5. INSTALLATION

5.1. RECEPTION OF GOODS

Each device is carefully checked before transportation. When receiving the goods, checking the devices for any damage made during transportation is recommended. If any damage to the unit is observed, immediately contact the representatives of a transport company. Please inform the representative of the manufacturer, if any deviation of the device is noticed.

5.2. TRANSPORTATION AND STORAGE

- All units are factory-packaged to withstand normal conditions of transportation.
- When unpacking, check the unit for any damage made during transportation. Installing the damaged units is not allowed!
- **The packaging is used for protection purposes only!**
- When unloading and storing the units, use suitable lifting equipment to avoid damage and injuries. Do not lift units by holding on power supply cables, connection boxes, air extract or exhaust flanges. Avoid hits and shock overloads. Before installation, the units must be stored in a dry room with relative air humidity not exceeding 70 % (at +20 °C) and with an average ambient temperature ranging between +5 °C and +30 °C. The storage place must be protected against dirt and water.
- The units must be transported to the storage place or installation site using forklifts.
- The recommended storage period should not be longer than one year. In case of storing the units for a period longer than one year, checking if the fan bearings and motor rotate without difficulty (turning the impeller by hand) and if the electric circuit insulation is not damaged or the moisture has not accumulated must be performed before the installation of the unit.

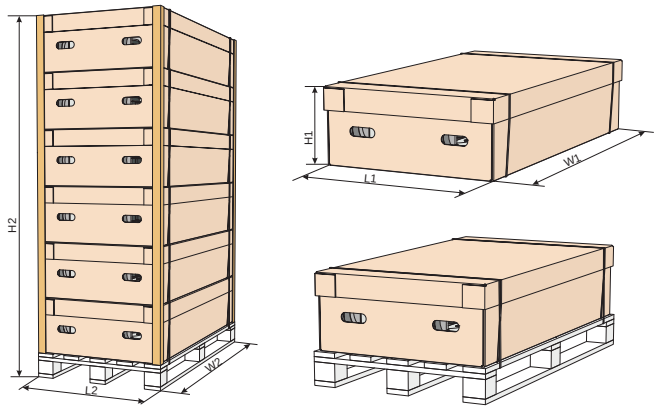


Figure 5.2.1 Smarty XP

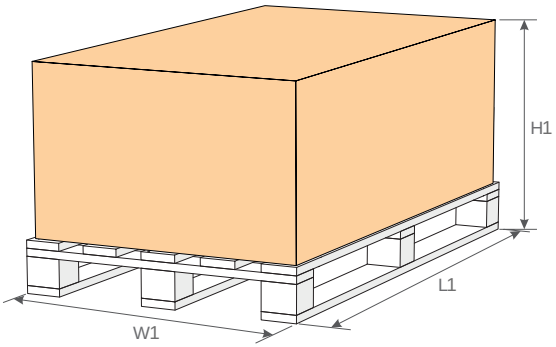


Figure 5.2.2 Smarty XV

UNIT	DIMENSIONS OF A SINGLE PACKAGE			DIMENSIONS OF MULTI-PACKAGE			MAX. NUMBER OF TRANSPORTED PACKAGES
	H1 [mm]	L1 [mm]	W1 [mm]	H2 [mm]	L2 [mm]	W2 [mm]	[PCS.]
Smarty 2X P	415	800	1200	2240	800	1200	8
Smarty 2X P 1kW PH	409	760	1345	2236	760	1345	8
Smarty 3X P	485	800	1450	2167	800	1430	6
Smarty 4X P	490	800	1450	2175	800	1200	6
Smarty 2X V	485	800	700	-	-	-	6
Smarty 3X V	1060	800	600	-	-	-	1
Smarty 4X V	1125	730	585	-	-	-	1

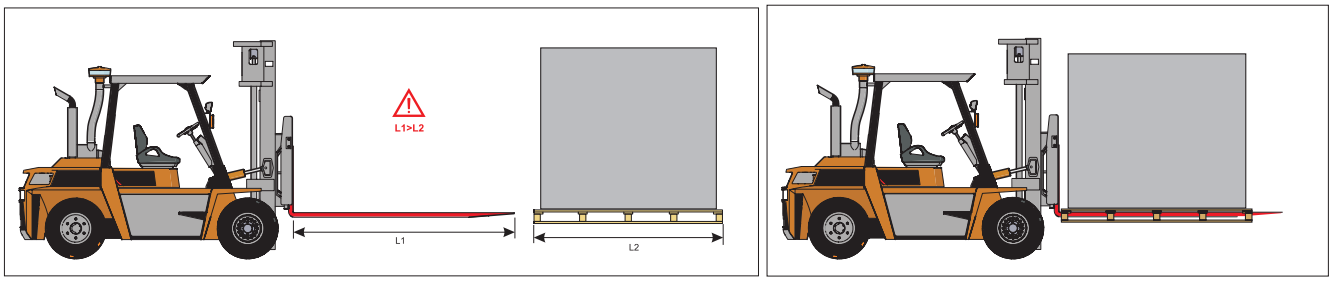


Figure 5.2.3 Lifting by forklift.

To prevent damage to the casing, only a product placed on a pallet should be lifted.

5.3. UNPACKING

Accessories may be packed together with the product. Prior to transporting the unit, the accessories should be unpacked first.

- Remove the film from the unit.
- Remove the bracing packaging tape that keeps the protective profiles in place.
- Remove the protective profiles.
- After unpacking the unit, examine it to make sure that no damage was made during transportation. Installation of damaged units is not allowed!
- Before commencing the installation of the unit, please check if all ordered equipment has been delivered. Any deviation from the ordered equipment list must be reported to the product supplier.

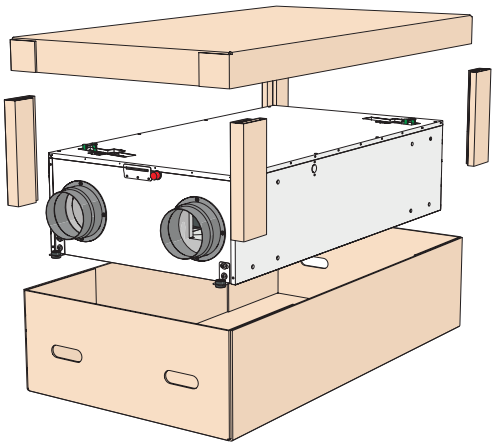


Figure 5.3.1 Smarty XP

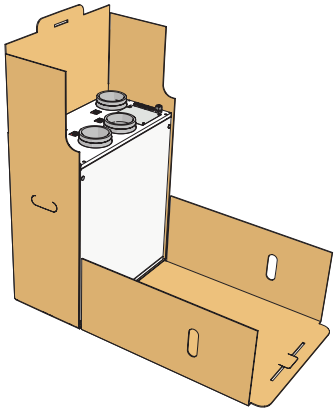


Figure 5.3.2 Smarty 2X V 1.1/1.2

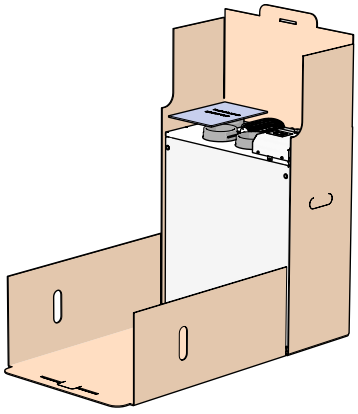


Figure 5.3.3 Smarty 2X V S300

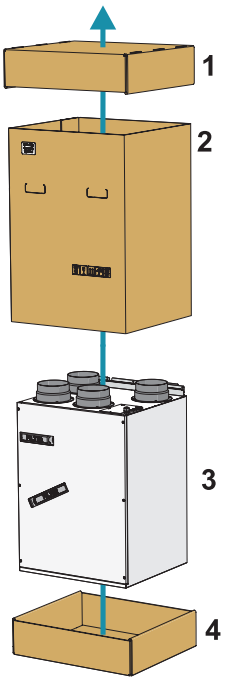


Figure 5.3.4 Smarty 3X V / 4X V

5.4. PIPING AND INSTRUMENTATION DIAGRAM

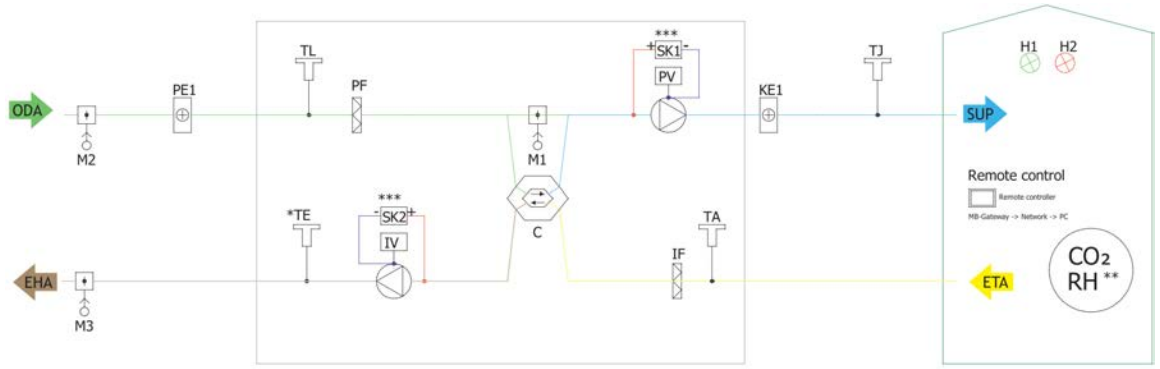


Figure 5.4.1 SMARTY XP 1.1 (Exhaust air sensor is not included with a device and should be ordered as an accessory; ** Check the manual for details; ***Not available in Smarty 2X P V1.1 units)*

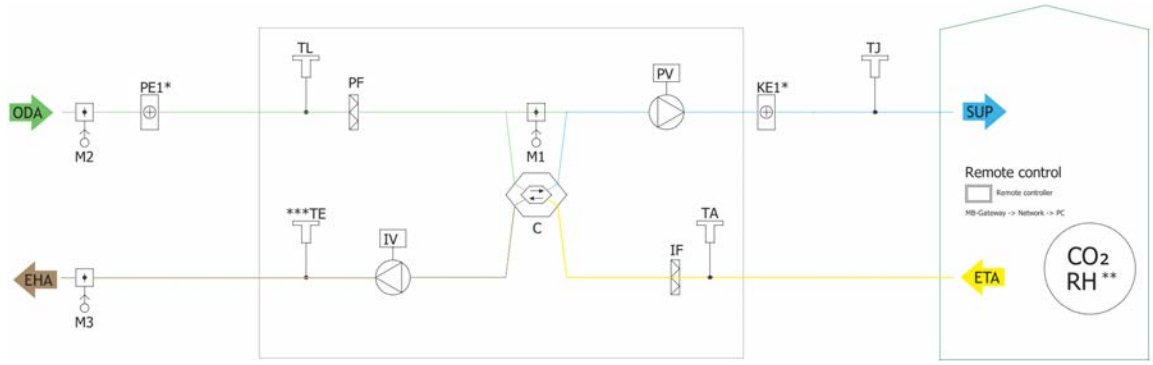


Figure 5.4.2 SMARTY XP 1.2 (Only heater or preheater can be connected at a time; ** Check the manual for details; *** Exhaust air sensor is not included with a device and should be ordered as an accessory)*

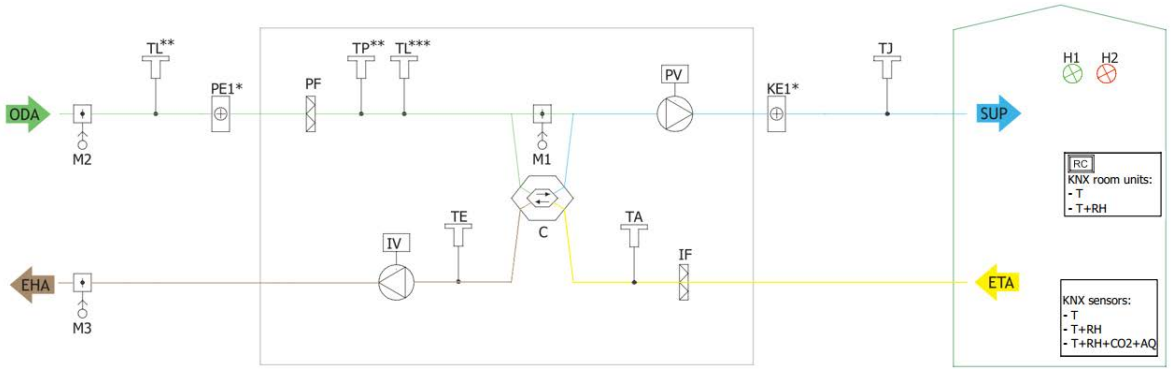


Figure 5.4.3 SMARTY XP S300 (Only heater or preheater can be connected at a time; ** Components connection only with PE1; *** Components connection only without PE1)*

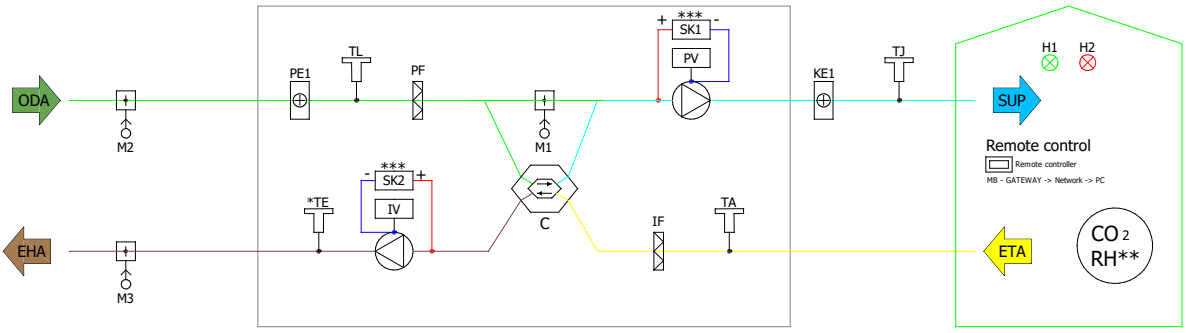


Figure 5.4.4 SMARTY XP 1.1 1kW PH (Exhaust air sensor is not included with a device and should be ordered as an accessory; ** Check the manual for details; ***Not available in Smarty 2X P V1.1 units)*

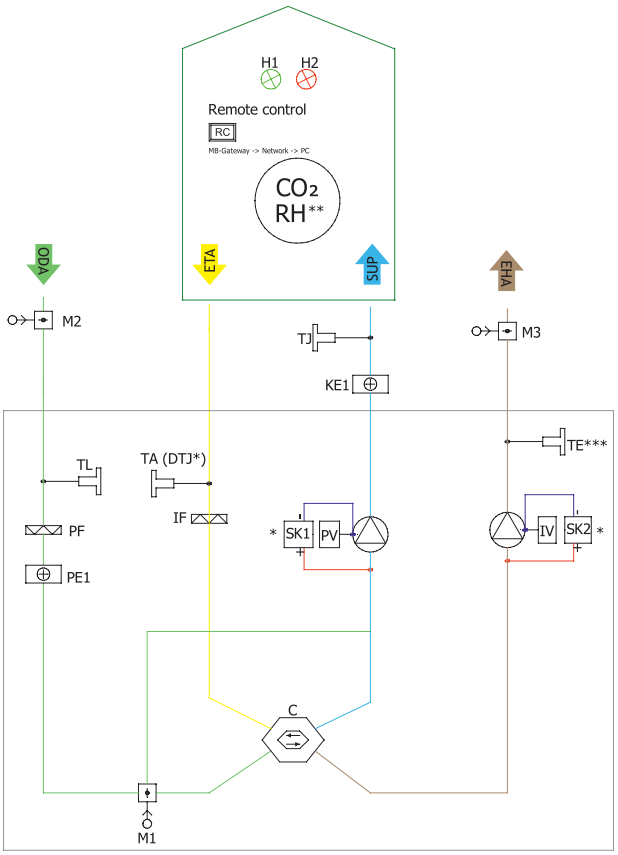


Figure 5.4.5 SMARTY XV miniMCB / SMARTY XV 1.2 E 0.6 kW PH (Available in 3X V / 4X V F2 1.1 models; ** Check the manual for details; *** Optional)*

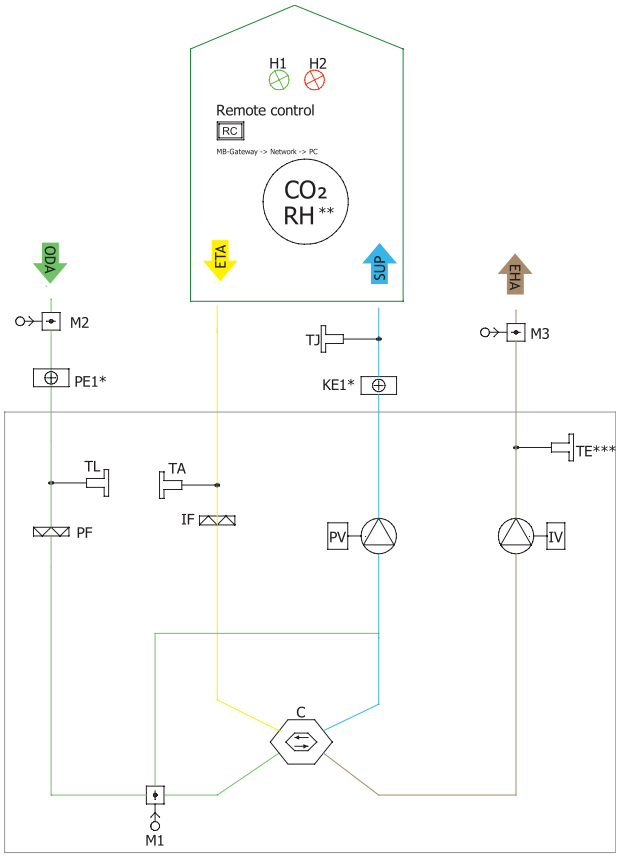


Figure 5.4.6 SMARTY XV miniMCB basic (Only heater or preheater can be connected at a time; ** Check the manual for details; *** Optional)*

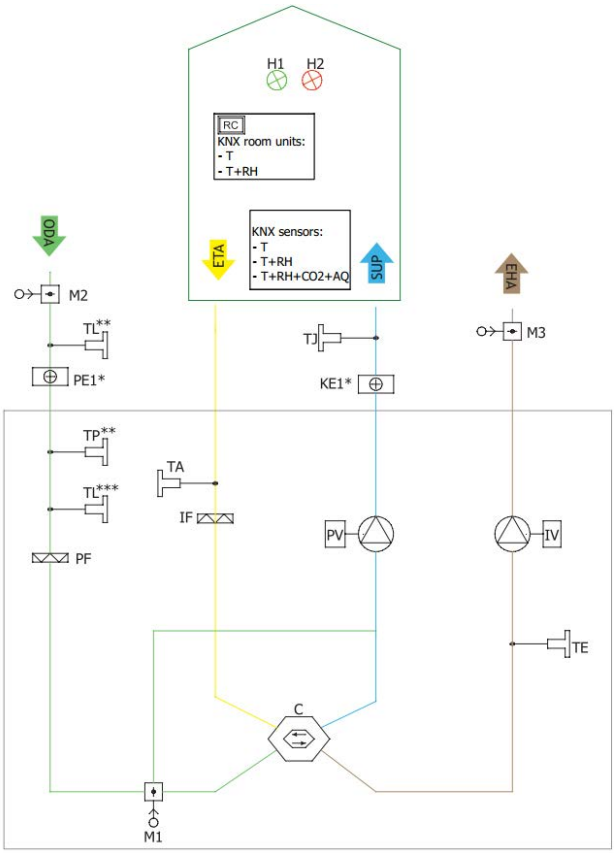


Figure 5.4.7 SMARTY XV S300 (Only heater or preheater can be connected at a time; ** Components connection only with PE1; *** Components connection only without PE1)*

THE LIST OF COMPONENTS

C	Plate heat exchanger	**PV**	Supply air fan
IF	Extract air filter	**PF**	Supply air filter
IV	Exhaust fan	**TA**	Extract air temperature sensor
TE	Exhaust air temperature sensor	**TJ**	Supply air temperature sensor
DTJ	Extract air temperature and humidity sensor*	**CO_2**	CO_2 sensor*
RH	Air humidity sensor*	**PC**	Computer*
KE1	Electric heater	**PE1**	Electric pre-heater
M1	By-pass damper	**M2**	Outdoor air damper actuator
M3	Exhaust air damper actuator	**SK1**	Supply air pressure sensor*
SK2	Exhaust air pressure sensor*	**TL**	Outdoor air temperature sensor
	Ventilated premises	**MB-Gateway**	Network module*
NET	Network*	**RC**	Stouch, ST-SA-Control, POS8.4420 or POS8.4440 remote control panel*
TP	Air temperature after preheating coil sensor*	**AQ**	Air quality sensor*
T	Temperature sensor*		

* Component/possibility to connect it depends on model.

POSSIBLE PCB INPUTS/OUTPUTS

FA	Fire alarm	**FPP**	Fireplace protection
H1	Operation/Working indication output	**H2**	Alarm indication output
	System mode switch		Fans speed switch

5.5. MOUNTING

- Installation works should be carried out by qualified and trained staff only.
- When connecting air ducts, consider the labels on the casing of the unit.
- Before connecting to the air duct system, the connection openings of the ventilation unit should be closed.
- When connecting the ducts, the air-flow direction indicated on the device housing should be observed.
- Do not connect the bends close to the connection flanges of the unit. The minimum distance of the straight air duct between the unit and the first branch of the air duct in the supply and exhaust air ducts must be 3xD, where D is the diameter of the air duct.
- It is recommended to use the brackets (accessories). This will reduce the vibration transmitted by the unit to the air duct system and environment.
- Sufficient space must be provided for opening the device door and filter covers.
- If the ventilation unit is a wall-mounted device, it may transmit noise vibrations to the premises. Though the level of noise generated by the fans is admissible, we recommend mounting the unit at a distance of 400 mm from the nearest wall. Where this is not possible, we recommend mounting the unit on the wall of the room where the level of noise is not significant.
- Ducts are connected to the unit in such a way that they could be easily disassembled, and the coil could be removed from the unit when carrying out maintenance, service and/or repair works.

The protective film is used to protect the unit during transportation. It is recommended to remove the film; otherwise, oxidation signs may occur.

The condensate tube must be filled with water as indicated during the first start-up before every heating season!

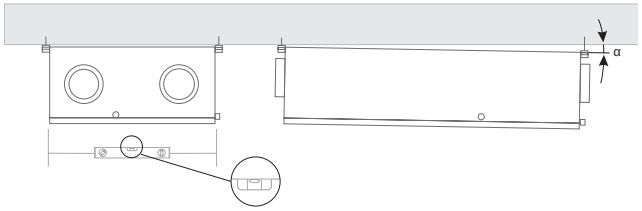


Figure 5.5.1 Smarty XP Ceiling-mounting positions (α>1°) (only for units with condensation heat exchanger)

**The location of the condensate outlet for the specific product is indicated in the dimensional drawing*

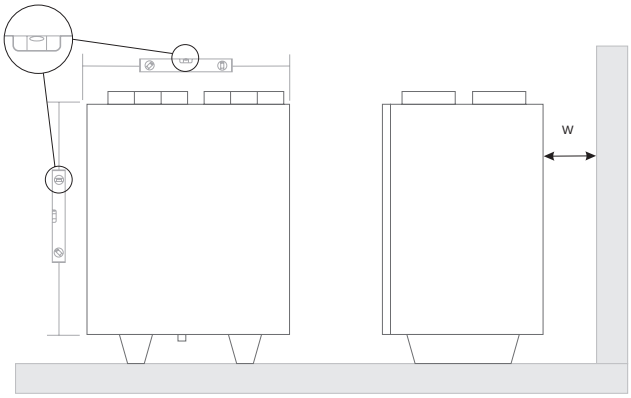


Figure 5.5.2 Smarty XV horizontal floor-mounting positions on floor (W=400 mm)

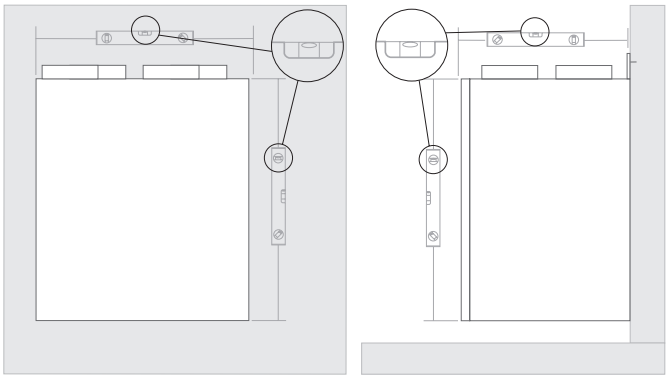


Figure 5.5.3 Smarty XV ceiling-mounting positions

5.5.1. UNIT PLACING AND MOUNTING POSITIONING REQUIREMENTS

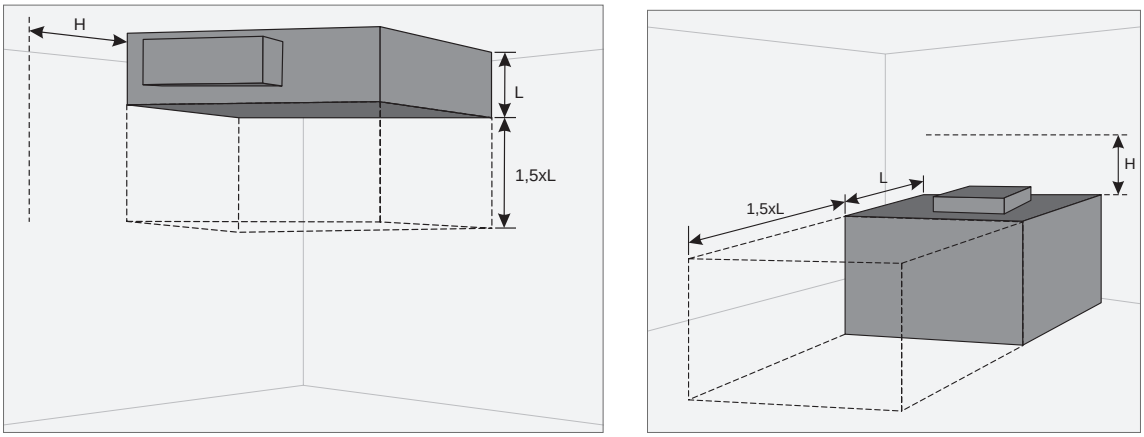


Figure 5.5.1.1 Min. distance to open the door - 1,5xL; Min. distance to open the control box door - H > 400 mm.

5.5.2. CEILING-MOUNTING OF THE UNIT (SMARTY XP)

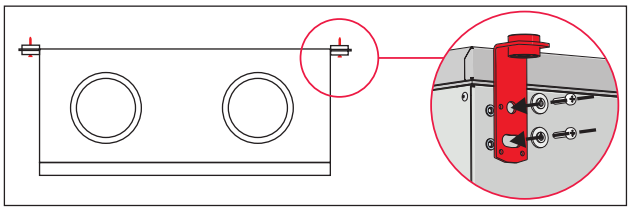


Figure 5.5.2.1 Ceiling-mounting of the unit

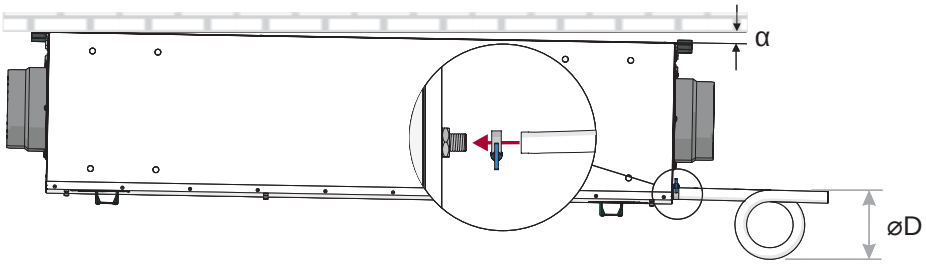


Figure 5.5.2.2 Drainage system installation (øD=150 mm) (only for units with condensation heat exchanger)

		SMARTY 2X P	SMARTY 3X P / 4X P
α	[mm]	9	11

NOTE. If the collector is located upstream, install the system with the condensate pump (offered as an accessory).

The diameter of the condensate pipe can't be reduced.

The condensate drain connection and siphon MUST be visible and easily serviced, otherwise the warranty will not apply!

5.5.3. FLOOR MOUNTING (SMARTY XV)

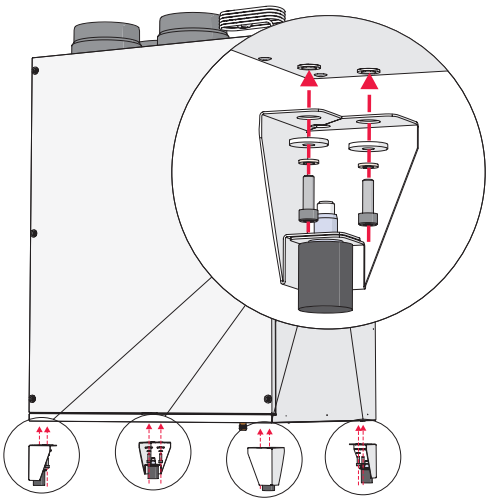


Figure 5.5.3.1 Floor mounting (optional accessory required)

5.5.4. WALL-MOUNTING OF THE UNIT (SMARTY XV)

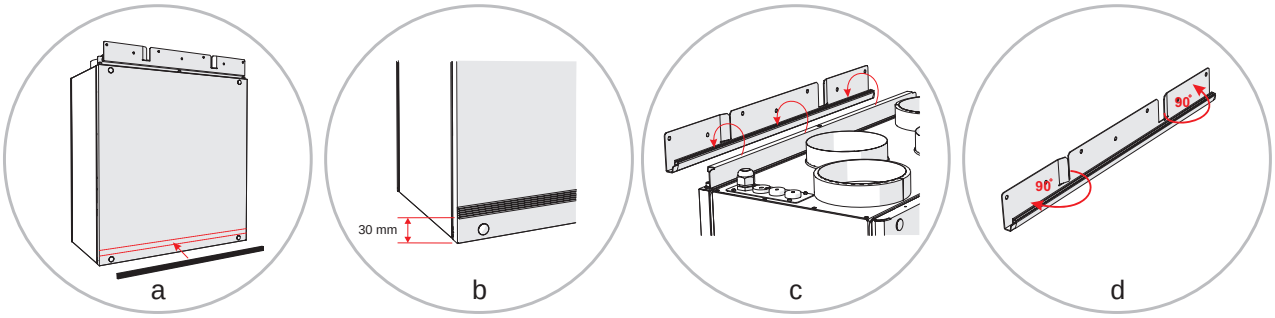


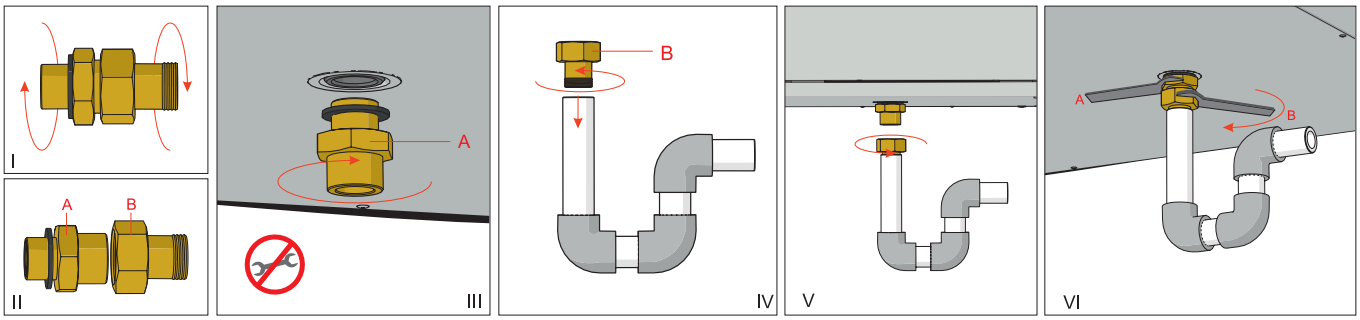
Figure 5.5.4.1 Mounting on the wall

5.5.5. DRAINAGE (SMARTY XV)

The condensate tube must be filled with water as indicated during the first start-up before every heating season!

NOTE. If the collector is located upstream, install the system with the condensate pump (offered as an accessory).

DRAINAGE SYSTEM INSTALLATION SMARTY 2X V / 3X V / 4X V



1. Connect the drain couplings (ZPGGM056) part A (G ½ male) to drainage connection into the unit, by turning it clockwise by hand. Do not use any tools (I-III)!
2. Connect drain couplings part B (G ½ male) to condensate syphon (IV-V).
3. Connect drain couplings A and B parts. Hold back the part A with the key during connection (VI).

5.6. CONNECTION OF THE AIR DUCTS

- The connected air ducts must not be bent and must be fixed separately.
- Make sure that the fans may not be accessed through air duct heads. Otherwise, a protective grid should be installed. You may choose the grid from the range of products provided on our website https://select.salda.lt.

- Do not reduce the diameter of the piping near the air inlet or exhaust ducts. If you want to reduce the airflow speed in the system, also to reduce pressure and noise level, you can increase the diameter.
- In order to reduce the level of noise in the air supply system, install silencers (see the chapter on air supply system installation).
- In order to reduce air loss in the system, the air ducts and profile components should be of class C or higher. The catalogue of the above-mentioned items can be found on our website https://select.salda.lt.
- External air and exhaust system piping should be isolated in order to prevent heat loss and condensation.
- We recommend to maintain a distance of up to 8 meters between air intake and air exhaust ducts. The air intake point should be installed away from potential air pollution sources.
- When installing air ducts next to the ventilation equipment, brackets must be used. They suppress vibrations and assure secure installation of the various system parts. The necessary brackets can be found in our catalogue or on our website https://select.salda.lt.
- Air ducts are often mistakenly connected in an inappropriate location. The ventilation units bear the labels indicating the correct air duct connection layout. Before starting up the system, carefully check if all related works have been performed properly.

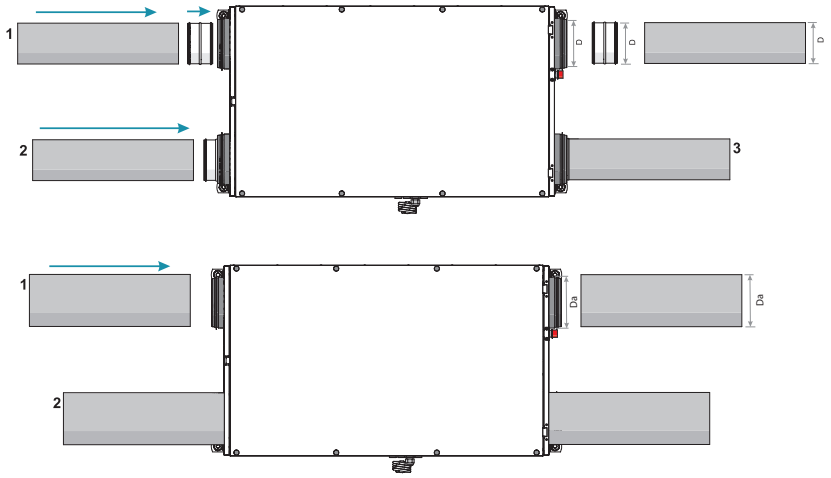


Figure 5.6.1 Smarty XP:

D or Da dimensions depend on unit.

For Smarty 2X P, air ducts of the following two sizes can be used: øD - 125 mm (a), øDa - 160 mm (b).
For Smarty 3X P, air ducts of the following two sizes can be used: øD - 150 mm or 160 mm (b).

NOTE. In case air ducts of øD - 125 mm are used, using of NPU 125 coupling is required.

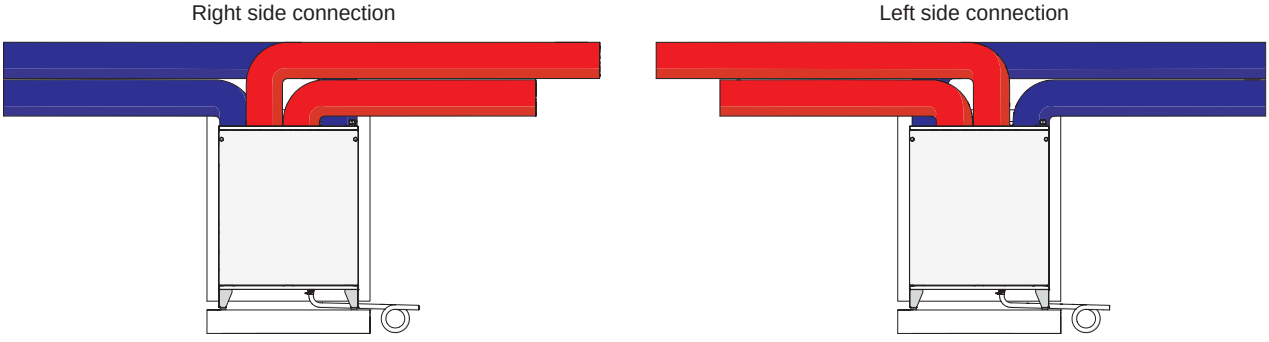


Figure 5.6.2 Smarty XV side connection

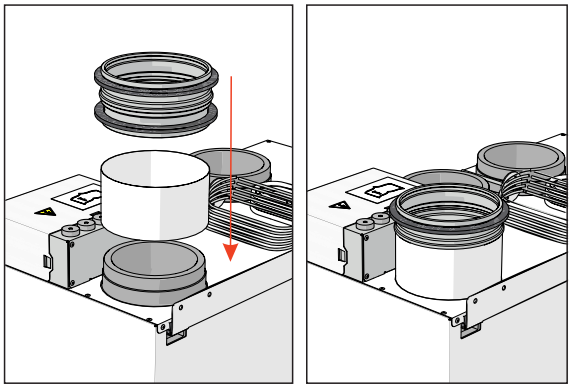


Figure 5.6.3 Smarty 2X V S300 connection of the air duct

For flange diameters see chapter *"DIMENSIONS AND WEIGHT".*

5.7. CONNECTION OF THE UNIT TO THE ELECTRIC NETWORK

- Supply voltage to the unit must be connected by a qualified specialist following the manufacturer's instructions and applicable safety guidelines.
- The unit's power network voltage must correspond to the electro-technical specifications of the unit indicated in the technical decal.
- The unit's voltage, power and other technical specifications are provided in the unit's technical decal (on the unit casing). The unit must be connected to the voltage plug socket of the grounded power network in accordance with the applicable requirements.
- The unit must be earthed according to electrical equipment installation regulations.
- Using extension wires (cables) and power network plug socket distribution devices is not allowed.
- Prior to carrying out any ventilation unit installation and connection works (before the unit is commissioned), the unit must be disconnected from the power network.
- After installation of the ventilation unit, the power network plug socket must be accessible at any time and disconnection from the power network must be performed through the two-pole circuit breaker (by disconnecting phase pole and neutral).
- Before it is connected to the power network, the unit must be carefully checked for any damage (operation, control, and measurement nodes) made during transportation.
- The power cable can be replaced only by a qualified technician, having evaluated the rated power and current.

The manufacturer does not assume any liability for personal injuries and property damage due to non-conformance with the provided instructions.

5.8. START-UP RECOMMENDATIONS

5.8.1. SYSTEM PROTECTION

The control automatics of the unit (version 1.1 / 1.2) have integrated protection against short circuit of those assemblies.
The controllers have the following protections:

miniMCB
F1 - 1A(5x20) miniMCB protection;

All units must be used with external protection device.

SMARTY	2X P 1.1	2X P 1.2	2X P S300	3X P 1.1	3X P 1.2	3X P S300	4X P F2 1.1	4X P F2 1.2	4X P S300
Mains Fuse	16A	16A	16A	16A	16A	16A	16A	16A	16A

SMARTY	2X V 1.1	2X V 1.2	2X V S300	3X V 1.1	3X V 1.2	3X V S300	4X V F2 1.1	4X V F2 1.2	4X V S300
Mains Fuse	10A	16A	16A	16A	16A	16A	16A	16A	16A

To ensure safe maintenance of the unit, it is necessary to turn off the main switch and/or external protection device.

5.8.2. PRE START-UP RECOMMENDATIONS OF THE UNIT (IN THE PRESENCE OF THE END-USER)

Prior to start-up, the system must be carefully cleaned. Check for the following:
- Operation systems and unit elements as well as automation and automation devices were not damaged during installation,
- All electrical devices are connected to power supply and fit for service,
- All necessary automation elements are installed and connected to power supply and miniMCB, EX1 or S300 controller's terminal blocks,
- Cable and wire connection to miniMCB, EX1 or S300 controller's terminal blocks comply with the existing wiring diagrams,
- All electrical equipment protection components are properly connected (if they are additionally used),
- Cables and wires correspond to all applicable safety and functional requirements, diameters, etc.,
- Earthling and protection systems are properly installed,
- Condition of all seals and sealing surfaces is proper.