









**DE Einbauanleitung
Silvento Unterputz-Gehäuse
1 und 2-Raum**

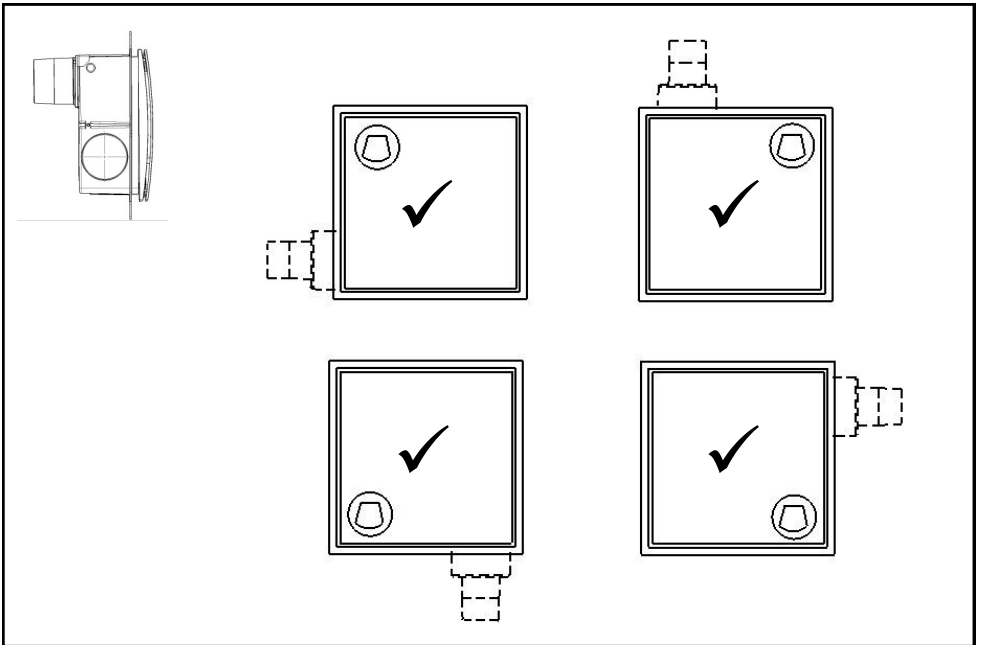
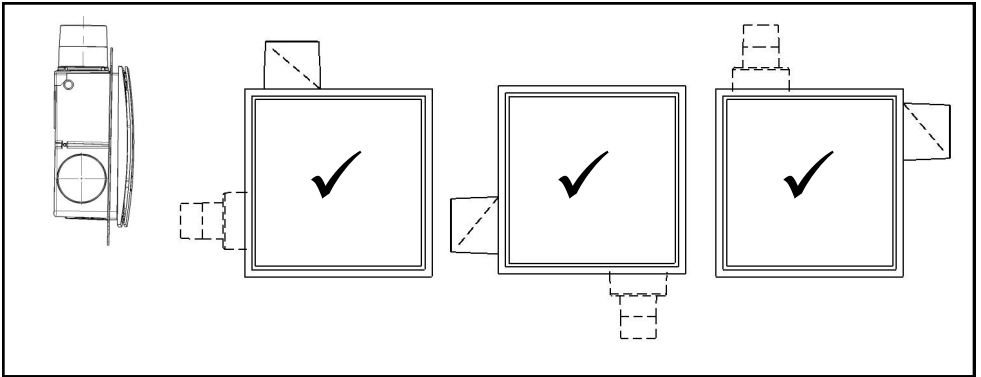
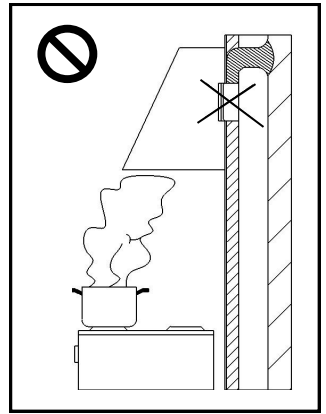
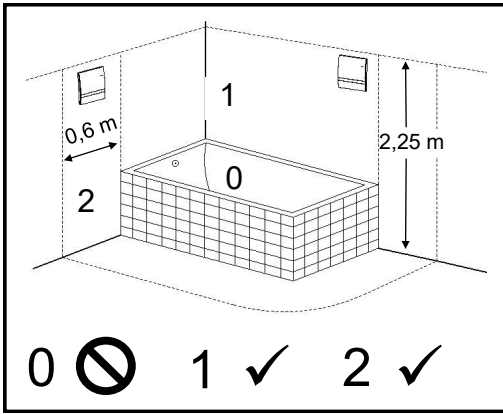
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**EN Installation Manual
Silvento Flush-Mounted
Housing 1 and 2-Room**

- Please pass on to user -

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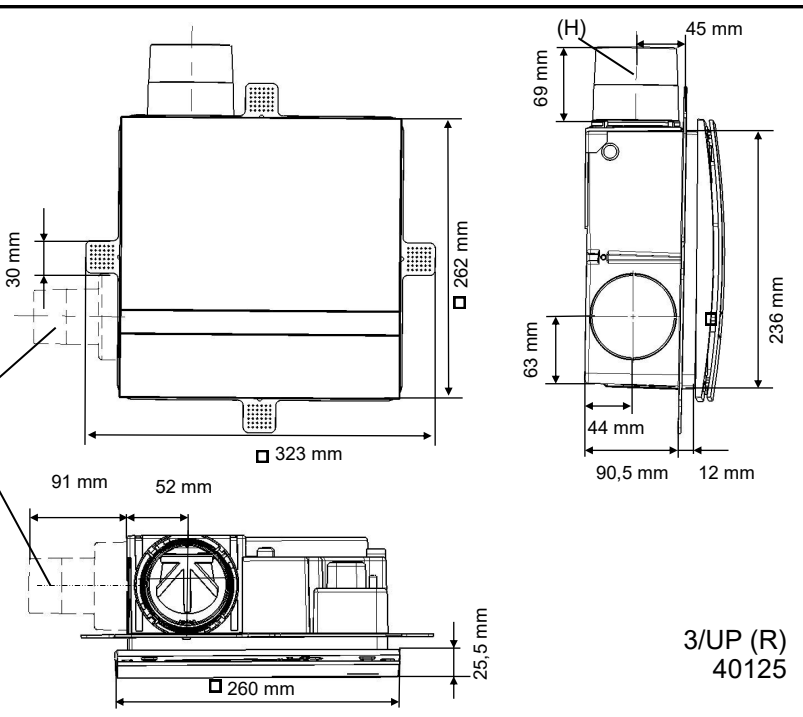
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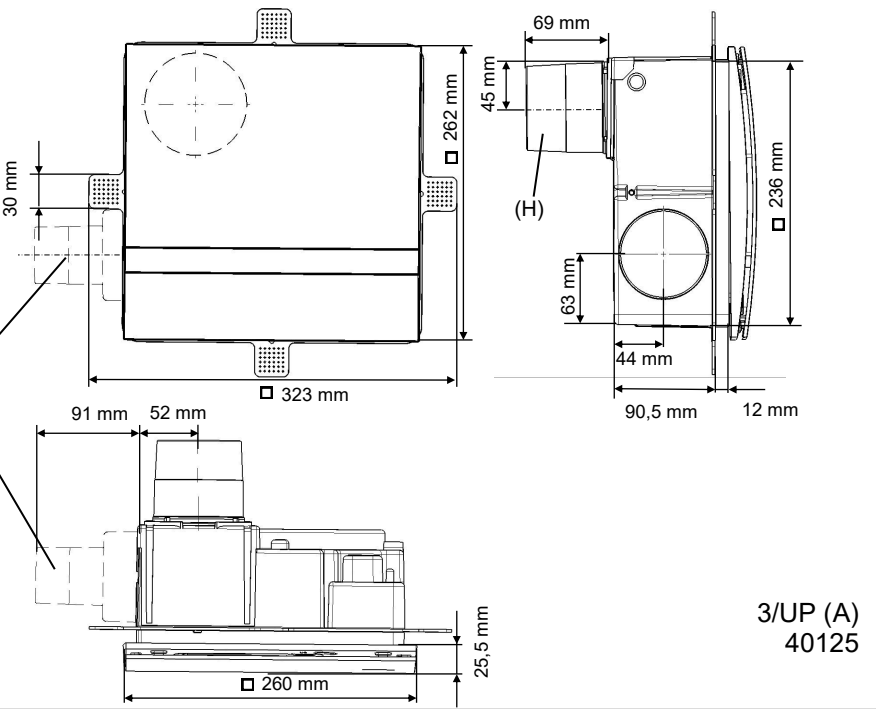


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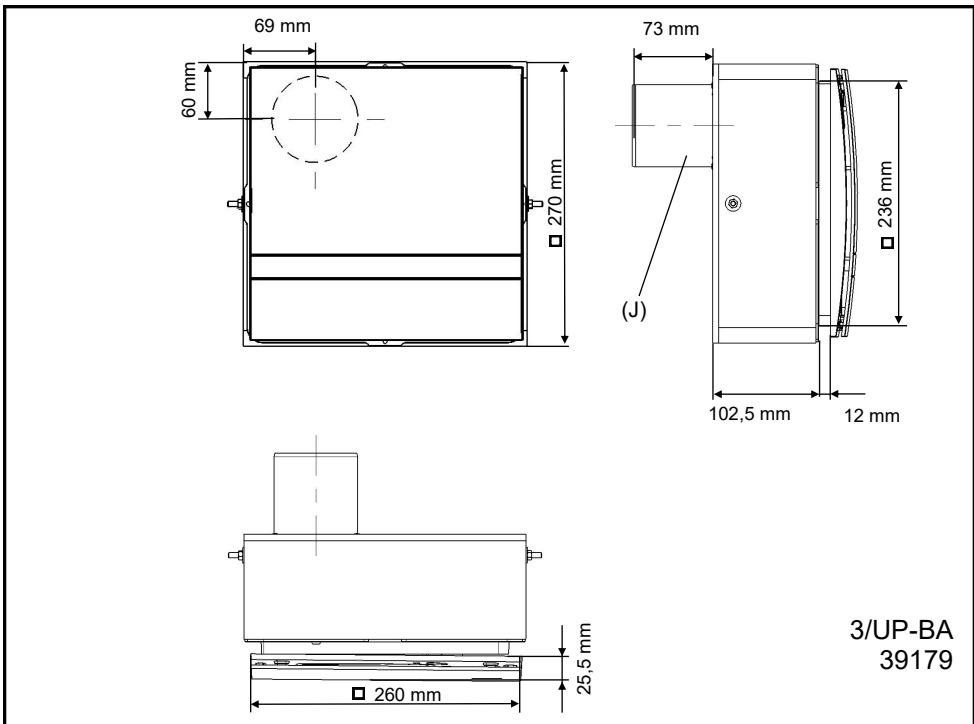
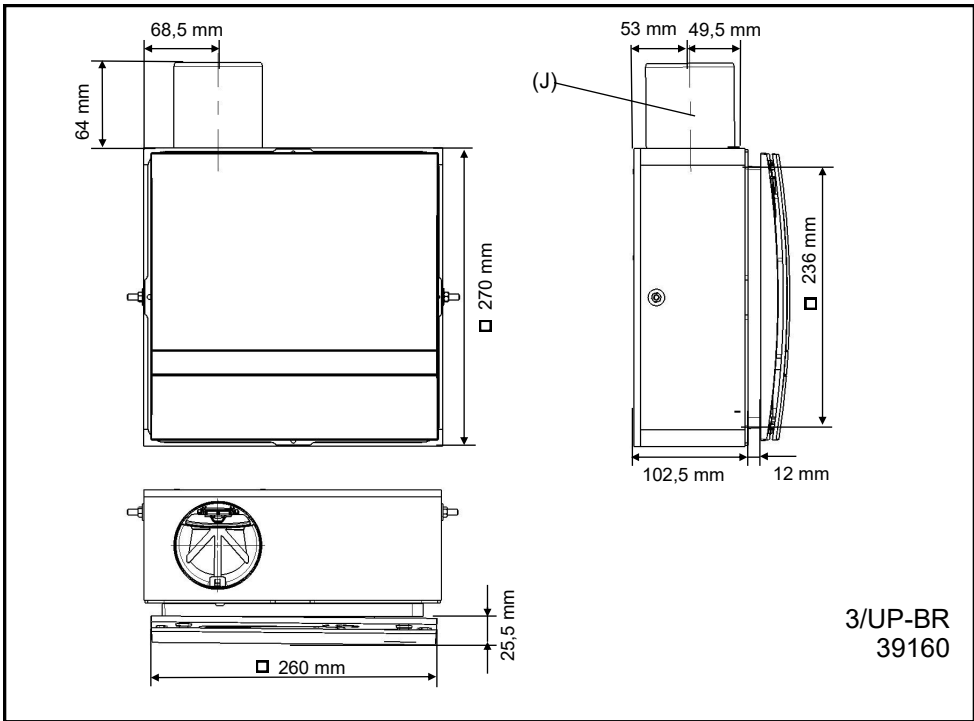


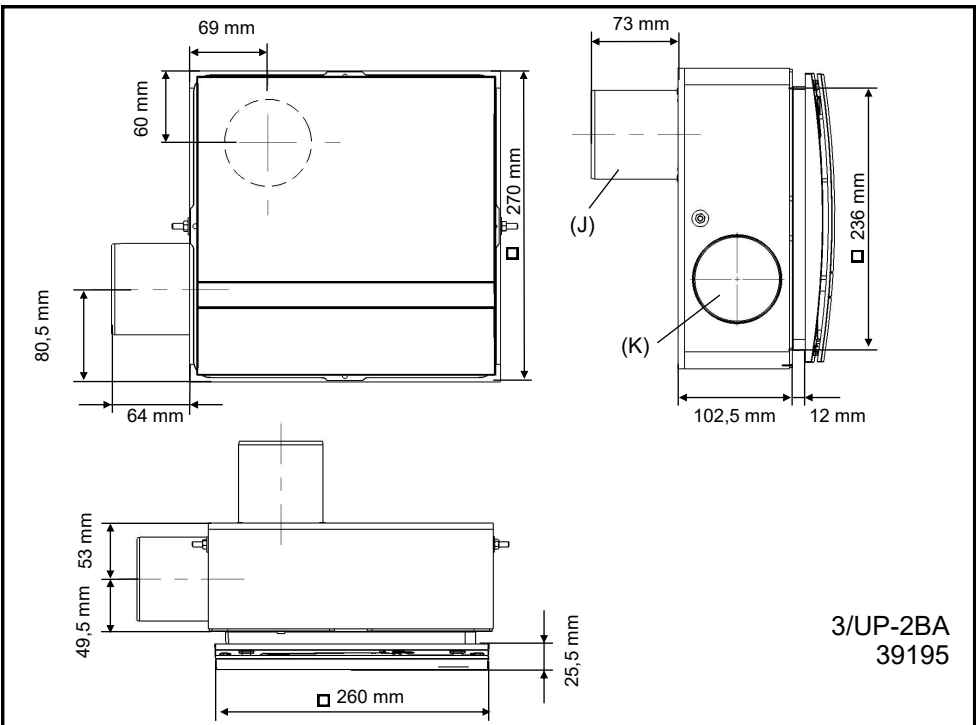
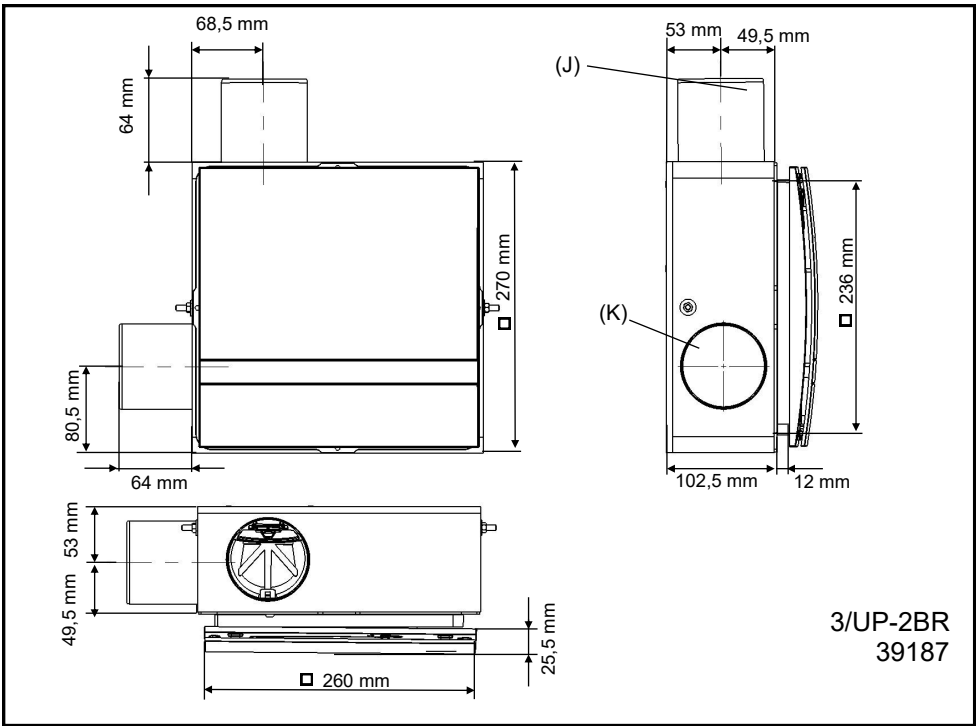
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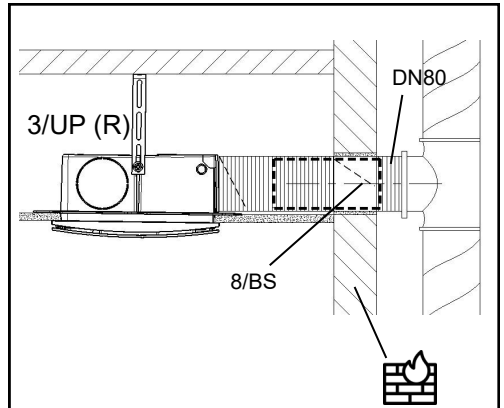
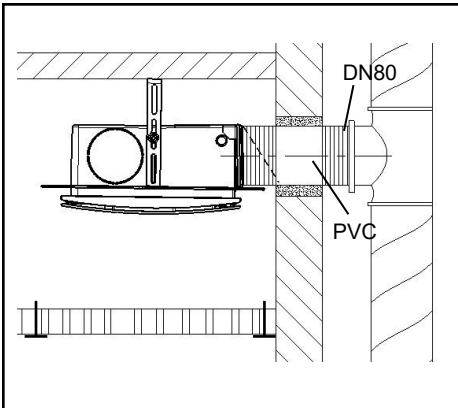
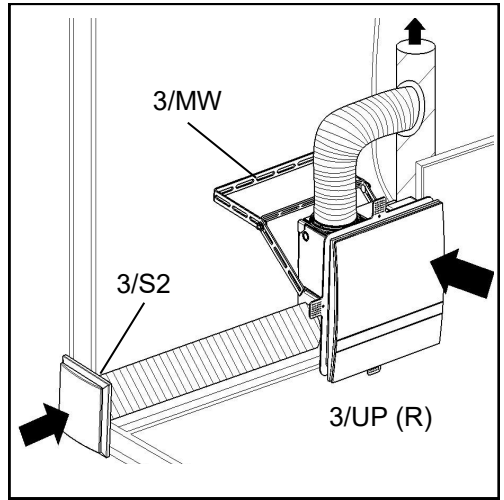
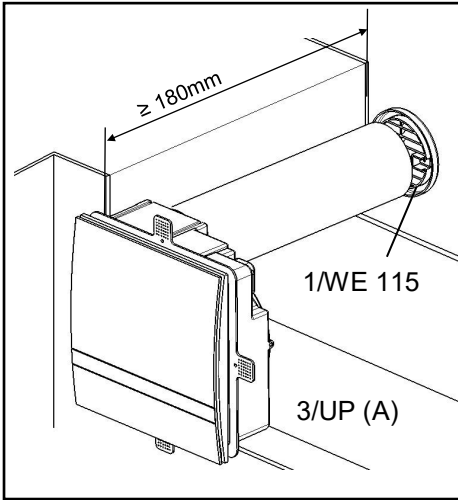
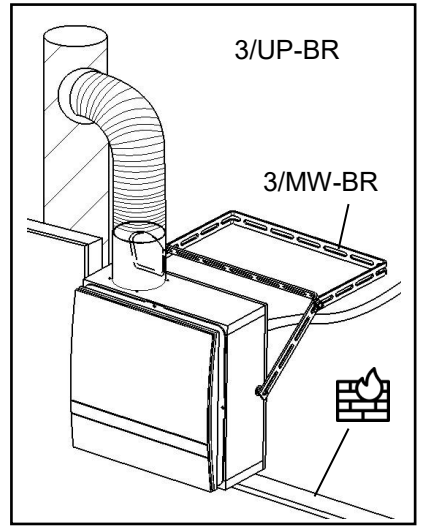
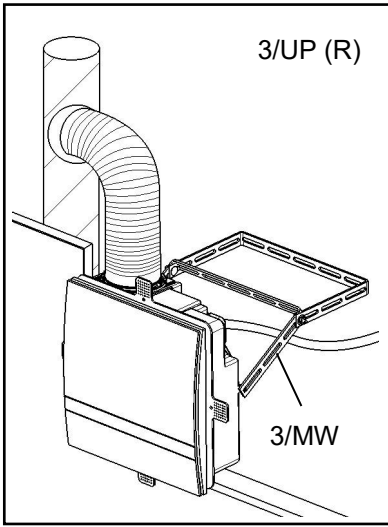


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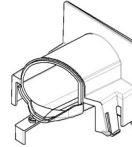
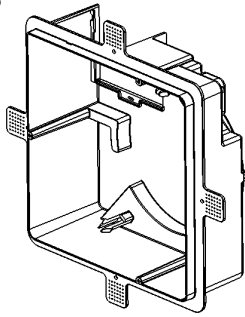
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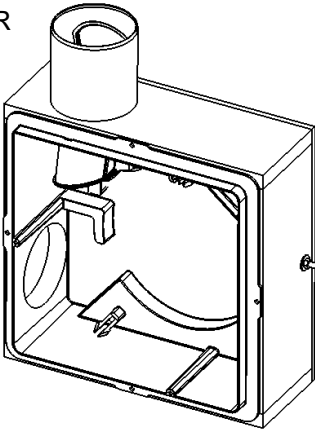
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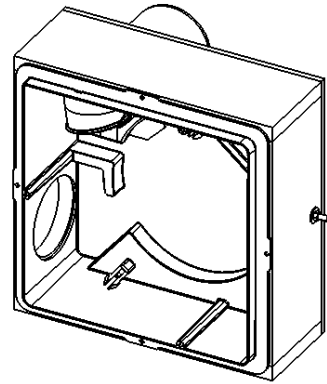
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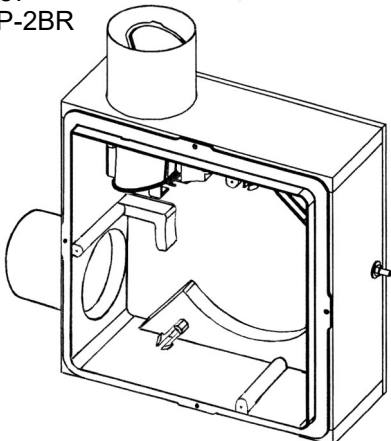
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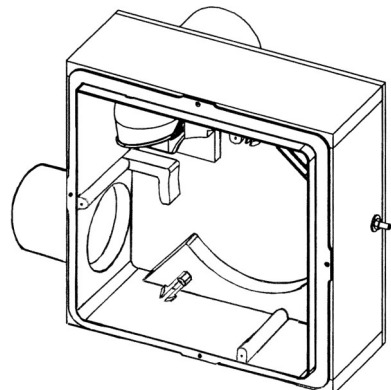
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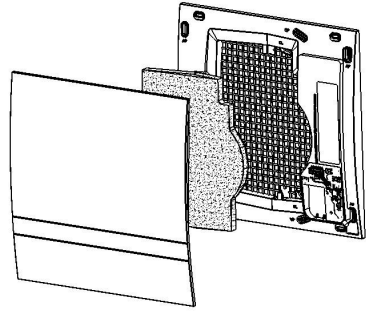
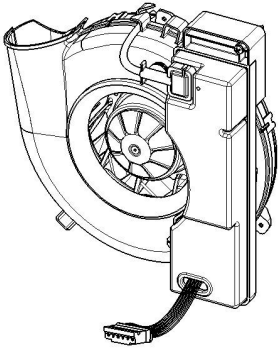
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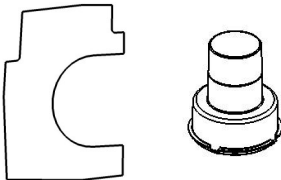
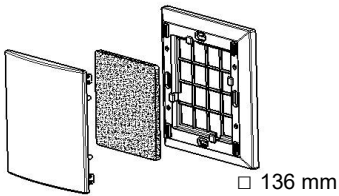
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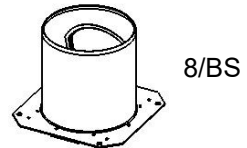
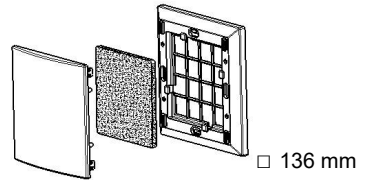
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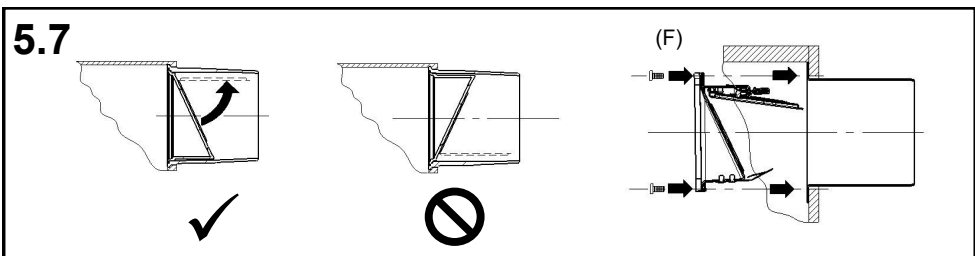
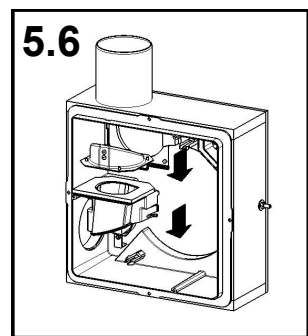
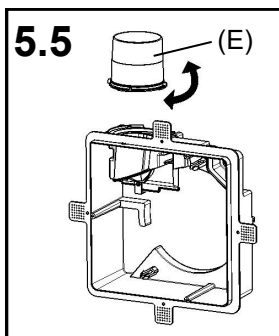
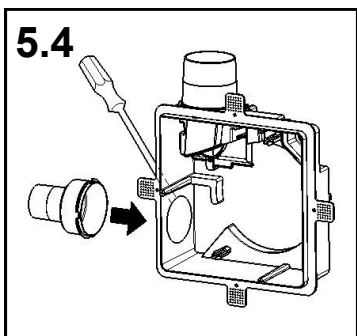
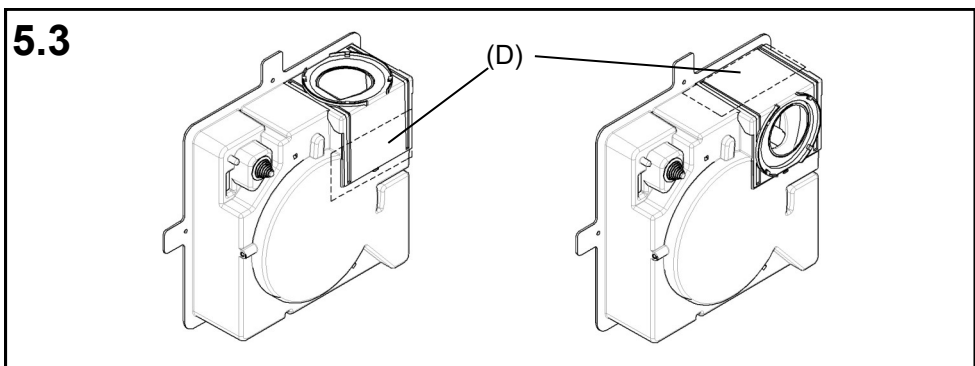
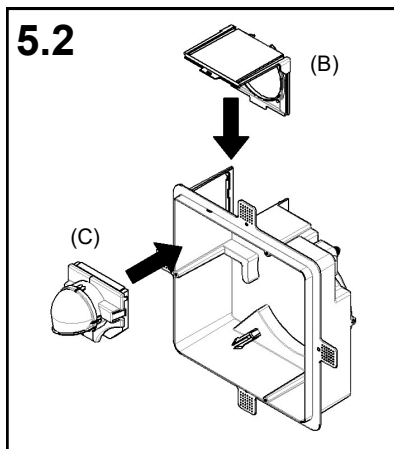
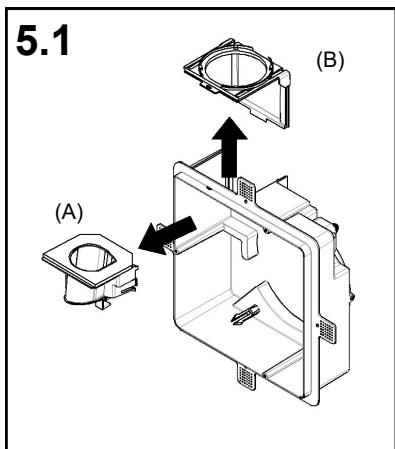
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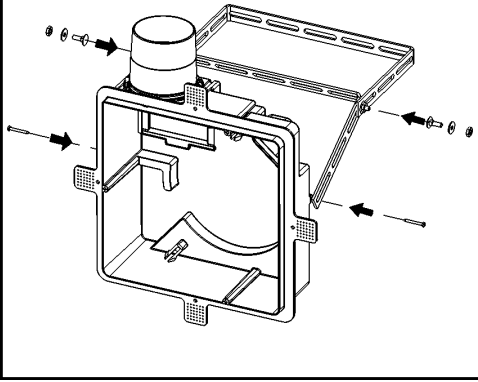


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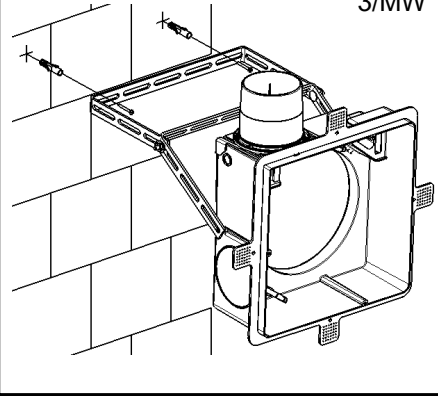
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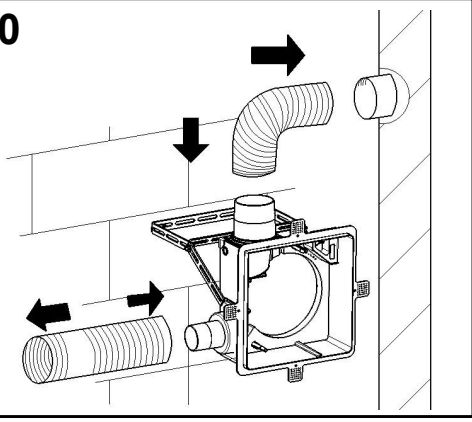


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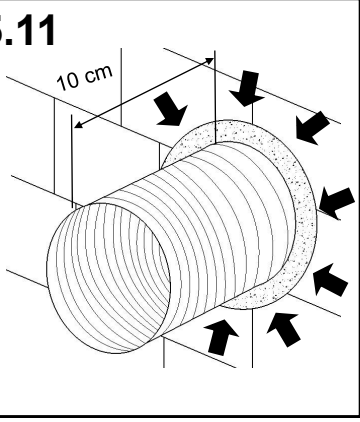
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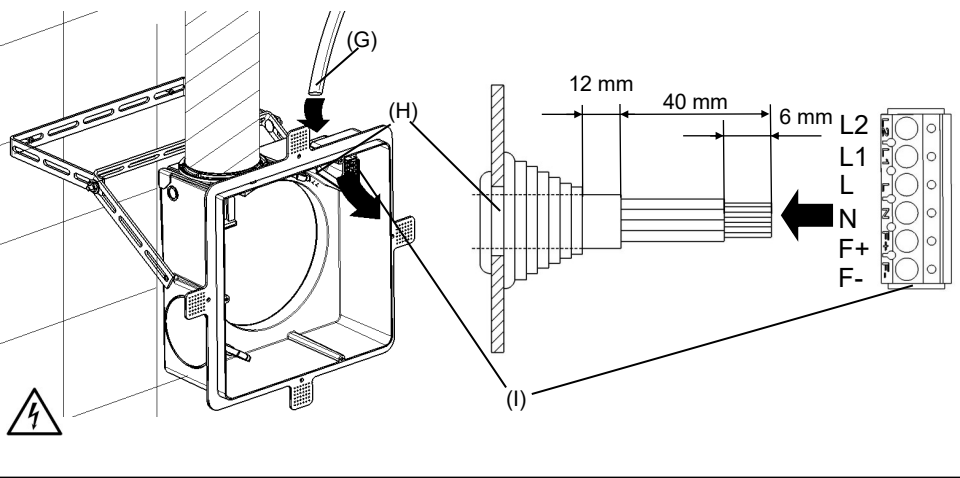
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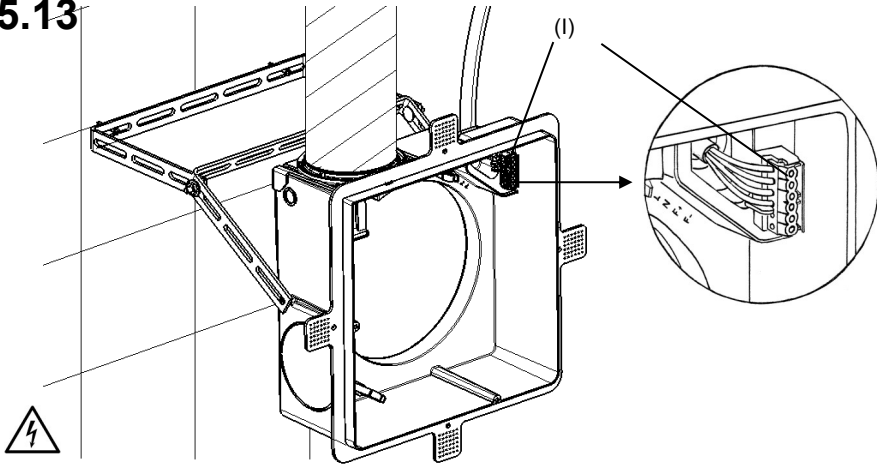
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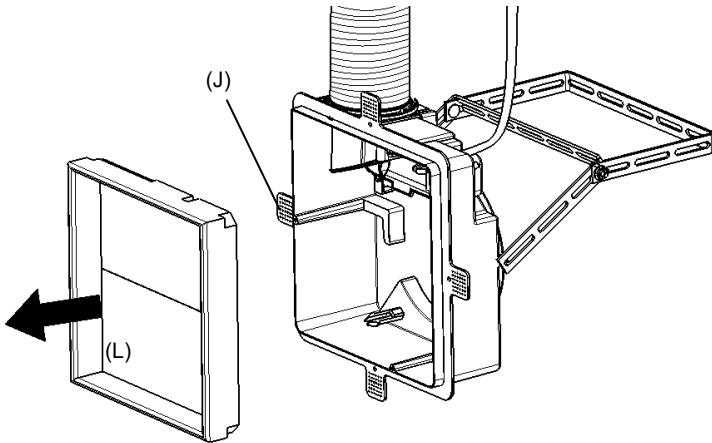
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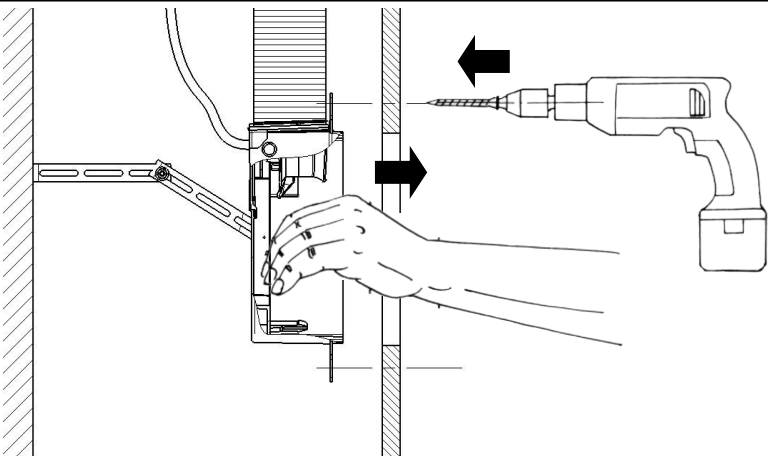
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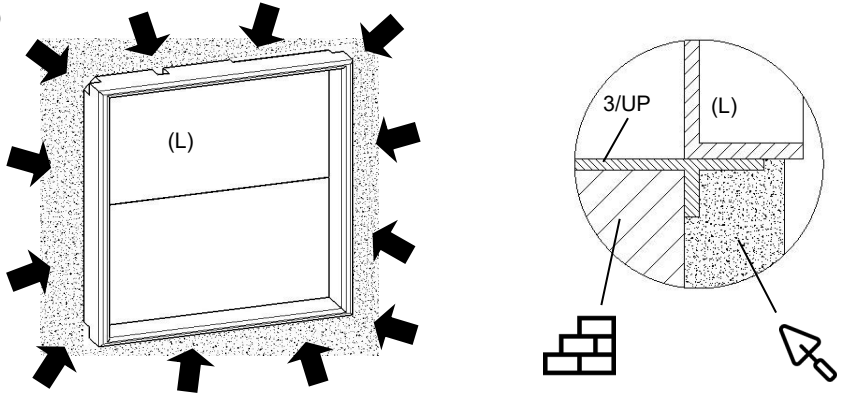
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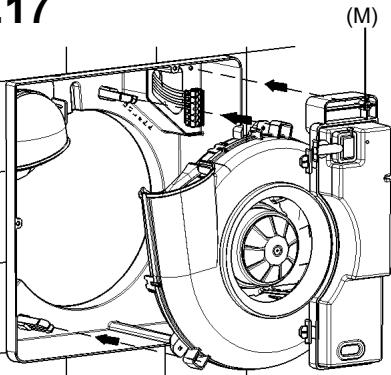
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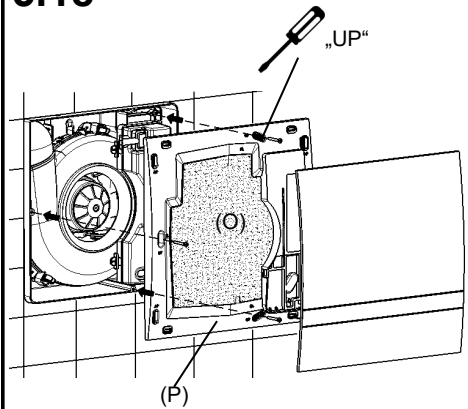
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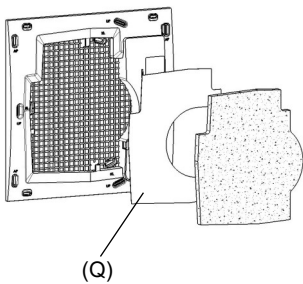
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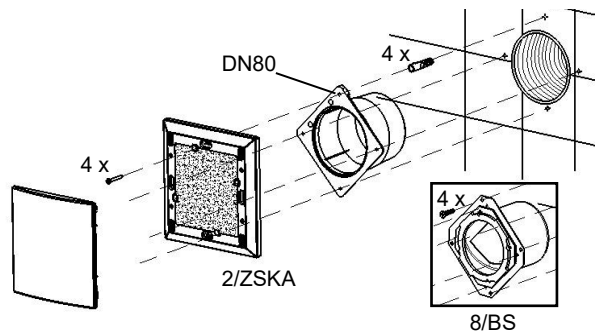
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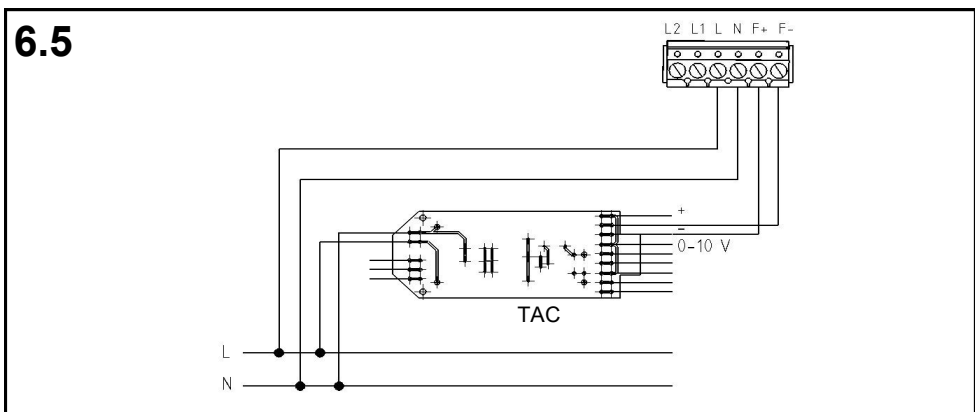
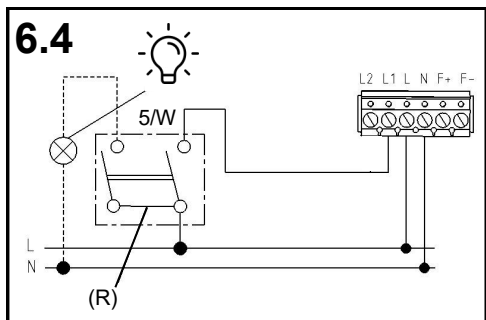
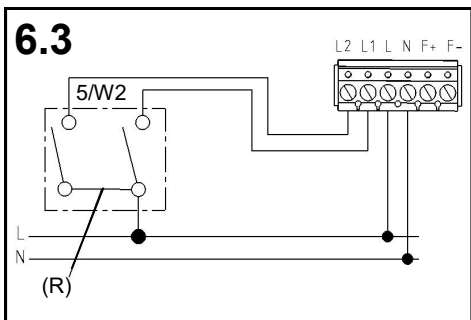
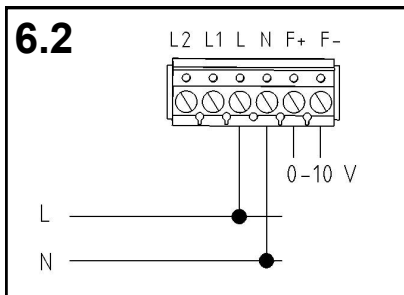
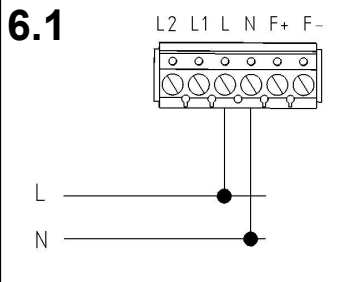
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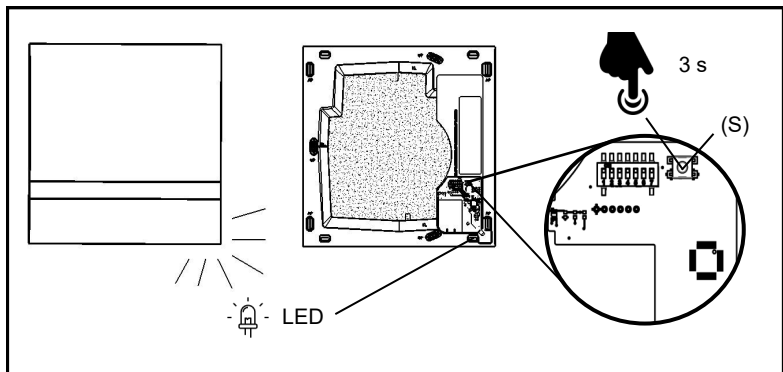
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About These Instructions

- Read these instructions carefully and completely before executing assembly work! General safety instructions and the safety symbols with respective notes in the text must be observed.
- These instructions are to be passed on to the user after completing assembly work (tenant, owner, building administration etc.).

Symbols in these instructions



This symbol warns of a risk of injury



This symbol warns of a risk of injury from electricity

Safety Instructions



Caution! Any installation work on the ventilation unit may only be carried out with the mains voltage disconnected!



Attention! Electrical connections must be carried out by authorized qualified staff in accordance with applicable VDE 0100!



Attention! This device must not be operated by children or persons (filter change/cleaning) who are not able to operate it safely on account of their physical, sensory or mental capacity or due to their inexperience or lack of skills.



When using fans for exhaust air operation, a properly working fresh air flow must always be ensured.

Range of Application

Temperature application range: - 15°C to + 40°C

Can be used at a relative air humidity of up to 75% indoors (non-condensing; temporary exceedance with the fan running is permissible). The user is requested to switch off the unit if the application limits are exceeded. Ensure fresh air supply by window ventilation.

Disposal



Dispose of packaging correctly sorted. If you wish to dispose of the device, observe applicable conditions. Within the framework of the German Electrical and Electronic Equipment Act (ElektroG), the free return of this device to your municipal collection point is guaranteed.

Technical Data

Power supply:	200-240 V AC 50/60 Hz
Remote control input:	0-10 V DC
Protection class:	II
Protection type:	IPX5
Air volume flow:	OFF, 15-60/90* m ³ /h
Electrical power consumption:	1.8-6.2/14.5* W
Sound pressure level:	22-35/44* dB(A)

(with active humidity control „so to say“-stepless between 15 and 69/90* m³/h)
 * depending on the control board

Function/Control Board	5/EC-ZI (90)	5/EC-FK (90)	5/EC-FK+ (90)
Volume flow base load (DIP 1,2)	15/20/30/40/45/45/50/60 m ³ /h		
Volume flow demand (DIP 6,7)	15/20/30/40/45/45/50/60 (90) m ³ /h		
Switch-on delay (-/45/120s)	(✓/✓/✓)	(✓/✓/✓)	(-/-/-)
Follow-up time (-/15/30 min)	(✓/✓/✓)	(✓/✓/✓)	(-/-/-)
Interval operation (-/4h30min/2h15min)	(✓/✓/✓)	(✓/✓/✓)	(-/-/-)
Humidity / temperature sensor	(-/-/-)	(✓/✓)	(✓/✓)
VOC Sensor (smells)	-	-	✓
CO2 equivalent operation	-	-	✓
LED filter change indicator	✓	✓	✓
0-10 V control input	✓	✓	✓
Data logging	✓	✓	✓
Optional Radio Module FM-EO or Motion Detector 5/BM	(✓/✓)	(✓/✓)	(✓/✓)
Diagnostic tool PC based	✓	✓	✓

Every Silvento ec can be combined with a control board without a humidity sensor or with a humidity sensor, each control board can be combined with one extension module.

This results in the following configuration options:

The Control board for the basement ventilation 5/EC-KE is optionally available and not listed here. We will be pleased to inform you.

All units are equipped with class G2 filters and a filter change indicator.

Ventilation units of the "Silvento" series meet all requirements:

- for low voltage (CE) according to EG guidelines (2006/95/EG; 2014/35/EU)
- for electromagnetic compatibility (CE) according to EC directives (2004/108/EC; 2014/30/EU)

The characteristic curve of the level 60 m³/h is part of the DIBt approval Z-51.1-215 and can be taken from it. The characteristic curve is also summarized with all other characteristic curves in a separate document that can be downloaded from www.lunos.de.

The fans of the Silvento ec series can be configured in combination with the circuit boards listed above and the volume flow can be calibrated. Instructions can also be found at www.lunos.de.

The volume flows specified in the accompanying documents refer to the installed condition, taking into account correct design/planning and corresponding installation.

1 Notes

- Installation in area 1 in bath and shower rooms in accordance with VDE 100 is permissible
- Fan installation for use as extractor hood not permitted
- Correct position and tight fit of the non-return valve if necessary (see Figure 5.7).

3 Installation Examples

All installation examples shown can be used with both radial ("discharge upwards") and axial ("discharge backwards") exhaust openings, which can be selected according to convenience.

For fire protection, the shaft wall must have the required fire resistance duration!

4 Shipping Units

Please check the delivery for completeness and mint condition!

All wall installation housings including:

- Non-return valve
- Mains connection terminal
- Plaster protection cap
- Installation Manual

Fan insert Silvento V-EC including:

- Filter frame with filter
- Decor Screen
- Screw accessories
- Installation Manual
- Product data sheet and energy label

5 Installing the Angle and Deflection

Notes:

- This installation step only applies to plastic wall installation housings type 3/UP, for wall installation housings with fire protection coating a variable insertion of the angle is not possible as it is already pre-assembled together with the deflection!
- In the delivery condition of the plastic wall installation housing, the angle and deflection for the radial discharge direction are already fitted. For the housing installation with axial discharge, the angle must be turned and the deflection for the axial discharge direction must be fitted. In both variants the angle must be fixed with adhesive tape!

Conversion to variant with axial discharge direction:

- 5.1 Disengage the angle (S) and deflection (U) for the radial discharge direction!
- 5.2 Insert the deflection for the axial air discharge direction (V) and the angle (S) into the wall installation housing!
Make sure that both components snap securely into place!
Leaks lead to losses of air volume flow!

Both variants:

- 5.3 Fix the angle using the adhesive tape (Z8) supplied with the delivery unit!

5 Installing - Housing and Electrical Connection

Note:

- The installation described in this chapter can be transferred to all housing variants

For two-room systems with plastic housing:

- 5.4 Break out the two-room opening and install the two-room nozzle.

Check the position of the non-return valve according (see Figure 5.7)!

In plastic housing

- 5.5 Disengage the nozzle with non-return valve by turning, re-engage in the correct position

In fire protection housing

- 5.6 Unscrew insert with non-return valve, turn it, screw it back on. (see Figure 5.7)
- 5.8 Use the screw accessories supplied to mount the optional mounting bracket 3/MW (40262) to the housing 3/UP.
- 5.9 Fasten the housing to the shaft wall using the optional mounting brackets 3/MW (40262)! (Screw accessories not included)

The fire protection 3 / MW-BR 40265 mounting bracket is required for the fire protection housing (BR variants).

- 5.10 Connecting the flex tube.
Seal the connection flex tube - main pipe and flex tube - nozzle using sealing tape or clamps.

Flex tube for the 2nd room

- 5.11 Wrap the pipeline with PVC adhesive tape in the area of the wall duct.
Allow the end of the pipe to protrude approx. 10 cm as protection against penetrating dirt.
Fully mortar the flex tube.



Attention! Disconnect the power cable from the power supply!

- 5.12 Open cable grommet (H) (only cut off straight to ensure watertightness) and insert mains cable (G).
Strip the mains cable (G) as shown.
Mount the mains connection terminal (I) according to the selected connection diagram (see 6 Electrical connection). For easier mounting, the mains connection terminal can be removed by pressing it towards the housing wall.
- 5.13 Snap the mains connection terminal (I) into place!

**Attention! Make sure that the mains cable is installed without mechanical tension!
If necessary, use a flexible cable!**

Installing the plastic housing in lightweight walls

- 5.14 Take off the plaster protection cap (L)
(J) fastening element (4 pieces)
- 5.15 Position the housing from the inside in the wall cut-out (recommendation: 238 x 238mm) and fix it to the fastening elements (J) using drywall screws.
- 5.16 Put the plaster protection cap back in place (L)!
If necessary, pinch off fastening elements (see Figure 5.17 (J)).
Do the plastering carefully! Leaks will lead to losses of air volume flow!
Tight fit of the installation housing is only achieved through the shaft wall and plaster!

5 Installation - Fan Insert and Decor Screen

Mounting the fan insert

- 5.17 Remove the plaster protection cap.
Snap the fan insert firmly into place and screw on the mains connection area (M)

Mounting the decor screen

- 5.18 Clear the screw openings (UP) in the grille frame (P) (they are marked "UP")
Fasten the grille frame to the fan housing using the screws supplied. Insert the filter.
Put on the front cover and snap it into place.

With two-room fans:

- 5.19** Insert the screen (Q) under the filter in the grille frame. (the screen for two-room fans is included in the two-room accessories)

5 Installation - Second Room Connection

- 5.20** Use the drilling template included in the 2-room set!
First shorten the protruding flex tube flush with the wall.
Second room connection without fire protection: Use nozzle DN 80.
Second room connection with fire protection: Screw shut-off device 8/BS.

6 Electrical Connection



Caution! Any installation work on the ventilation unit may only be carried out with the mains voltage disconnected! The ventilation unit is insulated in accordance with protection class II, a protective conductor connection is not required.



Make sure all connection lines are de-energized before connecting the ventilation unit to the power supply! (Disconnection from power supply with at least 3 mm contact opening, e.g. fuse)



Each circuit connected to the ventilation system must be fitted with residual current protection (e.g. RCD switch)!



Electrical connections must be carried out by qualified staff only!

Additional installations and electrical components in the ventilation unit are not permitted!
Connection diagrams for further fan functions available on request!

Note: A variety of Silvento ec ventilation functions can be created using the DIP switches integrated in the control board of this type and via optional add-on modules. For this information, please refer to the "Fan Insert Silvento ec Installation Manual".

- 6.1** Automatic operation with humidity control according to DIP switch position of the control board.
Comfort control: Humidity controlled operation
Basic control: Interval switching possible
- 6.2** With remote control (0 - 10 V)
The remote control input is divided into two ranges. In the range of 0-5 V the level is set absolutely, i.e. with highest priority (corresponds to DIP 6,7 with switched L1). In the range of 6-10 V only the base load is set (corresponds to DIP 1,2). In the range of 0-0.4 V the fan operates autonomously.

Area absolute level	Step 0: 0,6 V - 0,9 V	Base load level area	Step 1: 6,1 V - 6,4 V
	Step 1: 1,1 V - 1,4 V		Step 2: 6,6 V - 6,9 V
	Step 2: 1,6 V - 1,9 V		Step 3: 7,1 V - 7,4 V
	Step 3: 2,1 V - 2,4 V		Step 4: 7,6 V - 7,9 V
	Step 4: 2,6 V - 2,9 V		Step 5: 8,1 V - 8,4 V
	Step 5: 3,1 V - 3,4 V		Step 6: 8,6 V - 8,9 V
	Step 6: 3,6 V - 3,9 V		Step 7: 9,1 V - 9,4 V
	Step 7: 4,1 V - 4,4 V		Step 8: 9,6 V - 9,9 V
	Step 8: 4,6 V - 4,9 V		

- 6.3** Depending on the control board, DIP switch position and module:
 With run-on time (basic control): Deactivation of the run-on functions (L2), continuous operation basic ventilation or OFF according to DIP switches 1 and 2 switchable to regulated ventilation (L1) according to DIP switches 6 and 7
 With humidity control (comfort control): Humidity control can be deactivated (L2), switchable to regulated ventilation (L1)
Note: No light coupling possible with VDE-compliant installation ((R) Bridge)
- 6.4** Depending on control board, DIP switch position and module:
 Single-stage operation, switchable to regulated ventilation
 Continuous operation basic ventilation and run-on time-controlled regulated ventilation
 Humidity control, switchable to regulated ventilation
 Run-on time-controlled regulated ventilation
Note: Use a two-pole switch to switch the room lighting simultaneously with the regulated ventilation!
- 6.5** Direct connection to TAC via F+ and F-.


7 Filter Change

- 7.1** The LED lights up continuously when the filter is dirty.
 Remove the front cover, remove the filter. Insert a new or cleaned filter. The filter can be cleaned e.g. using a dishwasher.
 Press the button (S) with a tool, e.g. a pen, for 3 seconds; the LED goes out.
 Put the front cover back in place.

Never operate the unit without a filter!

Cleaning

When necessary, wipe the front cover and grille frame using a dry soft cloth.

 Filter change and cleaning must not be carried out by children or persons who are not able to operate the unit safely on account of their physical, sensory or mental capacity or due to their inexperience or lack of skills.

Additional Parts and Replacement Parts

Mounting brackets	3/MW	Order no.: 40262
Mounting brackets fire protection	3/MW-BR	Order no.: 40265
Pack of 3 filters	2/FSI-R	Order no.: 39721
Control board basic variant	5/EC-ZI	Order no.: 40080
Control board comfort variant	5/EC-FK	Order no.: 40081
Control board comfort plus	5/EC-FK+	Order no.: 40217
Control board basic variant up to 90 m ³ /h	5/EC-ZI90	Order no.: 40126
Control board comfort variant up to 90 m ³ /h	5/EC-FK90	Order no.: 40127
Control board comfort plus up to 90 m ³ /h	5/EC-FK 90+	Order no.: 40221
Control board for basement ventilation	5/EC-KE	Order no.: 40133
Motion detector module	5/BM	Order no.: 40082
Radio module	5/FM –EO	Order no.: 40083



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