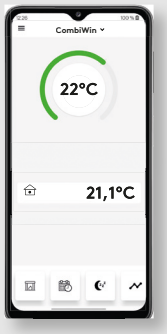
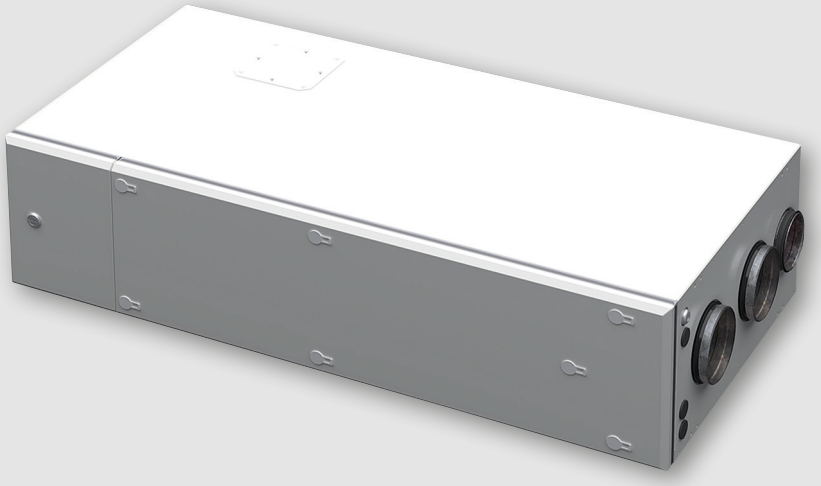
CASA CombiWin

Technical catalogue



Available on the App Store

Get it on Google play



QUICK FACTS

- Developed for quick and easy replacement of Bahco ACJ type units
- Adapted dimensions, connections and fixing points
- Now also with a rear rectangular wall connection
- The existing heating system does not need to be rebuilt
- User-friendly control system
- Optimized energy consumption
- Genius control panel with touch function
- Mobile APP control for easy operation
- Three heating variants available, Electric, integrated water coil and integrated water coil with electric backup
- The electric variant can be subsequently supplemented with a water coil for another heating source
- The same control panel can be used to control both CASA CombiWin Genius and CASA R2 Genius
- Can be easily combined with water-based district heating

UNIT TECHNICAL CONTENT	
Air flow range	30-160 l/s
Dimensions, w x l x h	1195 x 580 x 290 mm
Duct connections	Ø 100 mm Ø 125 mm Ø 160 mm
Connection power	6190 W | 190 W
Power connection	3~ 400 V, 50 Hz, 16 A 230 V, 50 Hz, 10 A
Fan	170 W, EC
Filter	G4
Colour	Exterior White, RAL 9016 (corresponds to NCS S0502-G50Y)

Swegon

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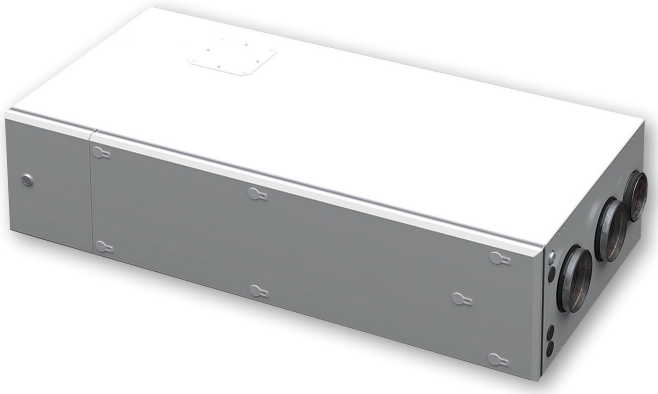
Technical description

Swegon CASA CombiWin



CASA CombiWin is a simple and easy-to-use air heating unit. The unit's operation is controlled, managed and monitored via the integrated control system and its control panel. Together with a heat recovery unit (e.g. Swegon CASA R2), energy-efficient and healthy indoor air is ensured for both the building and the residents. Heat energy from the warm recirculation air is utilized, which means that only a small amount of additional energy is required to heat the property. The heat recovery unit mixes fresh air into the recirculation air to ensure indoor climate and air quality.

The CASA CombiWin air heater is designed to replace older Bahco ACJ units. Dimensions, connections and mounting points are the same as those of the old unit, making installation easier. The unit is equipped with an energy-efficient fan and electric heater for post-heating, controlled via the integrated control system.

Available variants

Units are available in following variants:

- Unit with electrical heater
- Unit with water heater
- Unit with water and electrical heaters

Components

Fans

CASA CombiWin has an energy-efficient EC-type fan motor, whose electricity consumption is significantly lower than traditional fan motors. The advantage of EC fans is that they can be infinitely variable in speed, where efficiency remains high even at low speeds.

Filter

CASA CombiWin is equipped with a coarse filter for good air quality in the property.

Comfort element

The electric heater in CASA CombiWin is used to maintain a comfortable indoor climate. The unit can be supplemented with a water-borne heating battery, connected to the property's heating system.

Room sensor

The unit can be equipped with an external room sensor. It regulates the unit according to the temperature in the room, unlike the return air sensor which regulates the temperature based on the total return air temperature.

Article number: WSTC

Protective functions

The fan overheating protection

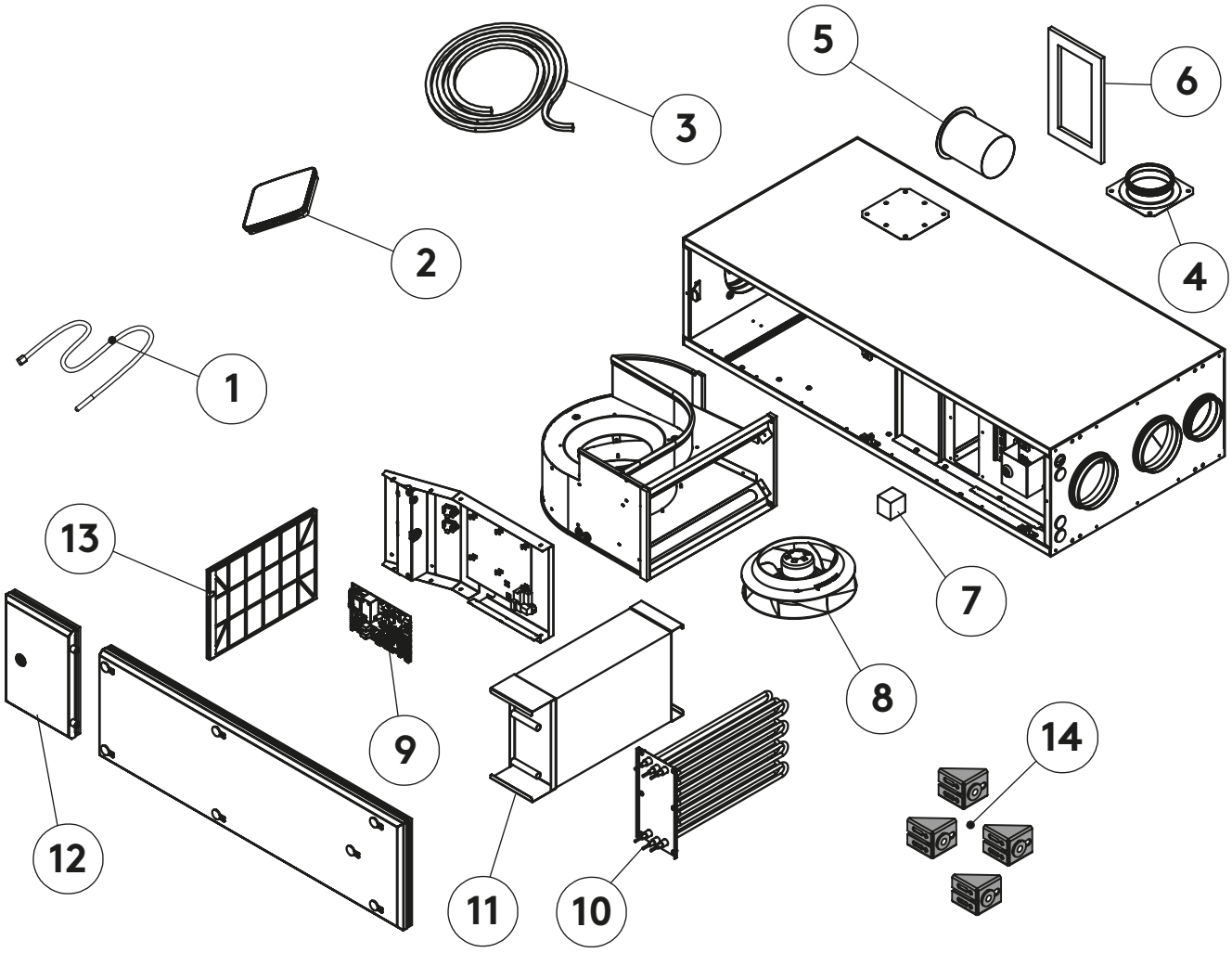
The fan overheat protection stops the fan if the temperature rises too high and is reseted automatically. If protection stops the fans an alarm is generated.

Electric air heater

The electric heater is equipped with automatic and manual overtemperature protection. Overheat cuts the heating circuit and generates an alarm.

The delivery includes

- The air heating unit
- CASA Genius control panel + frame
- Modular cable with RJ9 connector (10 m)
- Quick Guide
- Installation and commissioning instruction
- Duct connection 100 mm, male with frame
- Duct pipe, dia 100 mm
- Rectangular rubber sealant
- Mounting brackets, 4 pcs. + screws, 8 pcs
- Plastig plugs, as spares, 6 pcs



1. **Temperature sensors**
2. **CASA Genius control panel + frame**
3. **Modular cable with RJ9 connector**
4. **Duct connection 100 mm, male with frame**
5. **Duct pipe, dia 100 mm**
6. **Rectangular rubber sealant**
7. **Contactor**
8. **Fan**
9. **Genius control board**
10. **Electric heater** (models H12C60G01, H12C60EEG01)
11. **Water heater** (model H12CEEG01)
12. **Door**
13. **Filter frame with filter mat**
14. **Mounting brackets, 4 pcs. + screws, 8 pcs**

Use of the CombiWin unit

Swegon CASA Genius control panel

Swegon CASA App

GET IT ON Google Play

Available on the App Store

The application requires that control panel is connected to web.

Selecting temperature setpoint

The heating unit operates automatically. The user selects the room temperature setpoint. The setpoint can be selected from the control panel or the mobile application by pressing the setpoint symbol symbol.

Note! The room temperature is controlled only during heating period.

Heating indication

The heating power is indicated by green arch. Heating symbol is green when the heating is active. Heating settings and functions can be enabled from the settings menu. Functions Boost, Silent, Stop and Eco can be activated from the main screen.

Room temperature monitoring

The current room temperature is displayed. With the mobile application, the temperature trend data is available by clicking the temperature bar.

Screen saver

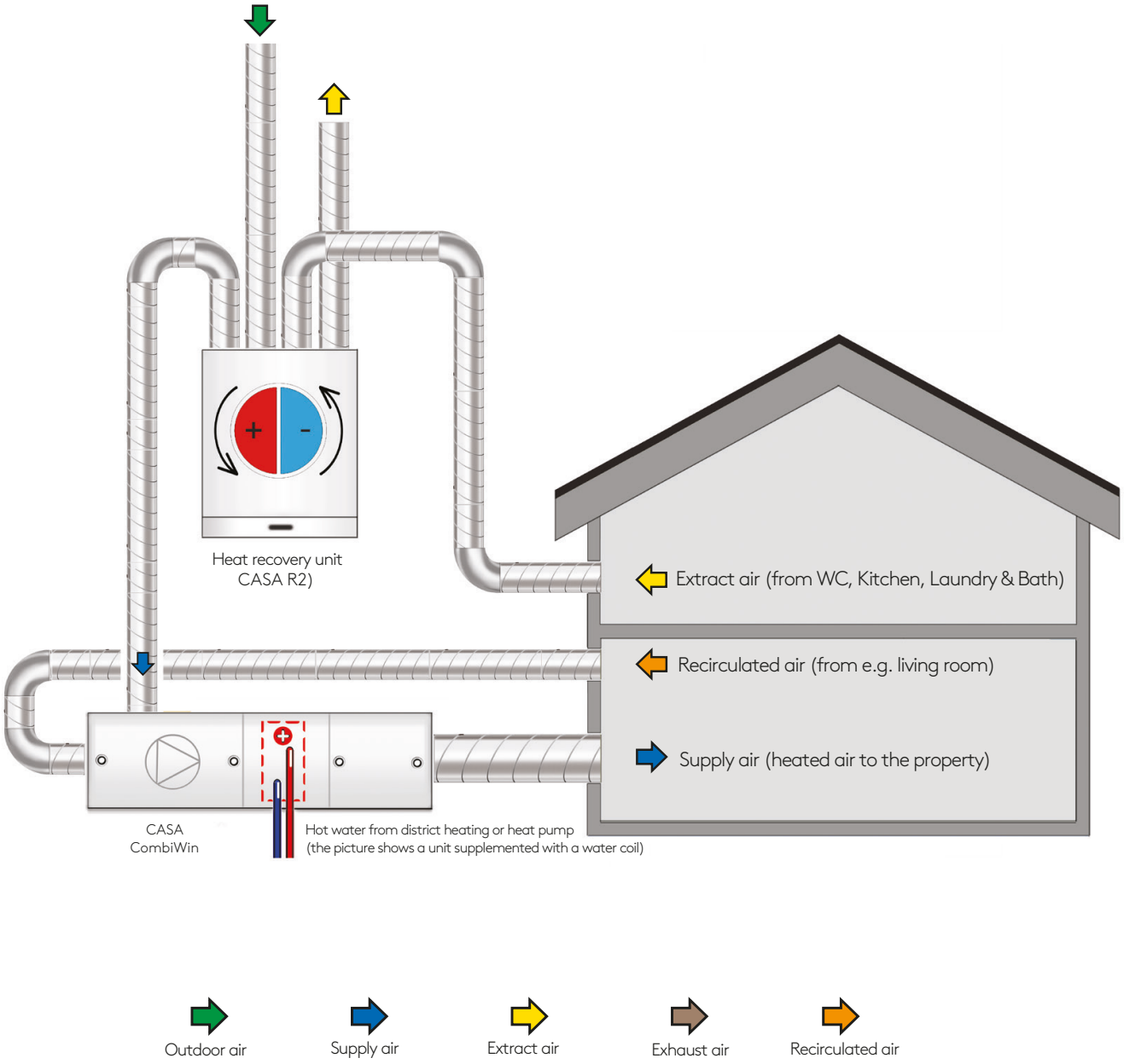
When the control panel is not used the screen saver is activated. The info and the brightness of the screen saver can be selected from the user panel settings.

By default temperature setpoint (left) and measured temperature is displayed.

Hint! When the control panel is connected to app, the screen saver can show accurate internet time and date.

Design data

Connection options



Värmeeffektsbehov

Diagrammet redogör för luftfl ödesbehov i relation till värmeeffekt och inblåsningstemperatur. Diagrammet är baserat på en ingående temperatur på +15°C. Med en lägre inblåsningstemperatur behöver luftfl ödet ökas för att bibehålla värmeeffekten.

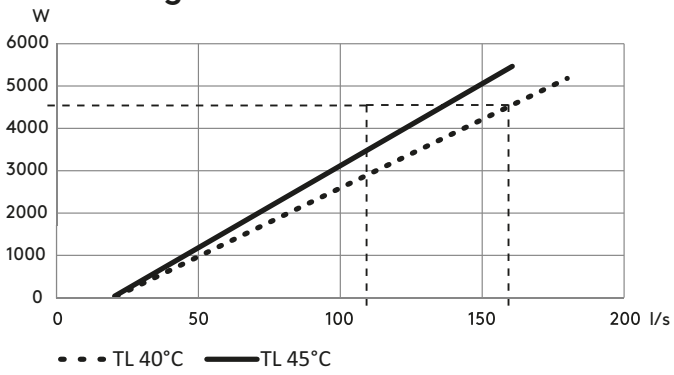
Då husets värmebehov är beräknat kan en dimensionering av luftfl ödesbehov i CombiWin beräknas. Beroende på hur välisolerat huset är så varierar värmebehovet och detta påverkar även vilket luftfl öde som behövs för att bära in värmeeffekten. Normalt värmebehov är ca 25-50 W/m².

Heating power requirement

The diagram shows the air flow requirement in relation to the heat output and the supply temperature. The diagram is based on an inlet temperature of +15°C. With a lower supply temperature, the air flow needs to be increased to maintain the heat output.

Once the house's heat demand has been calculated, a dimensioning of the air flow requirement can be calculated in CombiWin. Depending on how well insulated the house is, the heat demand varies and this also affects the air flow required to carry the heat output. Normal heat demand is approximately 25-50 W/m².

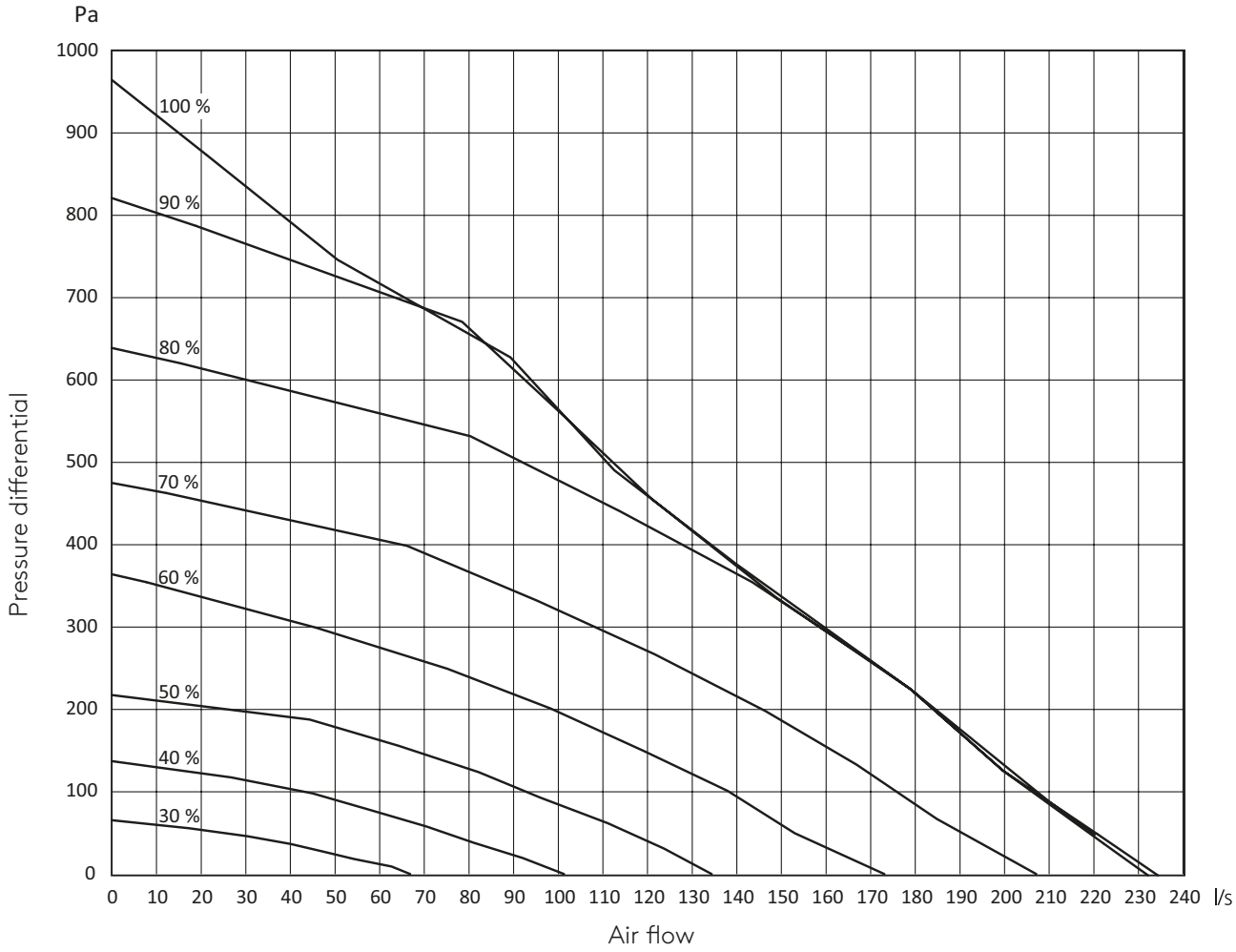
Värmeeffekt i relation till luftflöde
Heating effect in relation to airflow



Exempel | Example	A	B
Boyta | Living space	100 m²	150 m²
Värmebehov **Heating requirement**	40 W/m²	30 W/m²
Värmeeffektbehov **Heating power requirement**	4000 W	4500 W
LT 40°C	140 l/s	160 l/s

Air flows

Air flows
EN 13141-4



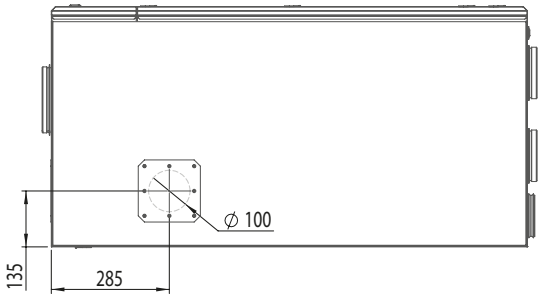
Acoustic data

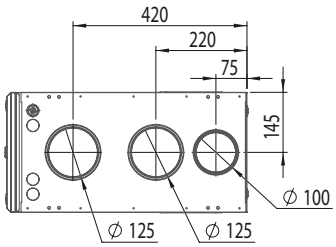
Air flow l/s	Fan setting %	Sound power level broken down into octave bands, L_{wokt}, dB								Total assessed sound power level L_{WA}, dB(A)
		63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	8,000 Hz	
Recirculation connection										
186	100	72	71	75	64	58	55	49	43	68
186	90	72	71	75	64	58	55	49	43	68
186	80	72	71	75	64	58	55	49	43	68
164	70	73	70	70	60	55	51	46	39	64
137	60	70	68	67	56	51	47	40	33	61
109	50	67	66	59	52	45	41	34	25	56
82	40	64	64	53	45	38	34	24	18	51
55	30	64	52	44	37	29	21	-8	6	42
Supply air										
193	100	96	77	73	69	65	61	52	43	74
193	90	96	77	73	69	65	61	52	43	74
193	80	96	77	73	69	65	61	52	43	74
167	70	92	74	70	66	62	58	48	39	70
140	60	85	70	66	62	57	53	43	32	65
111	50	77	65	62	56	52	48	36	24	59
84	40	65	61	55	49	44	40	26	12	52
55	30	66	51	45	39	35	28	12	2	44

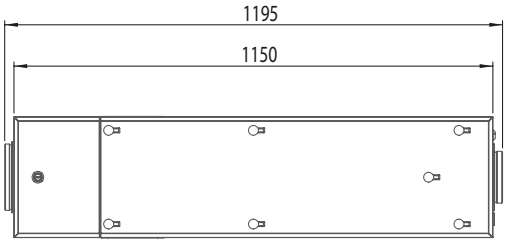
Dimensions and weight

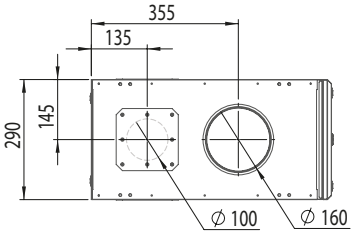
Dimensions
CombiWin

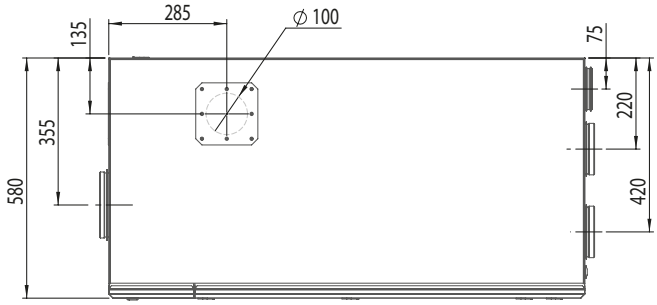
Weight of the unit:
EL: **46 kg**
EL/WA: **50 kg**
ECO: **49 kg**

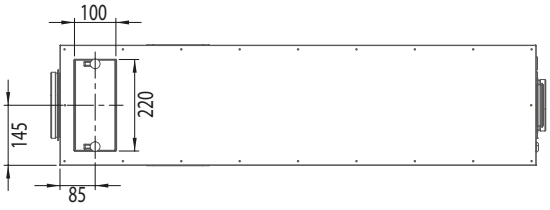


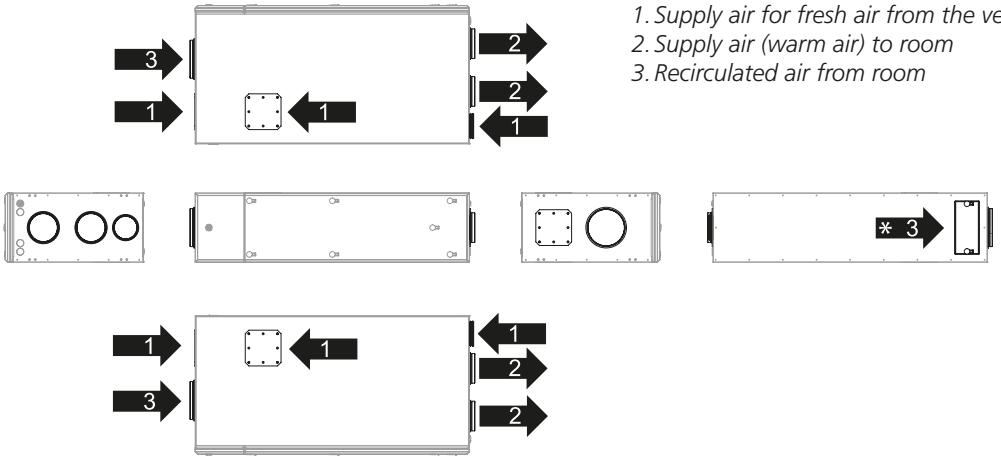












1. Supply air for fresh air from the ventilation unit
2. Supply air (warm air) to room
3. Recirculated air from room

External connections

Power supply
EL, EL/WA: The unit power supply connection is located inside the unit. The casing has proper strain relief. **NOTE!** The external safety switch must be used to isolate the power from the unit.

ECO: The unit has a power cable with earthed plug. The plug serves as the unit's main switch and should be connected to an easily accessible wall socket.

Control panel (GC-10)
Maximum of three control panels can be connected to the unit. Connect control panel by using modular cable. Additional control panels can be chained to the first control panel. If multiple control panel is used the ID should be changed from the user panel settings.

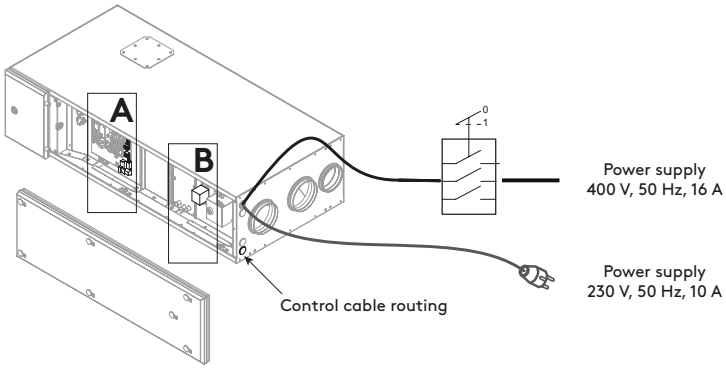
NOTE! If the control panel is used for the room temperature measurement, check and fine tune the room temperature measurement from the commisioning menu.

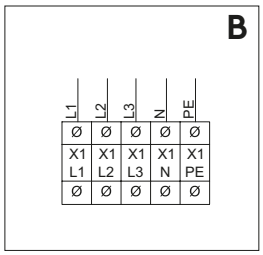
Boost, ECO, STOP, Silent switch
The external switch can be connected to the unit. The switch must be potential free. The function is active as long as the DI input is activated.

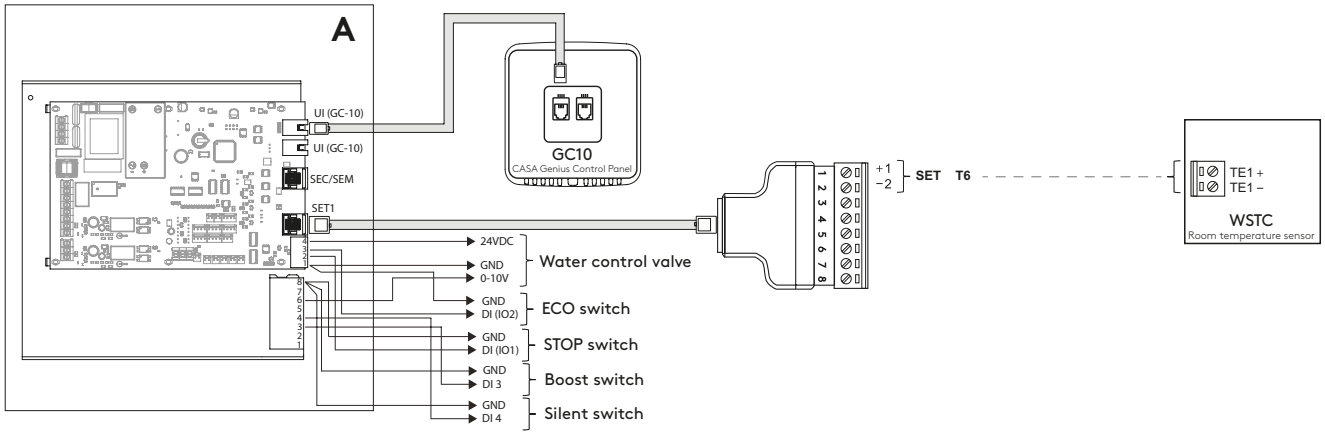
NOTE! The use of the Boost-function may cause problems with draft when the fireplace is lit.
NOTE! The use of the Silent-function may cause room temperature to drop because the heating power is limited.

Room temperature sensor (WSTC)
The WSTC room temperature sensor is available as an accessory. For connection, see instructions later in the manual.

Water control valve
Connect water control valve according to the drawing.

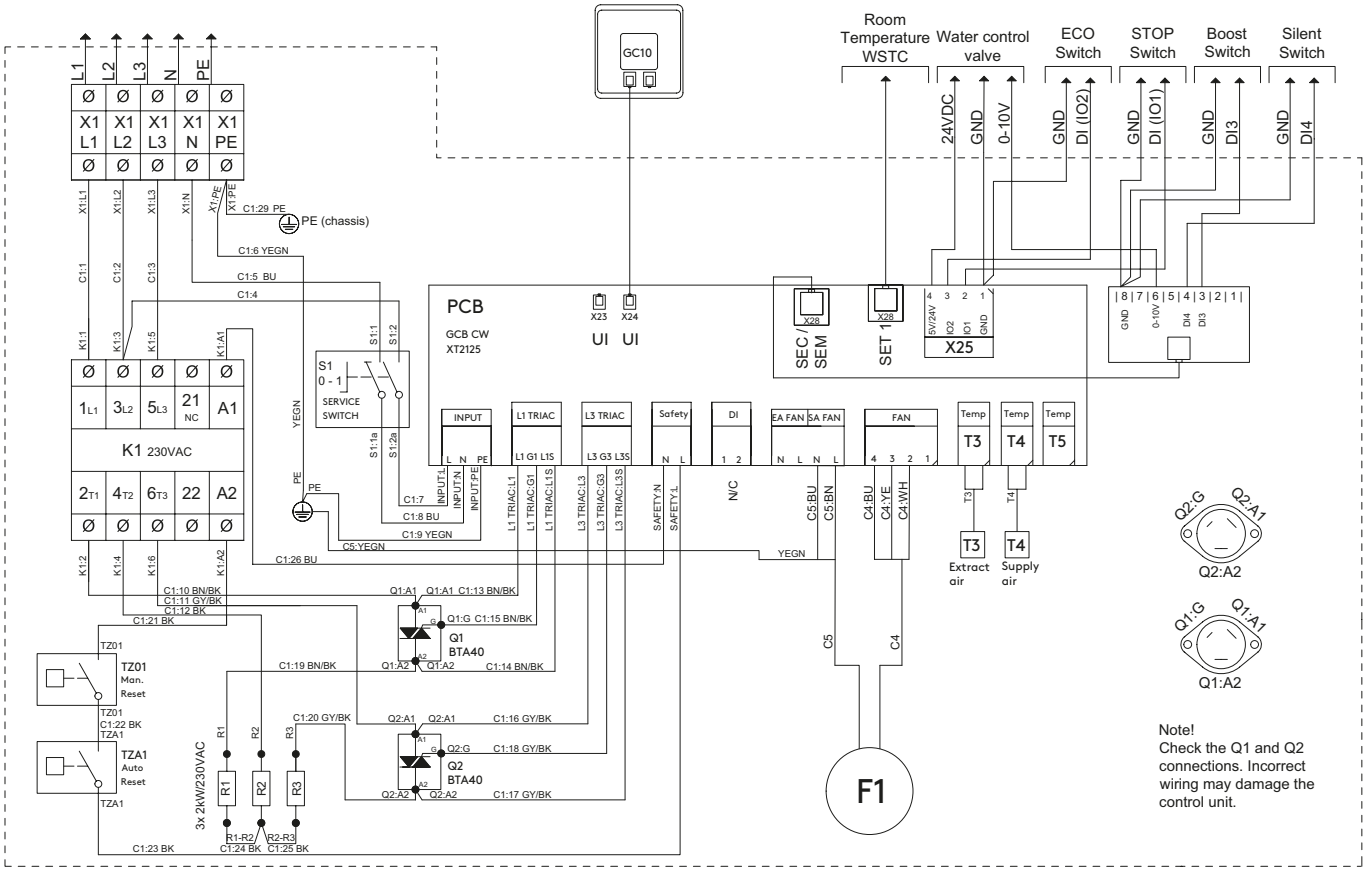






Internal connections

Electrical wiring diagram
CombiWin EL | EL/WA

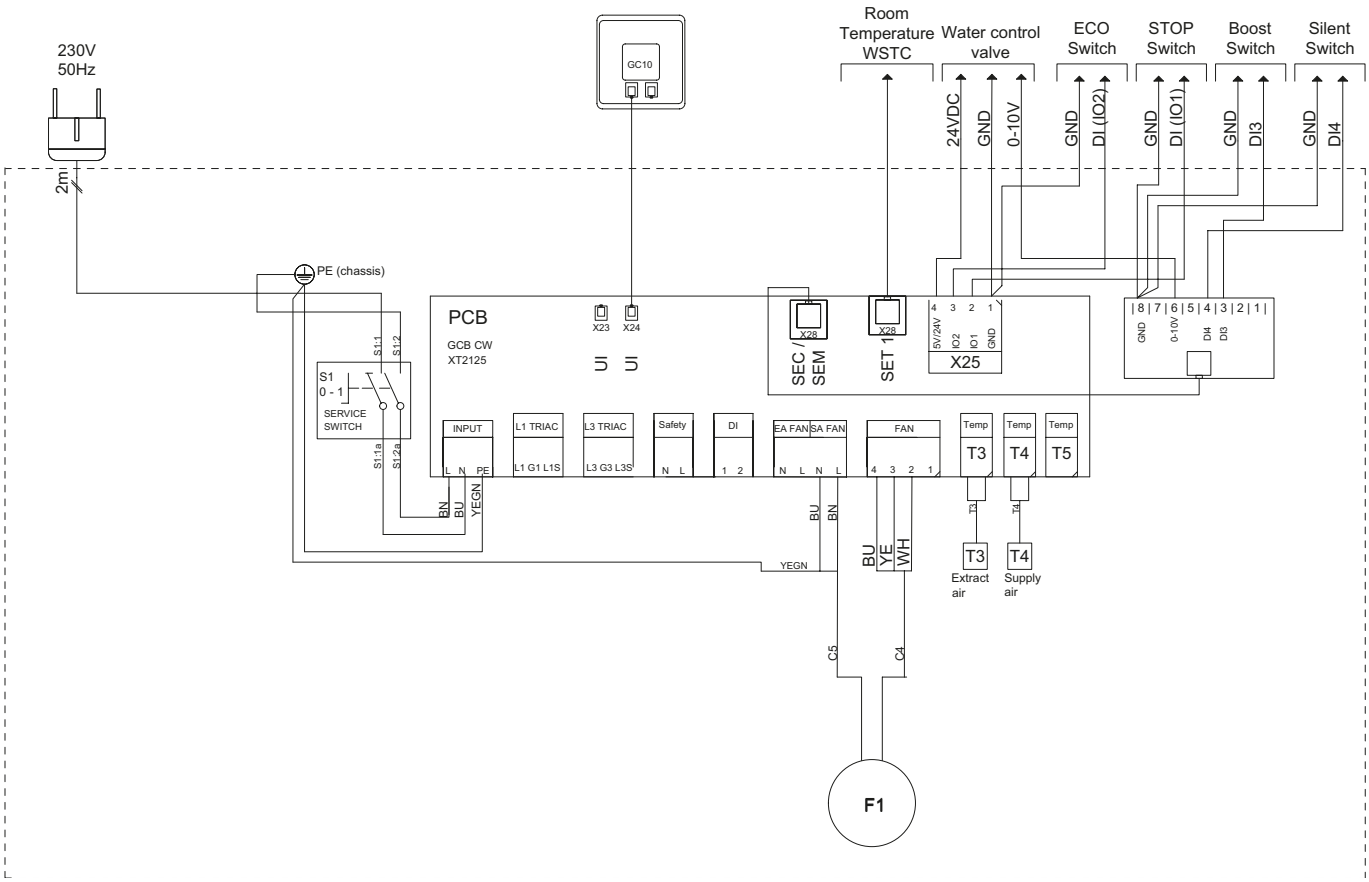


	CombiWin **EL**	CombiWin **EL/WA**
Mains	400 V, 50 Hz, 10,4 A	400 V, 50 Hz, 10,4 A
F1	170 W	170 W
R1+R2+R3	6000 W	6000 W
PCB	20 W	20 W
Total	6190 W	6190 W

Device	Description
T3	Temperature sensor, extract air
T4	Temperature sensor, supply air
F1	Fan including internal overheat protection
S1	Use Switch. Note! Always isolate the unit's power supply via the safety switch before you open the inspection door!
UI	Connectors for connecting the control panel.
SEC/SEM	Connector for external connections.
SET 1	Connector for WSTC
R1, R2, R3	Electrical heater (3 x 2000W), PWM controlled
TZ01	Manual overheat protection 90°C
TZA1	Automatic overheat protection 70°C
K1	Safety contactor for electrical heaters, opened by overheat protection, critical alarm or user stop.
Q1, Q2	Triac switch for electrical heater PWM control.
X1	Main supply connection

Electrical wiring diagram

CombiWin ECO



	CombiWin **ECO**
Mains	230 V, 50 Hz, 1,8 A
F1	170 W
R1+R2+R3	-
PCB	20 W
Total	190 W

Device	Description
T3	Temperature sensor, extract air
T4	Temperature sensor, supply air
F1	Fan including internal overheat protection
S1	Use Switch. Note! Always isolate the unit's power supply via the safety switch before you open the inspection door!
UI	Connectors for connecting the control panel.
SEC/SEM	Connector for external connections.
SET 1	Connector for WSTC
X1	Main supply connection

Installation options

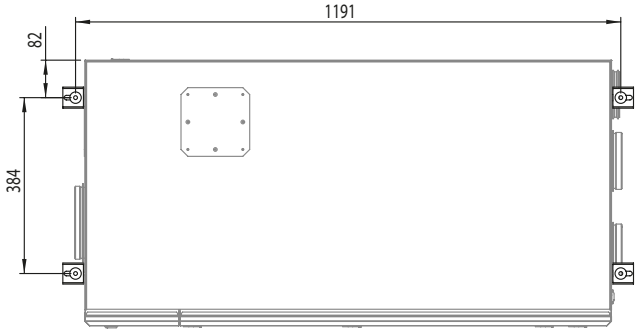
Mounting

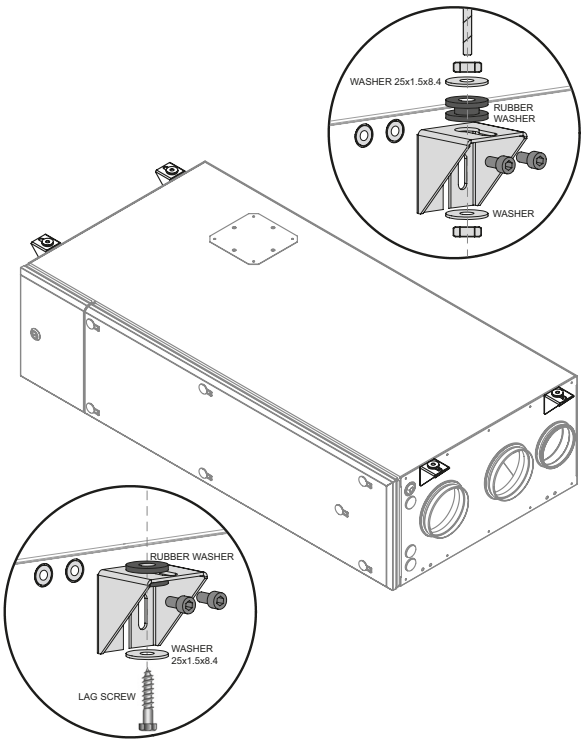
The unit should be placed against the ceiling and screwed in place using the hanging device from the replaced unit.

Alternatively, it can also be mounted vertically.

The unit should be placed so that a free service space of at least 500 mm can be obtained in front of the inspection hatches.

Option



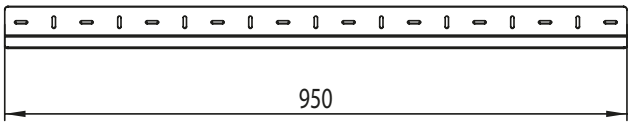


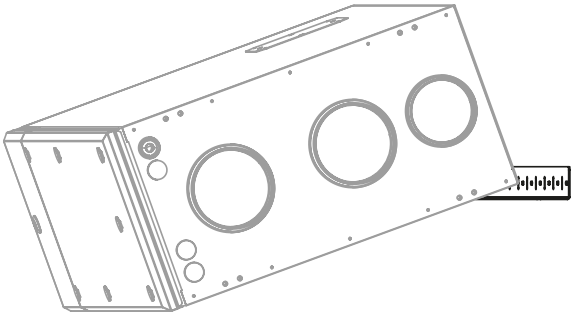
The unit can be mounted on the ceiling using the Ceiling mounting accessory set (CMAS).

Option

The installation of the unit can be made easier by using the mounting strip (6010000) screwed to the wall.

Before removing the old unit, draw a line at the bottom-side of the unit. Remove the unit, position the mounting strip so that the bottomside will be at the drawn line and screw it to the wall.





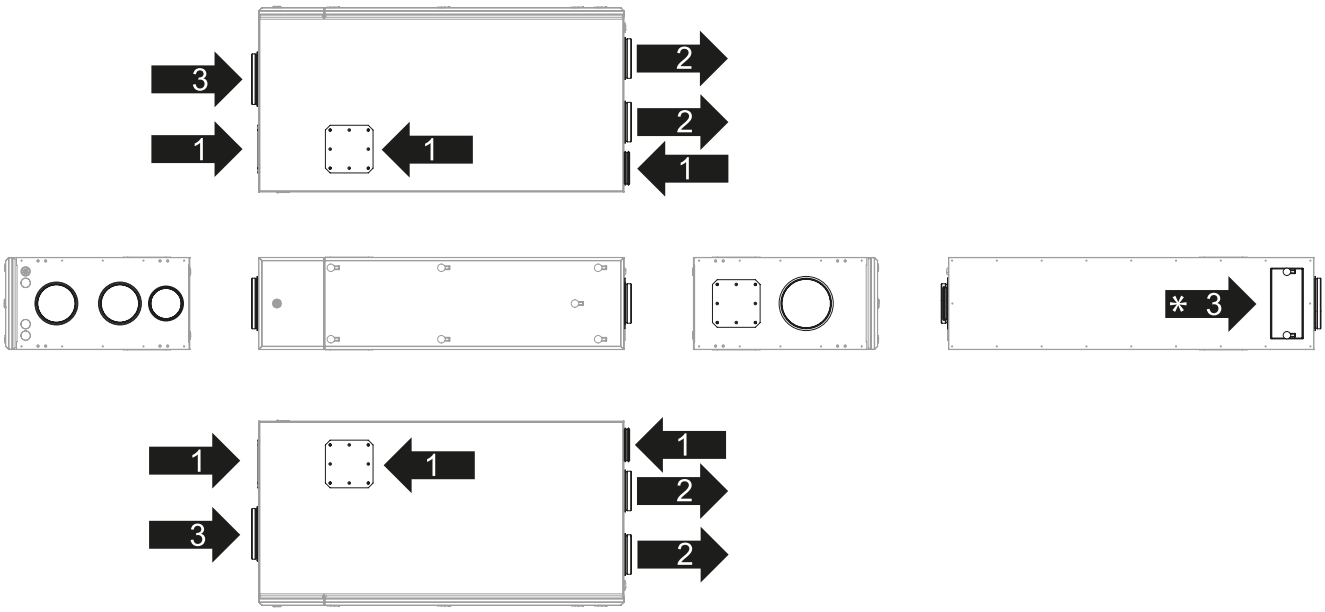
Ducts

The unit has several alternative connections to suit many different types of installation variants. A site visit should be made to check how the existing unit is installed.

Four connections with Ø100 mm for supply air from the heat recovery unit, of which 3 are plugged.

One connection Ø160 mm for circulating air.

Two connections Ø125 mm for supply air to the home.



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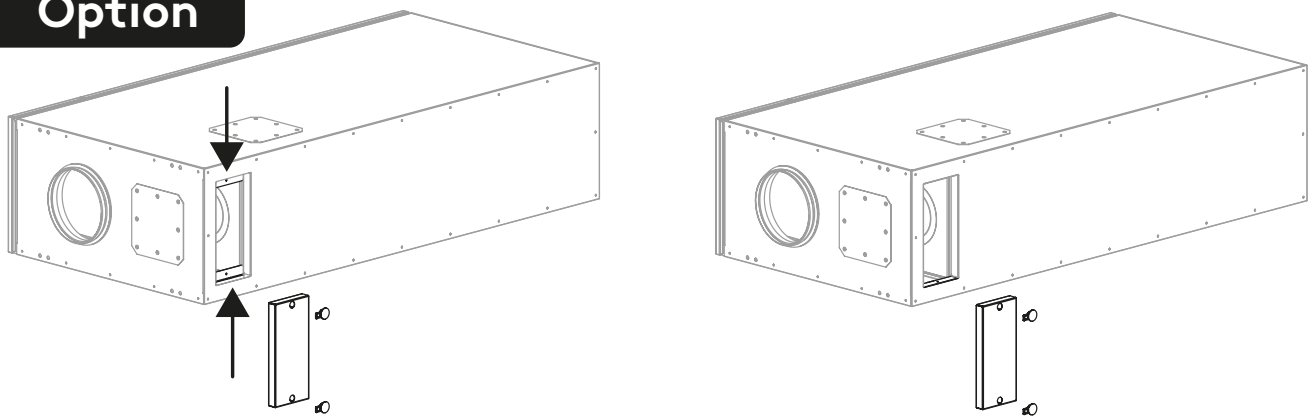
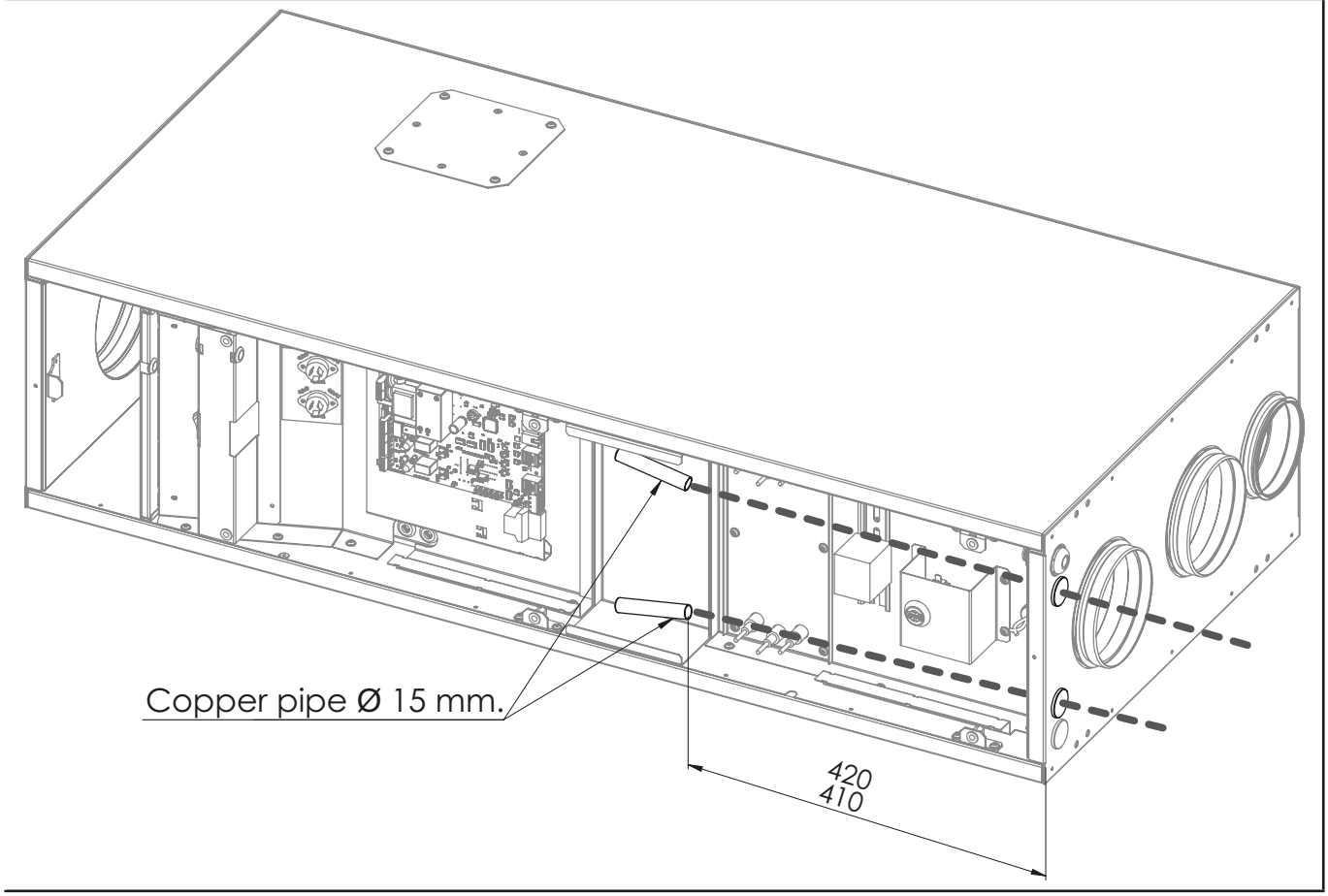
Option



If the rear rectangular connection is to be used. Loosen the screws and remove the cover. Then bend the upper and lower sheet metal edges inwards. Install the supplied sealing strip.

ECO | EL/WA: Installation of the water pipes

The water pipes are connected inside the unit. Use plastic or composite pipe inside the unit.



Product codes

CombiWin

Product	Product code	GTIN
CASA CombiWin Genius El	H12C60G01	6430080091867
CASA CombiWin Genius El/Wa	H12C60EEG01	6430080091874
CASA CombiWin Genius Eco	H12CEEG01	6430080091881

Accessories

Product	Product code	GTIN
Safety switch	117IP66	6415879069845
Mounting strip	6010000	6430080091942
Room temperature sensor	WSTC	6415879069395
Modular cable, RJ9, 20 m	PMK20	6415879063706

Feel good **inside**

Swegon