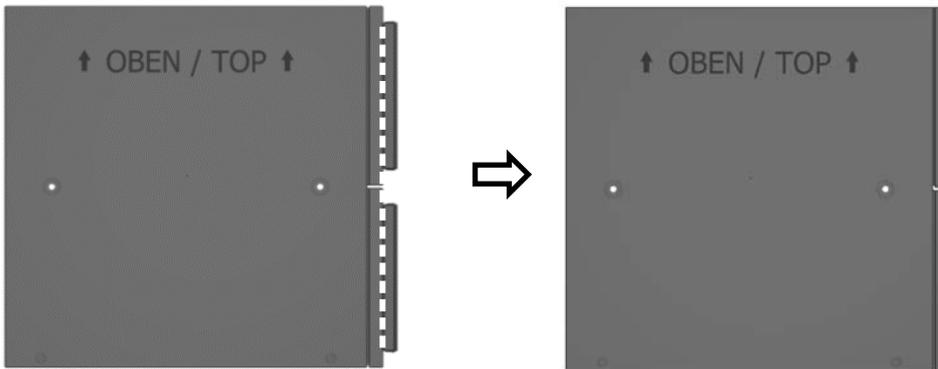


*When installed, the  $\uparrow$  OBEN / TOP  $\uparrow$  embossing on the EPP housing must be positioned at the top.*

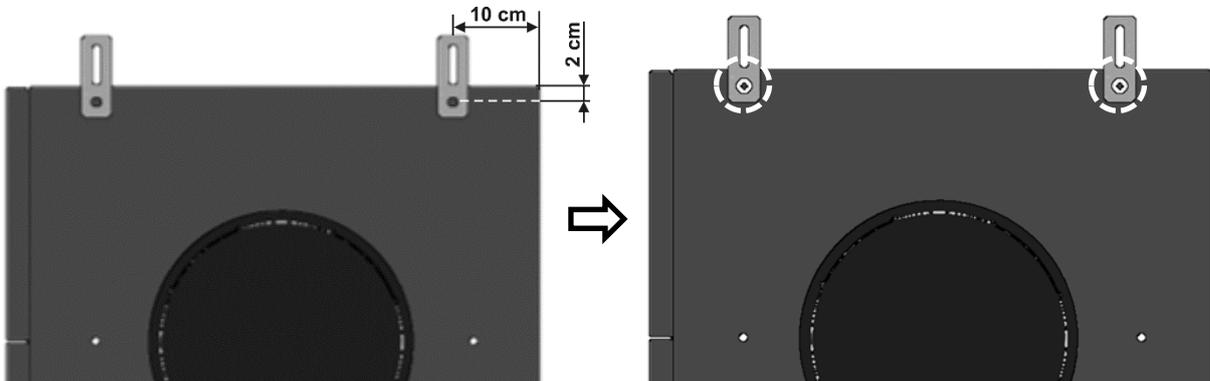
1. Use a sharp knife or a fine-tooth saw to carefully cut off the EPP moulded parts in the profile groove (white dashes) of the relevant duct connections. The separated EPP moulded parts are to be inserted as blanking plugs in the duct adapters (8) to protect against contamination until the facade is finished and the discharge grilles (10) are installed.



2. For the remaining duct closure openings, only the protruding moulded parts (outer dimension  $\cong$  inner dimension of duct adapter (8)) are to be cut off. Carefully cut off the protruding moulded parts in the profile groove (white dashes) so that the insulation can be laid flush with the direction-change adapter (3).



3. To fix the direction-change adapter (3) to the outer wall, two fixing clips (1) must be mounted to the EPP housing using PVC screw dowels (2). The two fixing clips (1) must be attached at the top of the direction-change adapter (3) on the side facing the outer wall. The fixing clips (1) must be placed with a distance of approx. 10 cm to the side and approx. 2 cm at the top between the drill hole and the outer edges of the direction-change adapter (3) and screwed to the EPP housing using PVC screw dowels (2).



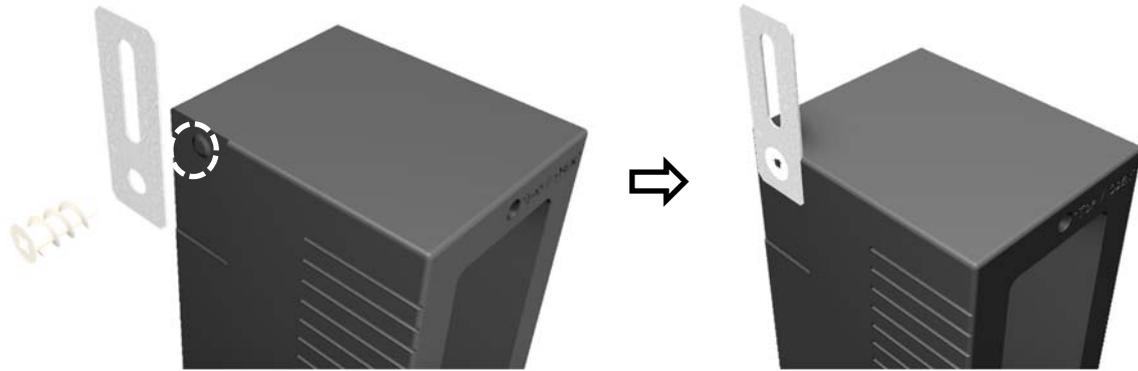
### 5.3 Preparatory work for duct adapter installation

To fix the duct adapters (8) to the outer wall, the fixing clips (1) must be mounted to the EPP housings of the duct adapters (8) using PVC screw dowels (2). Depending on the left or right-hand-side installation variant of the flat duct (6), the fixing clip (1) must be mounted on the side of the duct adapter (8) facing the outer wall.



**When installed, the  $\uparrow$  OBEN / TOP  $\uparrow$  embossing on the EPP housing must be positioned at the top.**

1. Place the fixing clip (1) with the drill hole on the centring aid (white dashed conical dome) and screw in the PVC screw dowel (2).

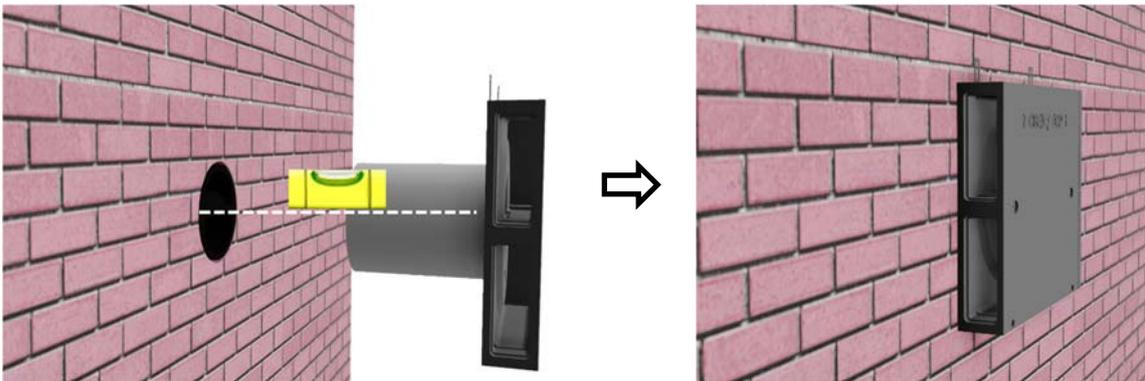


## 6 Installation

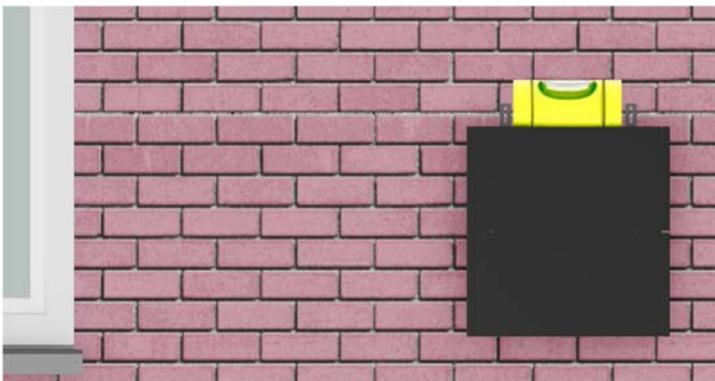
### 6.1 Installation steps before installing the thermal insulation composite system

#### 6.1.1 Installing the direction-change adapter

1. Insert the wall mounting pipe of the prepared direction-change adapter (3) into the core hole and position it horizontally in the shell wall.



2. Align the direction-change adapter (3) horizontally on the shell wall and fasten the fixing clips in place using suitable fixing material.



3. Use only non-swelling mounting foam to fix the wall mounting pipe to the inside of the outer wall!

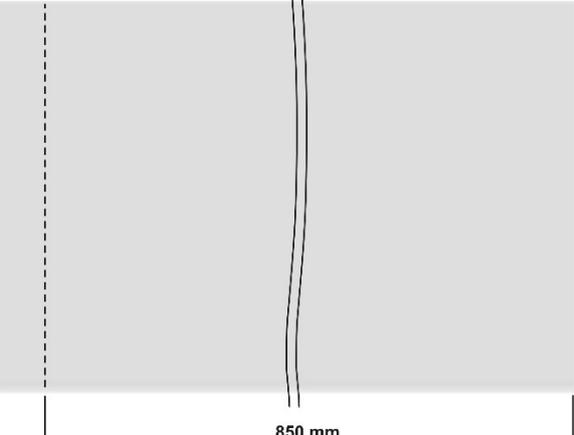
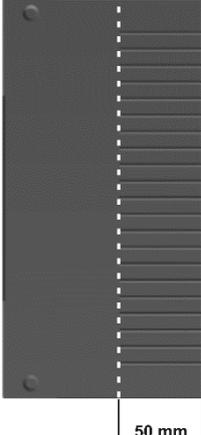


***Throughout the installation process, ensure that the pipe remains level and round (max. permissible deviation from the circular shape +/- 1.5 mm). If the tube exceeds these tolerances then it is to be brought in the corresponding form fixed with suitable auxiliary means (wedges or similar).***

#### 6.1.2 Adapting/shortening the flat ducts

The distance between the window reveal (discharge grille (10) position) and the direction-change adapter (3) (core hole drill axis) can be adjusted by shortening the flat ducts (6). The duct adapters (8) can be shortened by the length of the recess grooves embossed on the EPP body. The duct adapters must only be shortened to adapt them to the final facade surface in the reveal area of the window.

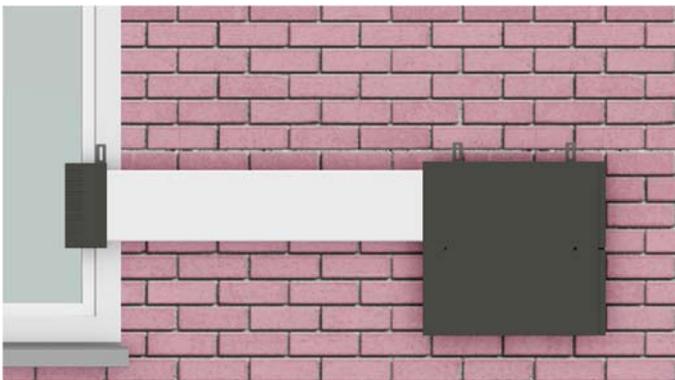
The maximum lengths for shortening are shown as shortening areas for both components of the embrasure module in the table below.

<b>Flat duct</b> Shortening area: 850 mm	<b>Duct adapter</b> Shortening area, recess grooves: 50 mm
	

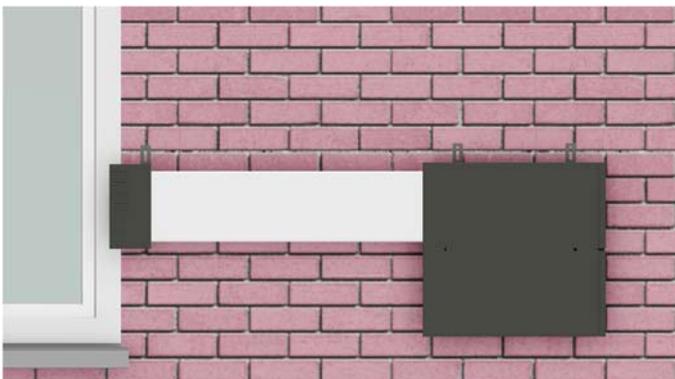
1. To determine the shortening length, insert the flat duct (6) as far as it will go into the duct connection of the direction-change adapter (3) and fit the duct adapter (8) onto the flat duct (6).



***Make sure that the cross-section contour of the flat duct is inserted all the way into the three guides of the duct adapter (8).***



2. Shorten the flat duct (6) by the determined length so that the area of the recess grooves or at least the front side of the duct adapter (8) is located in the planned final facade finish of the vertical window reveal.



3. If you have selected installation variant 1 or 2, shorten the second flat duct (6) to the same dimension. If you have selected installation variants 3 or 4, proceed as described under step 1 for the second flat duct (6).

### 6.1.3 Installing the flat ducts/duct adapters/duct insulating elements

Before installing the thermal insulation composite system, the following installation steps must be carried out for the embrasure module. If you have selected installation variant 1 or 2, start by installing the lower flat duct (6).

1. Insert the flat duct (6) into the direction-change adapter (3) and fit the duct adapter (8) onto the flat duct (6).



***When connecting these three embrasure module components, make sure that they stop and engage in the correct positions.***

- Align the flat duct (6) horizontally or with a minimal gradient to the duct adapter (8) and fix the duct adapter (8) in the long hole of the fixing clip (1) with suitable fixing material.

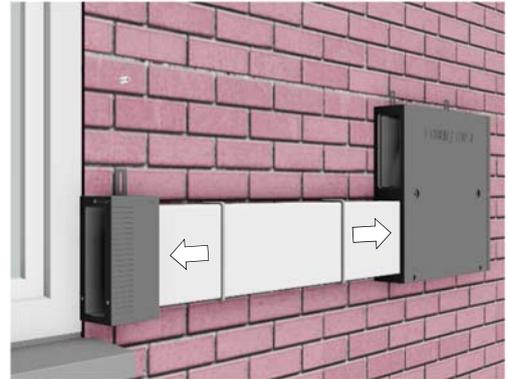
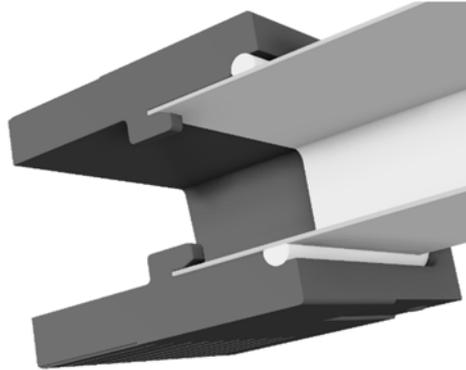


- Press a flat duct gasket (5) blank into the duct connections of the direction-change adapter (3) and the duct adapter (8).

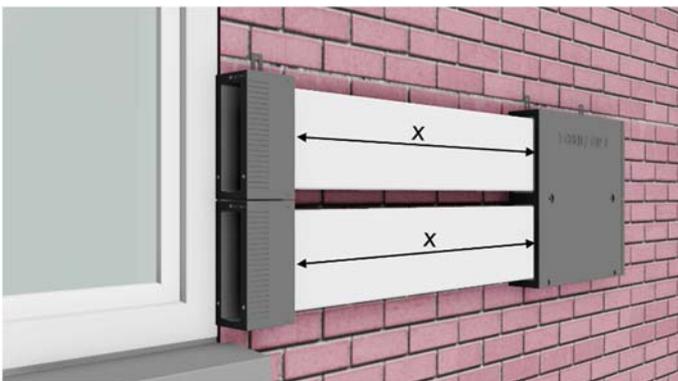


**Always start pressing in the profile gasket blank at the top of the duct connection so that the surrounding flat duct gasket (5) closes at the top.**

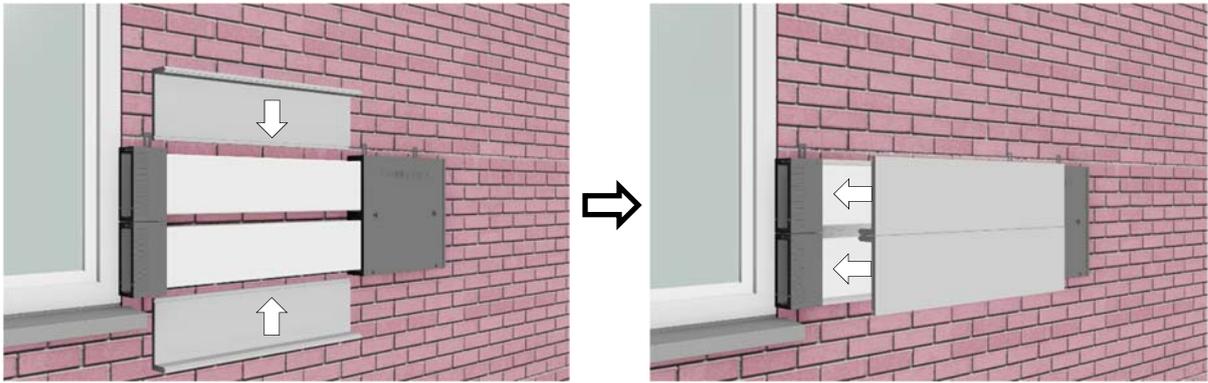
It may be necessary to loosen the duct adapter (8) fastening in order to make it easier to insert the round profile gasket on the side facing the wall.



- Then carry out the same installation steps for the upper flat duct (6).
- Shorten the length of the four flat duct insulating elements (7) to dimension x of the visible area of the flat duct (6). If you have selected installation variants 3 or 4, shorten the flat duct insulating elements (7) in pairs according to the visible areas of the flat ducts (6).

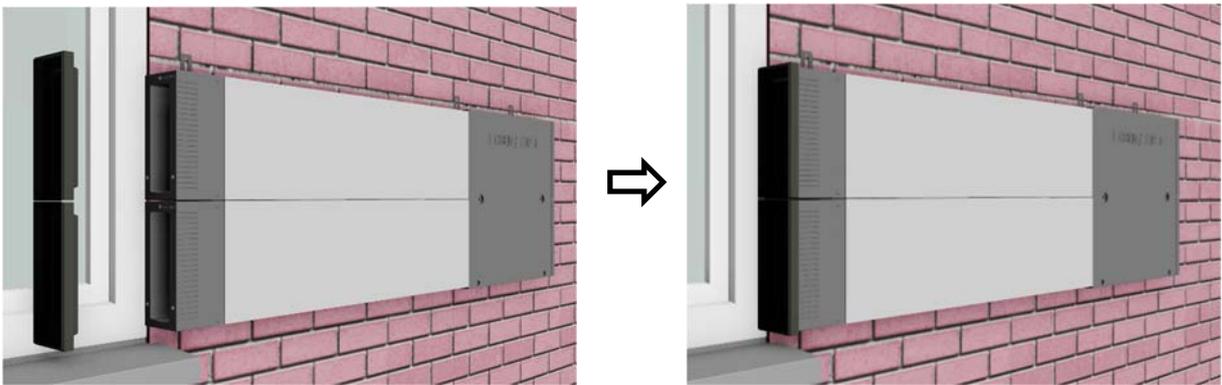


- First attach the inner U-channels of the flat duct insulation by pushing them in between the shell wall and the flat duct (6) from above or below. Then clip the outer U-channels of the flat duct insulation onto the inner U-channels using the tongue and groove system.



**Finally, fix the flat duct insulating elements (7) with a suitable adhesive.**

7. Insert the EPP moulded parts (see section **5.2 Preparatory work for direction-change adapter installation**) separated from the direction-change adapter (3) into the duct adapters (8) as blanking plugs. They will protect the airways in the embrasure module against contamination until the facade surface is finalised.

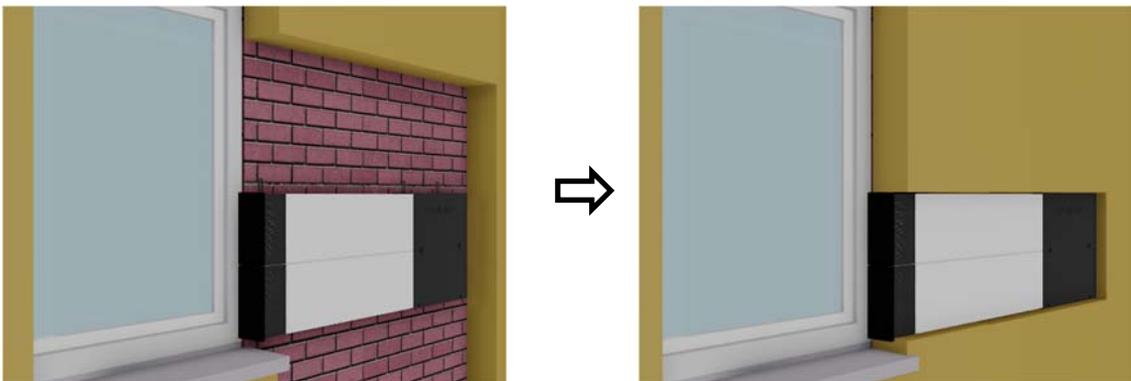


8. Check that all the embrasure module components that have been installed up to this point are securely fixed in place.

## 6.2 Installation steps while building up the facade

### 6.2.1 Thermal insulation composite system

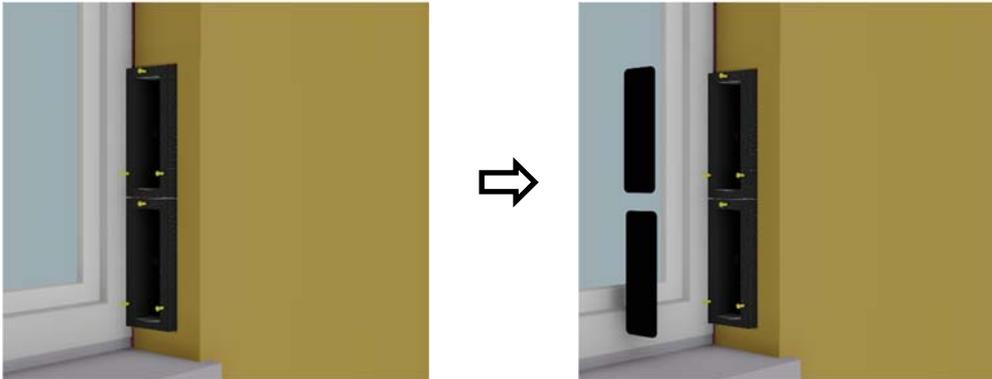
1. Lay the remaining insulation material blanks around the embrasure module so they fit perfectly with the existing insulant.



**Install the thermal insulation composite system in such a way that there are no gaps between the insulation material and the embrasure module.**

2. After covering the embrasure module with insulation material up to the same thickness as the final insulating layer, the duct adapters (8) – not the duct adapter blanking plugs – in the vertical window reveal must protrude by at least the dimension of the planned facade finish compared to the finish of the thermal insulation composite system in the area of the recess grooves (see section **6.1.2 Adapting/shortening the flat ducts**). If the front surfaces of the duct adapters (8) are level with the final facade surface, three yellow plaster plugs can be inserted into the front holes of each of the duct adapters (8) instead of the blanking plugs in the case of a mineral-based facade surface. To protect the airways against contamination, insert the EPP moulded parts separated from the direction-change

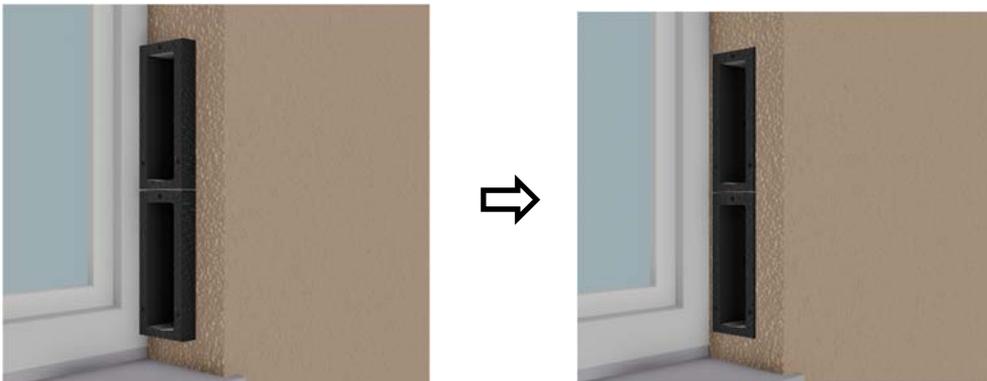
adapter (3) (see section **5.2 Preparatory work for direction-change adapter installation, paragraph 2.**) into the duct adapters.



### 6.2.2 Facade finish

The facade finish must not be applied to the front surfaces of the duct adapters. Adjust any protruding parts of the duct adapter as follows (see section **6.1.2 Adapting/shortening the flat ducts**).

1. After applying the final facade surface, carefully cut off the protruding material from the EPP body using a sharp knife or a fine-tooth saw so it is flush with the facade surface.



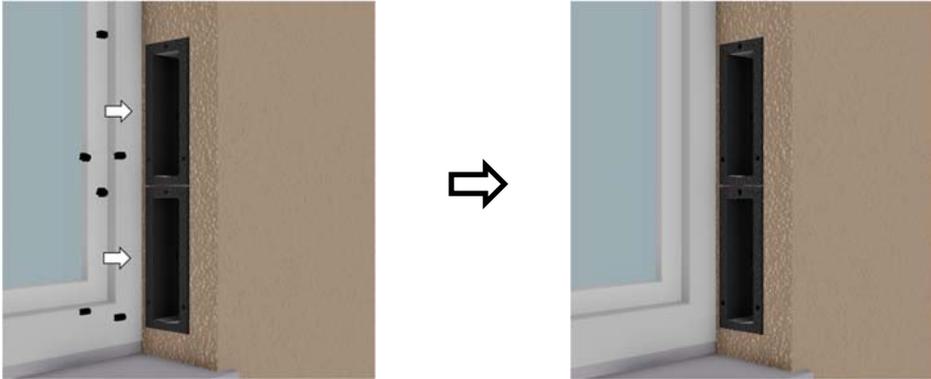
2. The transition area (white dashes) from the duct adapter (8) to the adjacent material of the facade surface must be sealed with a suitable weatherproof sealant.



### 6.3 Finishing the installation

After completing the facade finish, the blanking plugs or the yellow plaster plugs and EPP moulded parts must be removed from the duct adapters and the preparatory work must be carried out for the discharge grill installation. Proceed as follows.

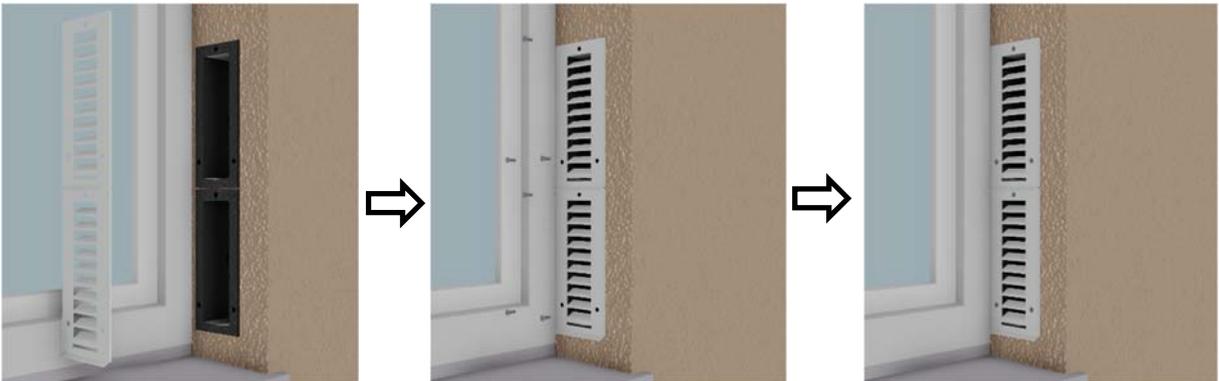
1. Carefully hammer three M5 EPP inserts (9) into the front holes of each of the duct adapters (8). The EPP inserts with M5 female thread are used to hold the countersunk screws (11) for the discharge grilles (10).



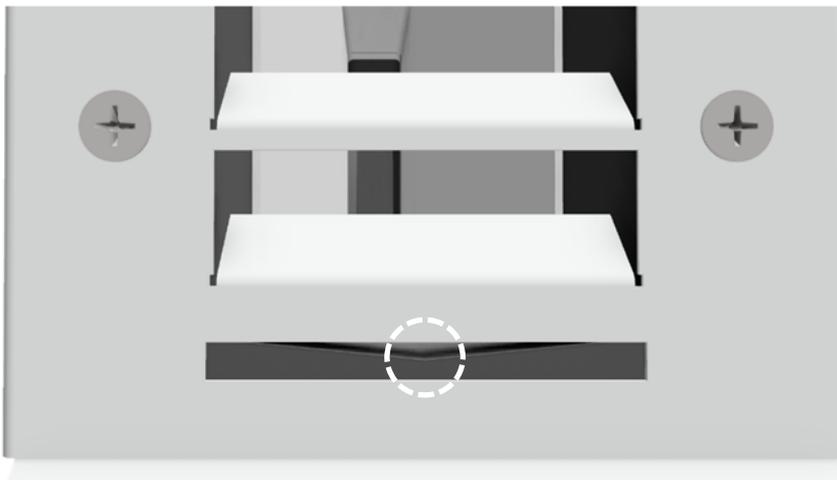
2. Place the discharge grilles (10) on the duct adapters (8) and fasten them in place with the M5x16 countersunk screws supplied.



**The waterproof swelling sealing tape which is pre-fitted to the back of the discharge grilles must be in contact all the way around with the EPP material on the front side of the duct adapters (8).**



3. The condensate gutter running in the middle of the duct adapter bottom (8) is positioned just above the lower edge of the condensate outlet slot of the discharge grille (10).



4. Finally, check that the discharge grilles (10) are positioned and secured properly.
5. For further installation of the unit, refer to the ComfoAir 70 operating instructions.

**Sales International**

Zehnder Group Deutschland GmbH  
Almweg 34 · 77933 Lahr · Germany  
T +49 7821 586 392  
sales.international@zehndergroup.com  
www.international.zehnder-systems.com

**zehnder**