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ComfoClime Q

Installer manual



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Preface

IMPORTANT!
Carefully read this manual before use.

This manual provides all the information required for safe and optimal installation and maintenance of the Zehnder ComfoClime Q. It is also intended as a reference for servicing, so that this can be carried out in a responsible manner. The unit is subject to continuous development and improvement. As a result, the ComfoClime Q may slightly differ from the descriptions.

NOTE : this manual has been compiled with the utmost care. However, no rights can be derived from it. In addition, we at all times reserve the right to change the contents of this manual, without prior notice.

The following pictograms are used in this document:

Symbol	Meaning
	Point of attention / important informations.
	Risk of compromised performance or damage to the ventilation system / risk of personal injury.
	Consult the manual before using/operate the equipment.

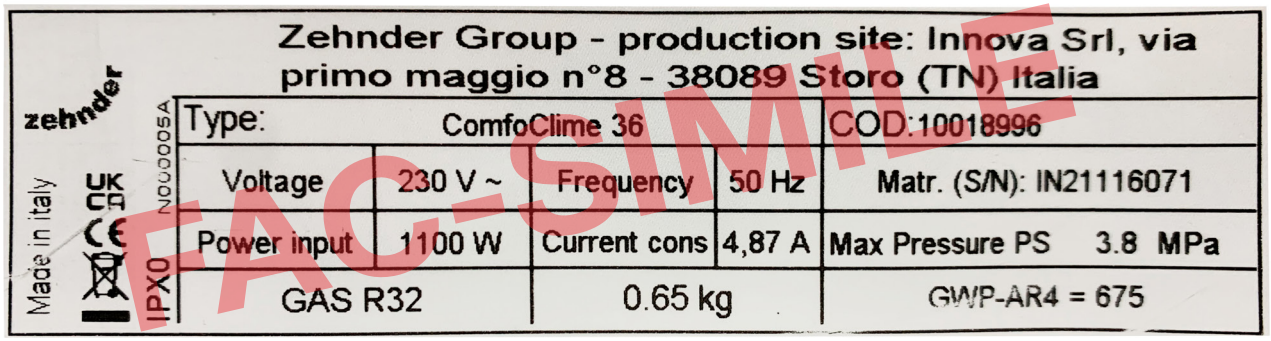
1 Introduction

The name of the unit is ComfoClime Q. In this document it will be referred to as ComfoClime.
The ComfoClime is a balanced ventilation system with passive energy recovery combined with a state of the art reversible heat pump to provide active climatization in order to create healthy, balanced, energy-efficient climatic ventilation in houses.

1.1 CE and UKCA declaration and warranty

1.1.1 Identification plate

The ComfoClime has a CE and UKCA marking on the identification plate. The identification plate can be found on the front wall of the ComfoClime.



CAUTION!
It is strictly prohibited to remove the identification plate and/or replace it with other plates. Should the plate be damaged, detached or removed for accidental reasons, the customer must inform the supplier.

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Via G. di Vittorio 6
41100 Campogalliano (MO), Italy

1.1.2 Warranty

The ComfoClime is covered by a manufacturer's warranty for a period of 24 months after fitting up to a maximum of 30 months after the date of manufacture. Warranty claims may only be submitted for material faults and/or construction faults arising during the warranty period. In the case of a warranty claim, the ComfoClime must not be dismantled without written permission from the manufacturer. Spare parts are only covered by guarantee, if they were supplied by the manufacturer and have been installed by an approved installer.

The warranty becomes invalid if:

- The guarantee period has expired;
- The unit is used without the filters properly installed in the ComfoAir Q;
- Parts that have not been supplied by the manufacturer;
- Non-authorised changes or modifications have been made to the unit.

CAUTION!
The supplier shall not be held liable for any damage, to things or people, caused by accidents due to a failure to comply with the instructions provided in this manual and in the following chapters.

1.1.3 Liability

The ComfoClime has been designed and manufactured for use in "balanced ventilation systems". Any other use is deemed as an unintended use and can lead to damage to the ComfoClime or personal injury, for which the manufacturer cannot be held liable.
The manufacturer is not liable for any damage originating from:

- Non-compliance with the safety, operating and maintenance instructions in this manual.
- The use of components not supplied or recommended by the manufacturer.
  Responsibility for the use of such components lies entirely with the installer.
- Normal wear and tear.

1.2 Safety

Always comply with the safety regulations, warnings, comments and instructions given in this document. Failure to comply with the safety regulations, instructions, warnings and comments may lead to personal injury or damage to the unit.

- When using the Zehnder ComfoClime, all parts of the supply air system must be properly insulated in order to prevent condensation in cooling season (risk of dew point reach) or to avoid heating waste in heating season. The ComfoFresh air distribution system with Thermal Shield® is suitable for this purpose.
- The air distribution system and the diffusers should be designed for a nominal air volume of at least 200 m^3/h for the Comfoclime Q.

1.2.1 Safety measures

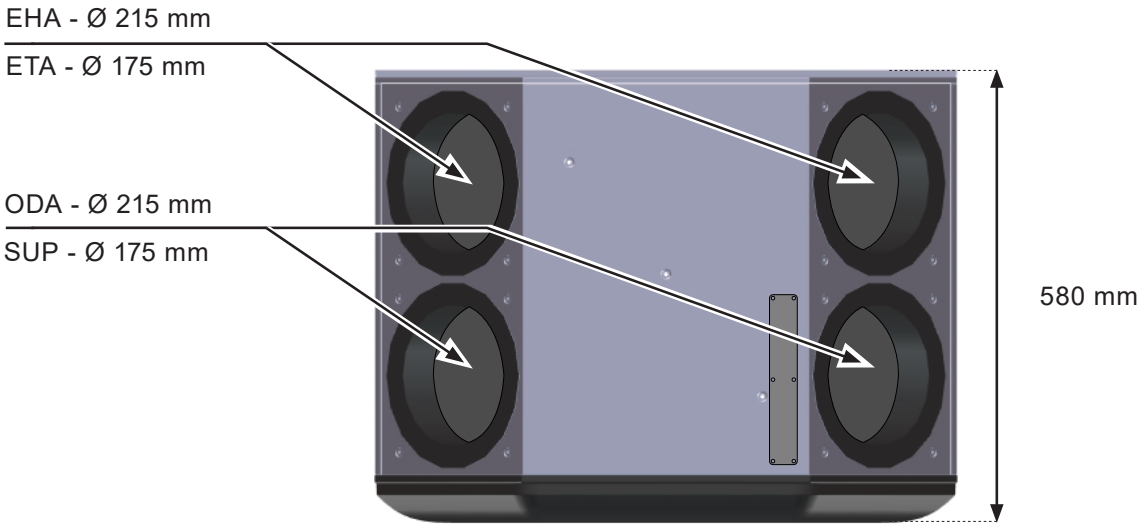
	Always observe the local building, safety and installation guidelines of the municipality, utility companies or other authorities.
	The unit must be lifted or handled keeping into consideration and respecting the local safety regulations.
	The installation of the unit hanging on the wall is not permitted.
	Always connect air ducts with a minimum length of 900 mm to the unit before connecting the power supply to prevent contact with the internal components.
	After installation, all parts that could lead to personal injury are safely out of reach behind the casing.
	It is not permitted to modify the unit or any of the specifications contained in this document. This may result in personal injury or reduced ventilation system performance.
	Installation, commissioning and maintenance must be carried out by a certified person or company, unless stated otherwise. If this work is carried out by unauthorised persons, it may result in personal injury or reduced performance of the ventilation system
	Always disconnect the power supply of the unit before you start working on it. The unit can cause personal injury when it is open during operation. Make sure the unit cannot be switched back on by accident;
	Always take ESD-inhibiting measures when dealing with electronics, such as wearing an antistatic wristband. The electronics can be damaged by static charges;
	In case of failure of the heat pump circuit please do not intervene and call the Zehnder Service;
	The unit contains refrigerant R32. This is a low-flammable, non-toxic refrigerant. Handle the unit with the utmost care during installation or maintenance activities to prevent refrigerant from leaking. Anyone involved in maintenance, repair or recycling of the product should wear gloves and eye protection all the time;
	When welding or soldering in the proximity of the refrigerant circuit, always wear breathing equipment fitted with a filter. The filter should provide protection against potential gas leakages; However no operations over the refrigeration circuit is allowed. **In case of failure or leakages please call the Zehnder Service for support.**
	If refrigerant leaks anyway due to a defect or damage, then: • Open windows and doors in the room in which the unit is located for at least one hour; • The unit contains 0.65kg (at room temperature approx. 0,6 m^3) of R32 refrigerant gas; • The refrigerant is far heavier than air and it would concentrate on the floor and in case of leakage never try to contain the escaped gas and do not breath it in; • In the event of contact with skin or eyes, rinse for at least 20 minutes with lukewarm water and contact your doctor.
	Product end of life: when disposing of the unit, contact your local authority to enquiry which are the possibilities for recycling or processing. The unit contains R32 refrigerant gas. It is mandatory that the refrigerant is disposed of in an environmental friendly manner: if not the contribution to greenhouse gas emissions of the volume of gas in this unit equals to 438 kg of CO2.
	Flammable gas risk hazard!
	Unit under pressure risk hazard!

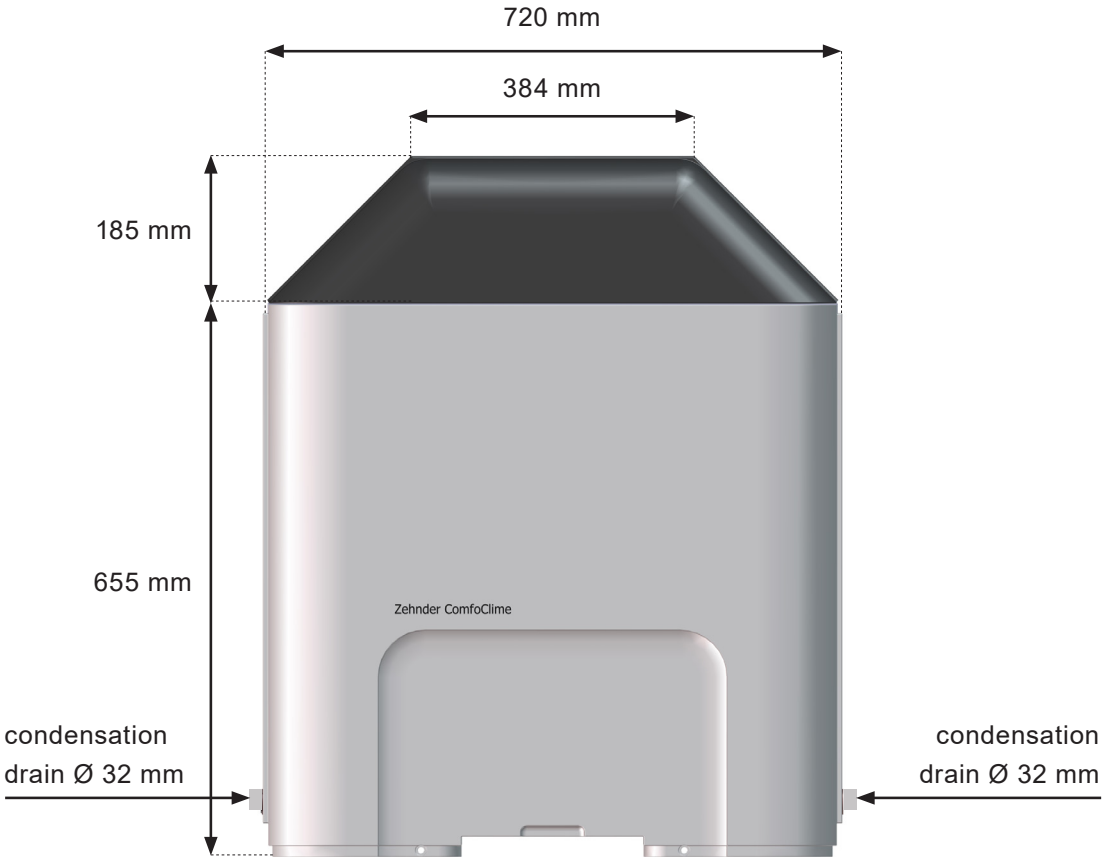
2 For the Installer

2.1 ComfoClime Q configuration and dimensions

The standard ComfoClime Q configuration consists of:

- 1 ComfoClime Q unit;
- 1 cabled power supply plug;
- 4 rubber ring seals;
- 1 condensation drain cap;
- 2 EPP standoffs;
- 1 white plastic front cover;
- 1 quick user guide;
- 1 ComfoNet cable;
- 1 kit for wall fastening (with screws).





2.2 Technical specifications

Performance	ComfoClime Q
Airflow operating range	min. 200 m^3/h - max. 450 m^3/h
Nominal flow	300 m^3/h
Electrical connection details	
Maximum performance/power	1100 W
Power supply	230 V ± 10%, single phase, 50 Hz
Current draw	4.87 A
Mechanical connection details	
Dimensions of air ducts (Ø)	175mm (SUP and ETA) / 215mm (ODA and EHA)
Dimensions of condensation drain (Ø)	32 mm
Material specifications	
Casing	Coated metal sheet
Inner surface	Insulated metal sheet
General	
Temperature range during transport and storage	+5°C to +50°C
Temperature range intake air	-15°C to +50°C
Temperature range of installation area	>10°C
Relative humidity of installation area	<90% (non-condensing)
Front panel	White plastic
Refrigerant gas (weight)	R32 (650g)
GWP-AR4	675
Maximum Pressure	38 bar
Weight	60 kg

2.3 Installation conditions

In case of retrofitting installation, is strongly suggested that the ComfoAir Q has the latest firmware with a minimum of release 1.10 otherwise proceed with a proper upgrade (see ComfoAir Q manual).

In order to determine whether the ComfoClime Q can be installed in a certain area, the following aspects must be taken into account:

- The unit must be installed in a frost-free space;
- The ventilation unit must be mounted only on floor configuration, placed on a stable floor;
- Fitting to a ventilation unit mounted on a wall is NOT permitted for safety reasons;
- The roof vents should be made airtight and dampproof;
- All supply and exhaust ducts should be dampproofed. This prevents condensation forming on the inner or outer duct surface and improves air temperation efficiency;

CAUTION!
DO NOT connect a powered extractor hood to this system.

- We recommend fitting the unit with silencers right after the unit, on both the supply and extract ducts. For more information, please contact Zehnder;
- The installation location must be chosen so that there is sufficient room around the unit for air duct connections, intake and exhaust piping and in order to carry out the installation. Keep at least 1 metre free in front of the unit and 25 cm to the side where the condensation drain is connected to the waste water;
- The free height when mounted should be at least 210 cm, in order to allow enough space for the ducts connection;
- Connect the unit to a 230 V~ 50 Hz power supply. Any other connection would damage the unit;
- The unit is designed for use in residential areas only. The unit is not suitable for commercial use such as in swimming pools or saunas. Installation in an industrial environment can damage the unit;
- The allowed temperature of the installation area is provided in the section “Technical specifications”;
- Zehnder recommends that the unit is not installed in spaces with higher-than-average humidity (such as laundry rooms or swimming pool environment). This prevents the formation of condensation on the external surface of the unit.
- Check whether the electrical installation can fulfil the maximum capacity of the unit. The maximum capacity is provided in the section “Technical specifications”.

2.4 Installation of the ComfoClime Q

2.4.1 Transport and unpacking

Contact your supplier immediately in case of damage or incomplete delivery and do not proceed with the installation.

Take the necessary precautions when transporting and unpacking the ComfoClime unit.
Only transport it in an upright position.
Keep it upright when unpacking it.
Make sure the packing material is disposed of in an environmentally friendly manner.

2.4.2 Checking the delivery

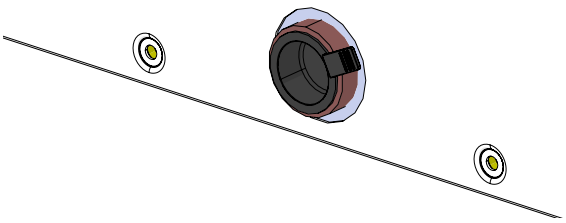
Besides the unit, the delivery should include:

- The ComfoClime unit (with its white front cover);

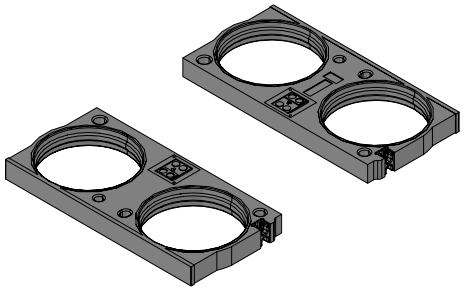


Check the identification plate to ensure that you have received the correct unit type

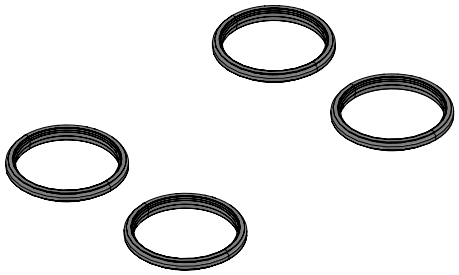
- One plug for the unused condensation drain;



■ 2 EPP standoffs;



■ 4 Rubber seals.

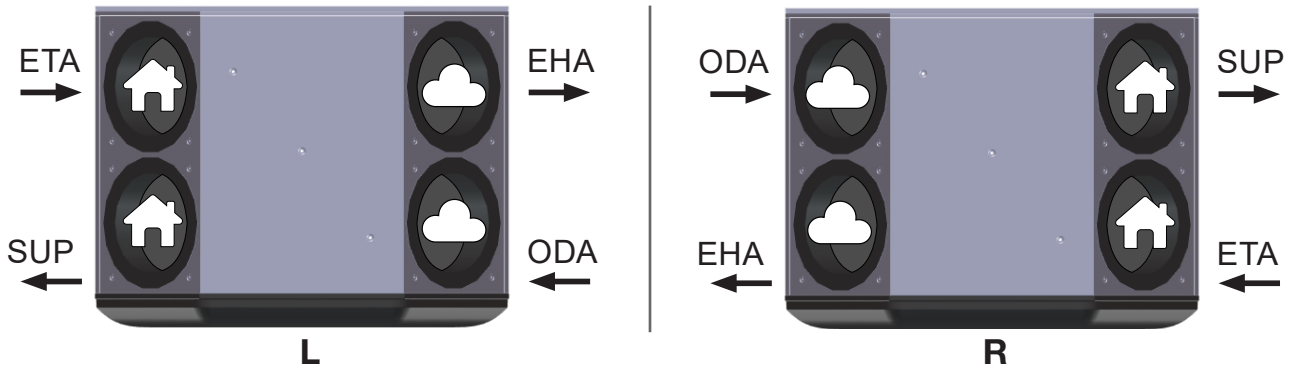


2.5 Configuration of the unit

Legend

ACRONYM	MEANING
R	Right layout
L	Left layout
ODA	Outdoor air intake
SUP	Indoor supply air
ETA	Indoor air extraction
EHA	Outdoor air exhaust

Consider the following schemes to connect the ducts:



2.6 Installation procedure

During the installation, please take into consideration electromagnetic interferences.

- Ensure that there is a barrier (e.g. separate duct or compartment) or minimum distance of 150 mm between the interfering power cables (e.g. 230 V) and cables sensitive to interference (e.g. testing, low voltage, interface, LAN, digital or analogue signal).
- Make sure interfering and sensitive cables cross each others perpendicularly.
- Ensure that the cables used for the controls meet the requirements specified in the section “Technical specifications”.

These measures will limit the EMC disruptions as much as possible and ensure the best communication.

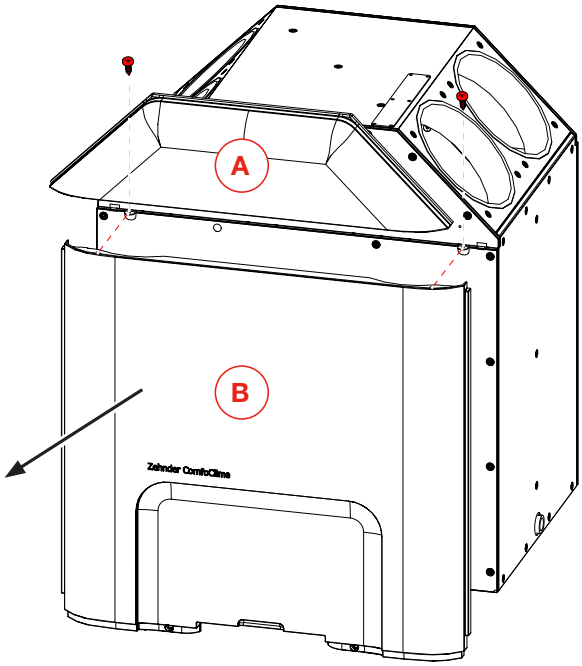
2.6.1 Floor mounting

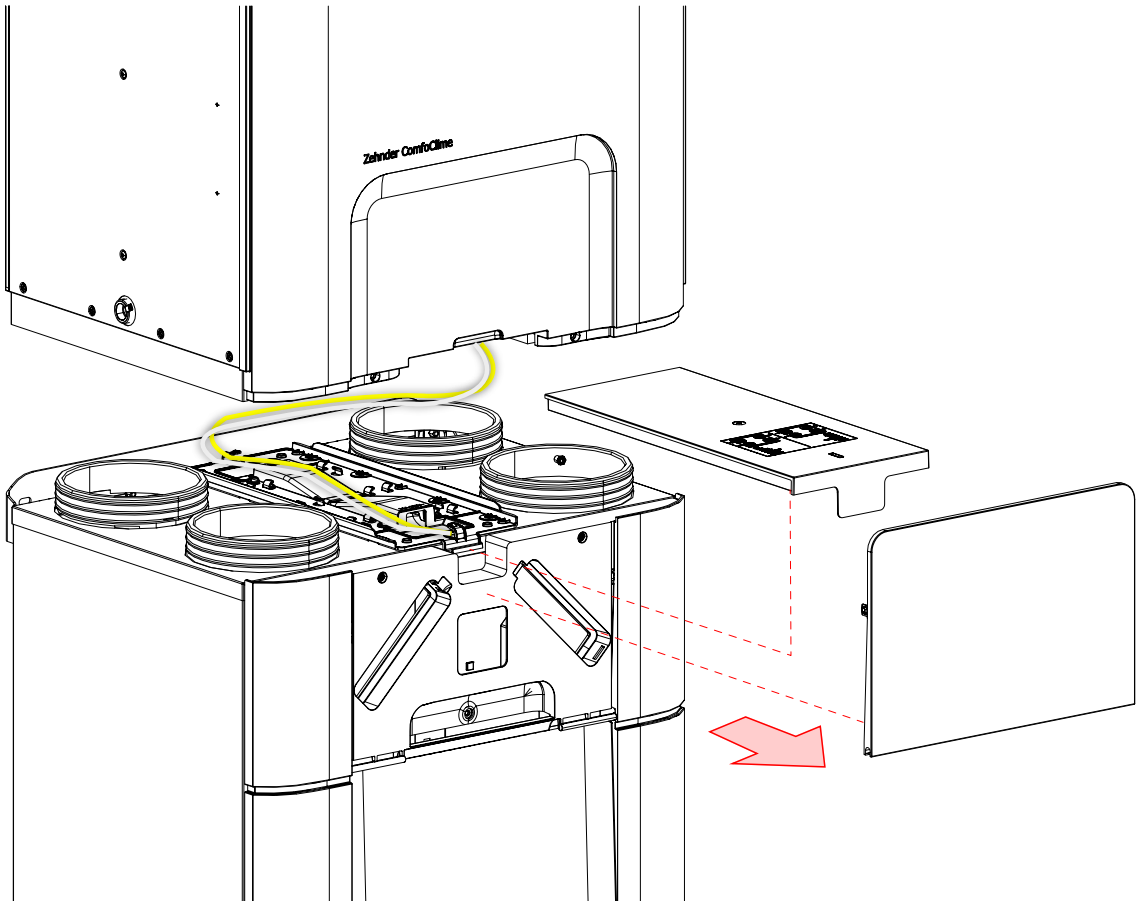
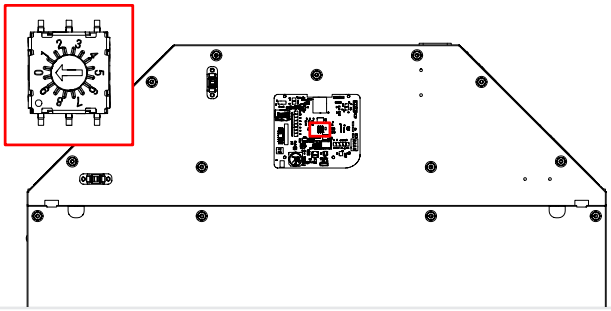
CAUTION!
Do not connect the ComfoAir Q nor the ComfoClime to the power supply until the end of the complete installation and the mutual connection of the units is done. The unit must not be mounted/hung on the wall.

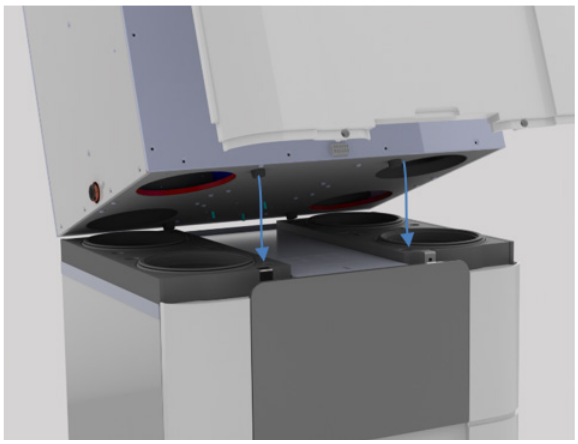
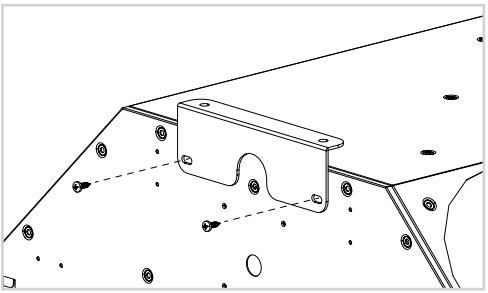
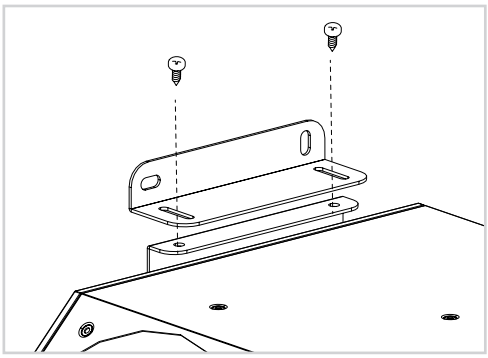
For the anti-tilt plaque please use proper fastening screws accordingly to the type of wall.

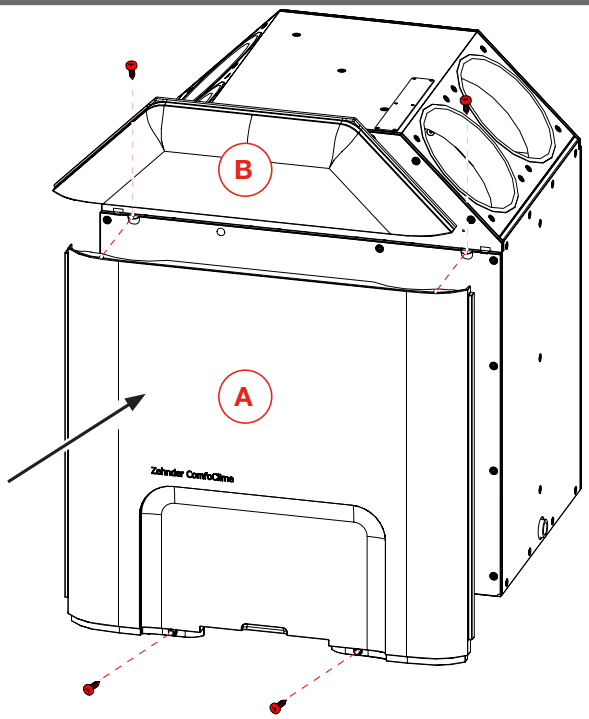
The installation position must be horizontal.

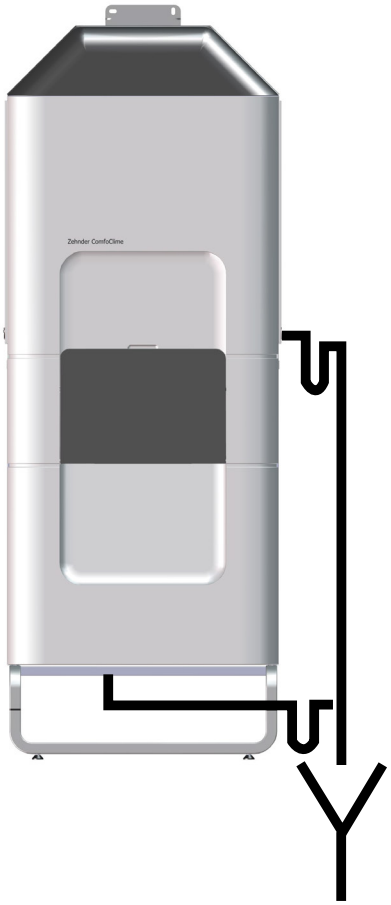
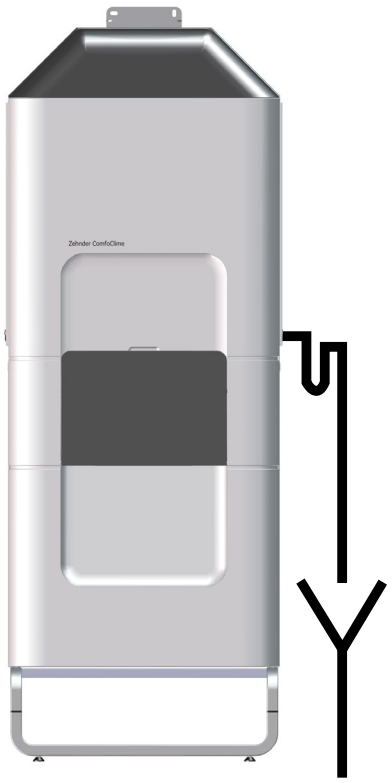
The ComfoClime must be placed on top of the ComfoAir Q according to the following steps:

Step	Action
1	Make sure that the ComfoAir Q is properly placed in its final position (see the ComfoAir Q installation manual) and not yet commissioned;
2	Put the two EPP standoffs on the top part of ComfoAir Q as shown in the picture; 
3	Place the four rubber seal rings over the spigot openings and verifying the full insertion of them. Check that the sealings are creating an effective seal between the spigot and the adapter plates;
4	Remove the front white cover on ComfoClime before to proceed with positioning the unit, gently remove the front black panel **A** and unscrewing the 2 screws on the top part of the white front panel **B;** 

Step	Action
5	Connect the free end of the provided ComfoNet cable to the ComfoAir Q connector paying attention to make the cable going to the back of the unit and then coming back to the front staying below the grey skid/lid of the ComfoAir Q as shown: **a. CAN_H: yellow** **b. CAN_L: white** 
6	Verify that the blue central rotary switch is in the proper position: • **0 for ComfoClime 36** • **1 for ComfoClime 24** • **2 for ComfoClime Q** if necessary put it the right position using a flat screw driver; 

Step	Action
7	Unpack carefully the ComfoClime and place it over the ComfoAir Q respecting all the safety rules taking as reference the four pins on its bottom which have to fit in with the corresponding recesses in the EPP standoffs; **WARNING!** **Never lift the unit alone. It is heavy and must be mounted percisely and carefully, being sure the seals do not dislodge while installing.** 
8	Fix the anti tilt plate (on top of the ComfoClime) firmly to the ComfoClime using the screws included in the packaging. Afterwards fix the comfoClime to the wall using a proper fastening system suitable for the type of wall.  

Step	Action
9	Mount the plastic front cover **A** onto the unit. Check that the top of the plastic design front is properly matching the recesses and that it goes smoothly above the CAQ front plastic cover. Then fix the ComfoClime plastic front **A** with the two provided screw on top and the two on the bottom; mount the balck top front cover **B** pushing gently the four pins into the housing; 
10	Connect the preferred drain, placed on the lateral side to the water drain system and plug the other up with the provided cap. **NOTE: do not install a dry siphon: the overpressure in the unit could open the dry siphon guard and cause an air leakage.** **Install an external wet siphon with a 100mm guard according to the local regulations the siphon can have an open funnel.** 

Step	Action
11	Depending to the installation setting, the drain action will be different as shown in the following pictures: Installation with CAQ HRV (standard exchanger)  Installation with CAQ ERV (enthalpic exchanger) 

2.6.2 Installation of air ducts

CAUTION!

Do not connect the ComfoAir Q nor the ComfoClime to the power supply until the end of the complete installation and the mutual connection of the units is done. The unit must not be mounted/hung on the wall.

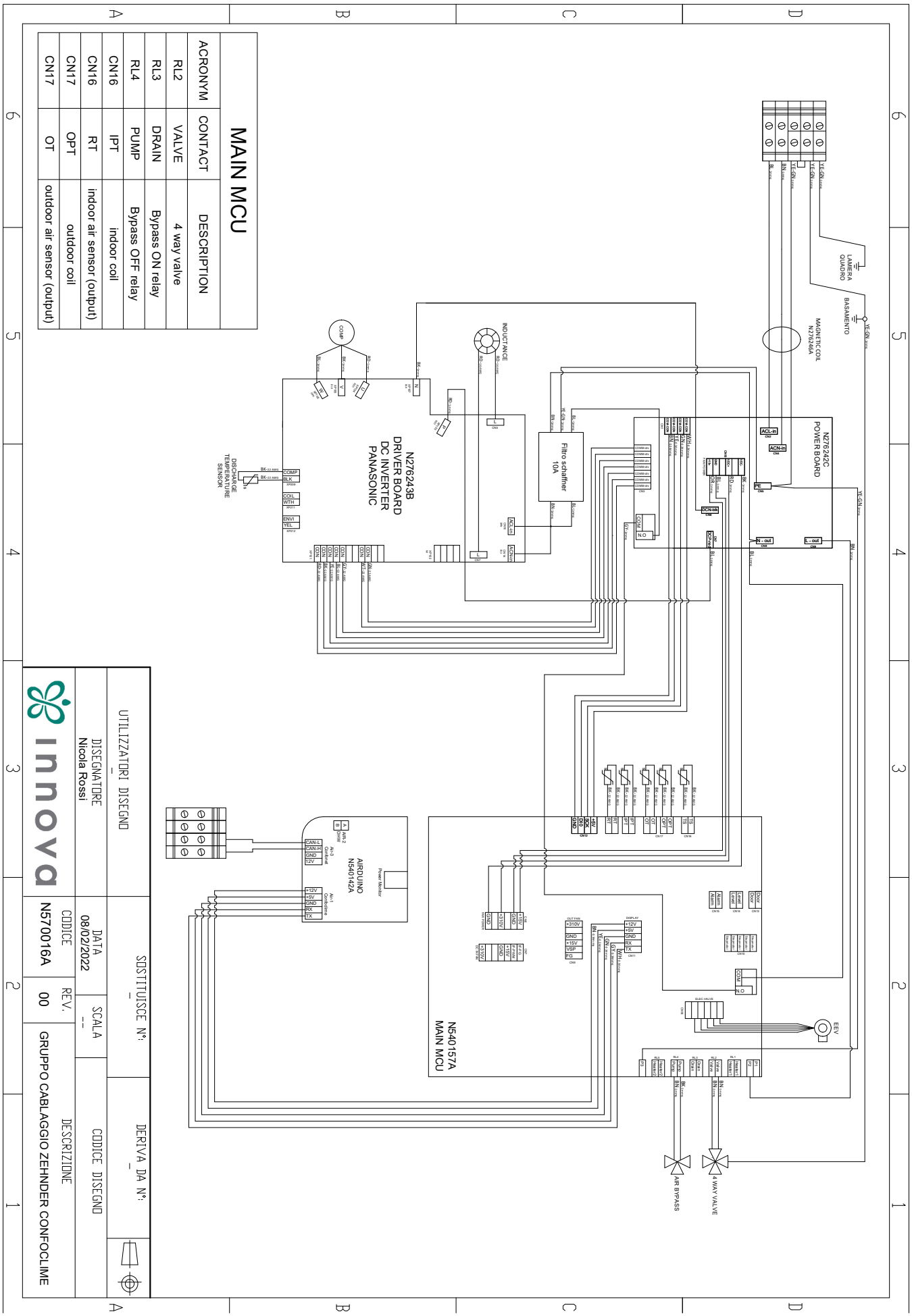
Always comply with the safety regulations, warnings, comments and instructions given in this document and in force in the local country. Failure to comply with the safety regulations, instructions, warnings and comments may lead to personal injury or damage to the unit.

Proceed with the installation of the air ducts according to the following steps:

Step	Action
1	Connect the supply/extract ductwork to the four intakes on top of the ComfoClime;
2	Then proceed with the air distribution. In brand new installations it is mandatory to provide an insulated ductwork.



2.7 Wiring diagram ComfoClime Q



2.8 Commissioning the ComfoClime Q

After installation, the ComfoClime system must be commissioned.

In case of retrofitting installation, is strongly suggested that the ComfoAir Q has the latest firmware with a minimum of release 1.10 otherwise proceed with a proper upgrade (see ComfoAir Q manual).

Proceed with the unit activation according to the following steps:

Step	Action
1	Connect to the ComfoAirQ and the ComfoClime to the power supply;
2	On the upper front part of the ComfoClime two LEDs should turn on to indicate the correct installation and functioning (see **pag. 19** for details);
3	Proceed with the CAQ commissioning (see CAQ installer manual);
4	Once the CAQ commissioning is finished it is possible to operate on the ComfoClime system through the control device (see APP manual for setup and programming).

2.9 Operation

The ComfoClime works supplying the air at a given temperature, in order to fulfil the comfort condition set by the user through the ComfoClime Control app.
The supply air temperature is automatically determined by the ComfoClime accordingly to the outdoor conditions and the chosen comfort profile.
In cooling mode the ComfoClime doesn't control the humidity in an active way but accordingly to the whole system capability. The ComfoAir Q, only in the enthalpic configuration, balances the humidity between the outdoor air and the exhaust air; afterwards the ComfoClime heat pump, based on the operating mode (heating or cooling mode), will reduce the absolute humidity.

For example:
- In heating mode the ComfoClime heat pump raises the air temperature reducing automatically the relative humidity without condensation;
- In cooling mode the ComfoClime heat pump cools down the air reducing the relative humidity through condensation.

2.10 Maintenance - Service

The ComfoClime doesn't need any ordinary maintenance activity.

A general filter cleaning is requested every 1 year at least.

A general cleaning is requested every 2 years at least. Please contact Zehnder Service for it.

WARNING!
Before every operation over the unit please disconnect the electric power.

CAUTION!
For others maintenance operations please refer to the Service manual. Only the Zehnder authorised personnel can operate on the unit.

2.11 Troubleshooting

This paragraph concerns issues related to the main unit.

CAUTION!
Never open the unit nor touch the internal components. Only authorized personnel should access the unit components.

CAUTION!
In case of malfunctioning such as weird noise, bad smell, water leakages, unplug immediately the power supply and call a Zehnder Authorised Representative.

On the upper part of the front cover, behind the black transparent panel, a couple of LEDs indicating the actual working mode of the unit are always visible.

The possible colours are:

Led colours	Meaning
	■ Left (multicolour LED): ■ RED permanent: heating mode. ■ BLU permanent: cooling mode. ■ YELLOW blinking: an error occurred. (see notifications on the app)
	■ Right (GREEN): ■ Fast blinking: ComfoNet BUS off. ■ Slow blinking: ComfoNet is connecting. ■ Permanent ON: ComfoNet properly connected and working.

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