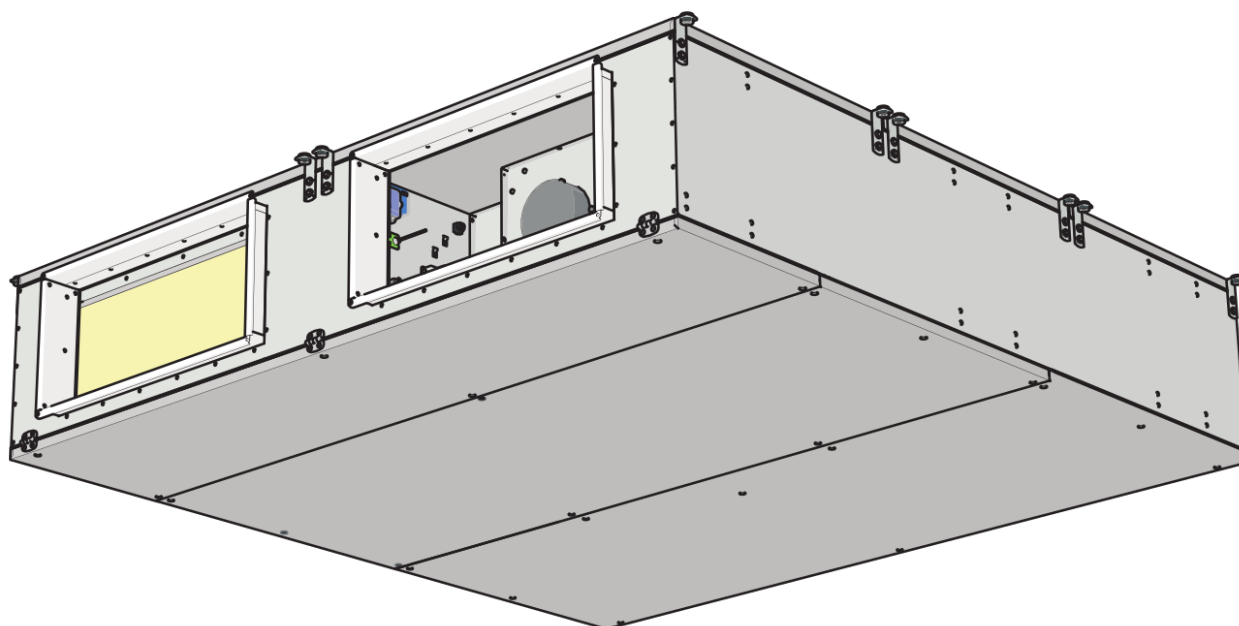


AIR HANDLING UNIT WITH HEAT RECOVERY SYSTEM

AmberAir Compact 4 CX P



Mounting and installation instructions

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Safety instructions and precautions

Device is manufactured in compliance with the following directives:

- Machinery Directive, 2006/42/EC;
- Low Voltage Directive, EEC 2006/95;
- Electromagnetic Compatibility Directive, 2004/108/EC;
- Ecodesign Directive, No 1253/2014.

Read this instruction very carefully before installing and using this equipment. Installation, connection and maintenance should be carried out by a qualified technician and in accordance with the local rules and legal acts. The company shall take no responsibility for the injuries suffered by the people or for the damaged property, if the safety requirements are not followed or the device is modified without the permission of the manufacturer.

Main safety rules

	<p>Danger</p> <ul style="list-style-type: none"> • Before performing any electricity or maintenance tasks make sure, that the device is disconnected from the mains, that all moving parts of the device have stopped. • Make sure that the fans can not be entered through air ducts or branch openings. • If you notice liquids on electric parts or connections that bear voltage, stop the operation of the appliance. • Do not plug the device into the mains, that differs from the one indicated on the label or on the housing. • Voltage of the mains should comply with the electrotechnical parameters indicated on the label. • The device should be earthed in accordance with the rules of installation of electric appliances. It is forbidden to turn on and use unearthed device. Follow the requirements of the device's labels that indicate Danger.
	<p>Warnings</p> <ul style="list-style-type: none"> • Connection of electricity and maintenance of the device should be performed only by a qualified personnel, in accordance with the manufacturer's instructions and valid safety requirements. • In order to reduce the risk during installation and maintenance, suitable protective clothes should be worn. • Beware of sharp angles while performing installation and maintenance tasks. • Do not touch heating elements until they haven't cooled down. • Some devices are heavy, thus one should be very careful while transporting and installing. Use suitable lifting equipment. • While connecting electricity to the mains a circuit breaker of suitable size is necessary.
	<p>Warning!</p> <ul style="list-style-type: none"> • If the device is installed in a cold environment, make sure that all connections and tubes are properly isolated. Intake and discharge air ducts should be isolated in all cases. • Openings of the ducts should be covered during transportation and installation. • Make sure not to damage the heater when connecting the piping of the water heater. For tightening up, use a wrench/spanner.
	<p>Before starting the equipment</p> <ul style="list-style-type: none"> • make sure, that there are no strange objects inside; • manually check whether fans are not stuck or blocked; • if rotary heat exchanger is installed in the device, make sure that it is not stuck or blocked; • check the grounding; • make sure that all components and accessories are connected in accordance with the project or provided instructions.
	<p>Danger: Fumes</p> <p>"Salda Antifrost" system uses dis-balancing of the air flow and it may cause negative pressure in premises. Great care should be taken when using at the same time in premises as another heating appliance what depend on the air in premises. Such appliances include gas, oil, wood or coal-fired boilers and heaters, freplaces, continuous flow or other water heaters, gas hobs, cookers or ovens which draw air in from the room and duct exhaust gases out through a chimney or extraction ducting. The heating appliance can be starved of oxygen, impairing combustion. In exceptional cases harmful gases could be drawn out of the chimney or extraction ducting back into the room. In this case we strictly recommend to turn off "Salda Antifrost" and use an external preheater for heat exchanger anti-frost protection (see "Salda Antifrost" function on the Remote controller manual).</p>


 <p>Warning - pay attention</p>	 <p>Additional information</p>
---	--

Stick the auxiliary label on the unit (on an easily accessible place) or on the dashed place of a technical manual in order to keep the important information about the unit.


- 1 - Logo
- 2 - Internal usage code
- 3 - Brand name
- 4 - Technical data
- 5 - Units number
- 6 - Web address

SALDA

TITLE

Ⓧ	0.084 kW; 0.021 A; 230/50 V/Hz; ~1	
Ⓝ	0.085 kW; 0.021 A; 230/50 V/Hz; ~1	
Ⓞ	0.085 kW; 0.021 A; 0 V/Hz; ~0	
Ⓟ	0.085 kW; 0.021 A; 0 V/Hz; ~0	
Ⓜ	0.005 kW; 0.021 A; 24/50 V/Hz; ~	

TOTAL: 0.17 kW; 1.87 A;



20000307538

gu072489 / 2014.03

www.salda.it

STICK HERE



Units tested and produced according to EC directives



AmberAir Compact units are Eurovent Certita Certification certified in AHU program.



SALDA - associated member of the Eurovent association (Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies)

VDI 6022

AmberAir Compact SD50+ units designed of the VDI 6022 Part 1 guideline (Hygiene requirements for ventilation and air-conditioning systems and units)



SALDA world like to inform you that based on the Commission Regulation (EU) No 1253/2014 for enforcing directive 2009/125/EC (hereinafter referred to as ErP directive), the operational area of certain AHU within the European Union is regulated by certain conditions

The AHU can only be used within the EU when it meets the requirements of the ErP directive. If certain AHU doesn't have CE mark on it, it is strictly forbidden to use it in the EU.

Information about the product

Description

AmberAir Compact is a compact-class ventilation unit with a heat recovery system. Its technical parameters are provided in the tables below.

Parameter	Value
Model size	4-CXP CD50 LF1B1W1C1P
Heat exchange type	Counterflow
Installation type	Ceiling
Service side	Left
Fan type	EC
By-pass damper	100%
Integrated heater	Water
Control type	Comfort MCB
Filter type	Panel
Outdoor installation version	Indoor

Selected parameters

Parameter	Unit of measurement	Value	
		Winter	Summer
Air flow (supply)	[m ³ /h]	2590	2590
Air flow (extract)	[m ³ /h]	2590	2590
External pressure (supply)	[Pa]	250	250
External pressure (extract)	[Pa]	250	250
Outdoor air temperature	[°C]	-10	30
Outdoor air humidity	[%]	90	50
Extract air temperature	[°C]	21	24
Extract air humidity	[%]	50	50

Thank you for purchasing the devices of our company!



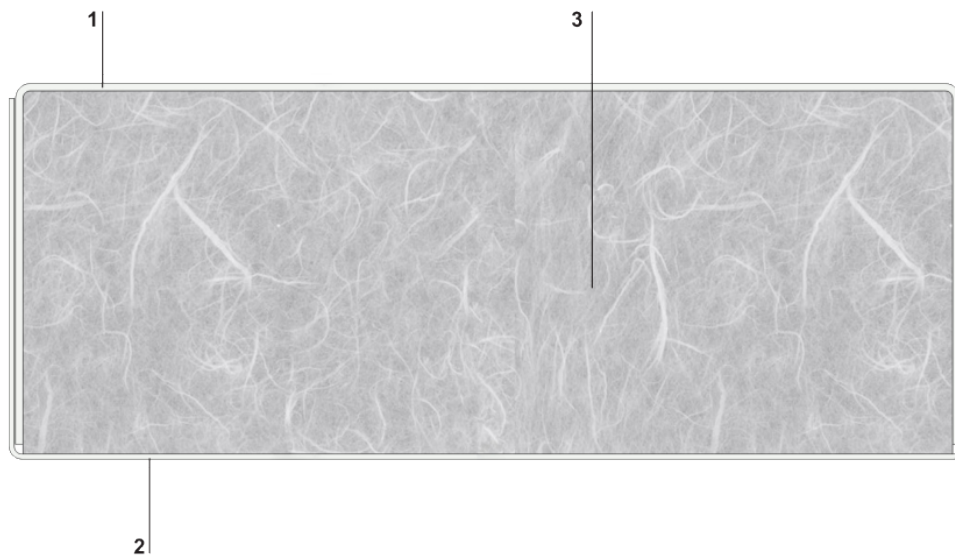
Not suitable for swimming pools, saunas and other similar facilities.

Casing

The casing of AmberAir Compact CD50 shows exclusive tightness and thermal characteristics. More detailed information is provided in the tables below.

EN 1886:2008 parameters

Model box	CD50
Casing strength class	D2*
Casing air leakage class at - 400 Pa	L2
Casing air leakage class at + 700 Pa	L3
Filter bypass leakage class	F7*
Thermal transmittance class	T3*
Thermal bridging factor class	TB4
Thickness of double skin panel	50 mm
Insulation material	Mineral wadding
Insulation material density	40 kg/m ³
Insulation material thermal conductivity	0,036 W/mK
Insulation material fire reaction class (EN 13501-1:2007)	A1
External sheet metal thickness and coating options	0,7 mm Zn polyester painting RAL 7040
Internal sheet metal thickness and coating options	0,7 mm Zn



AmberAir Compact CD50 cross-section

1 - external sheet metal; 2 - internal sheet metal; 3 - Mineral wool insulation

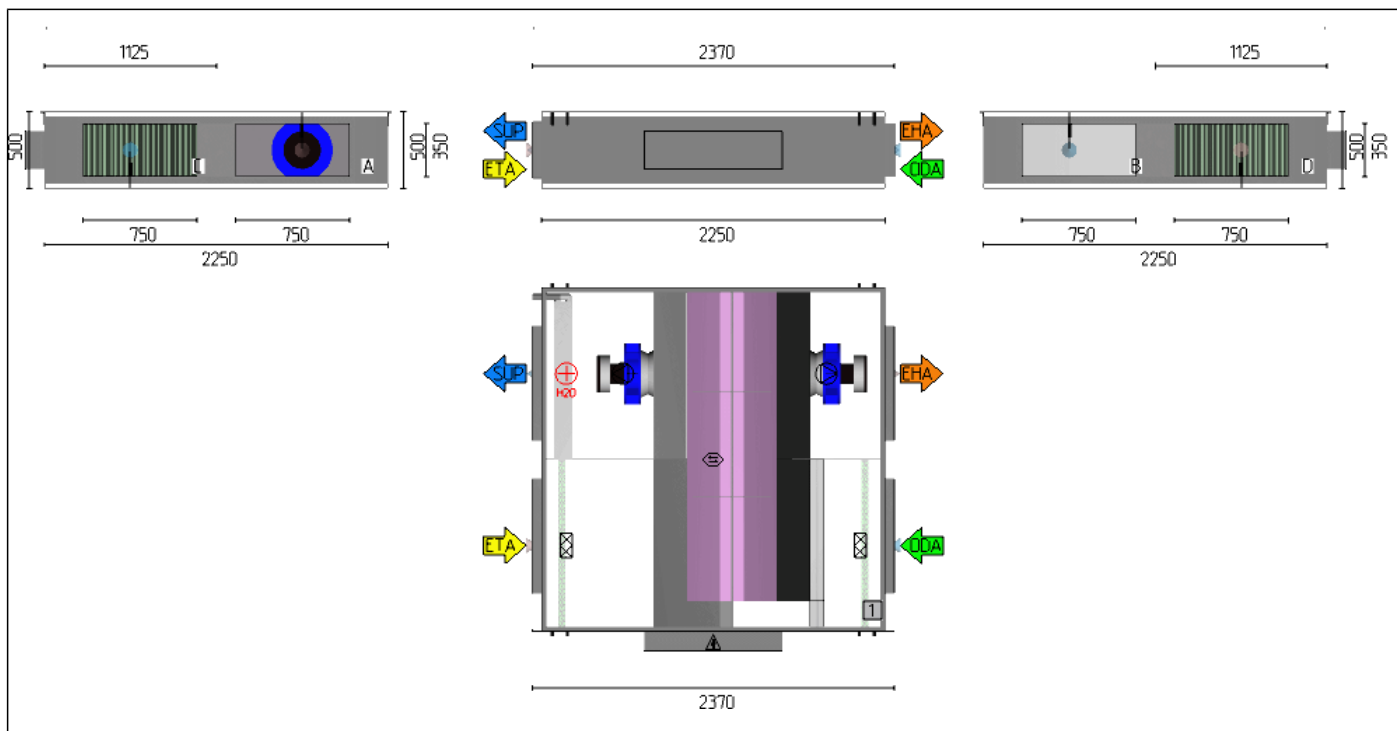
Dimensions and weight

ODA outdoor air

SUP supply air

EHA extract air

ETA exhaust air



Weight (without package and accessories)

[kg]

442

Technical data

General parameters		
Parameter	Unit of measurement	Value
Thermal input (EN 308)	[%]	80.7
SFPv class (clean filters)	[kW/m ³ /s]	2.22
SFPe class (design load)	[kW/m ³ /s]	2.49
Energy efficiency class (Eurovent 2016)		A
System pressure	[Pa]	250/250
Maximum external leakage	[%]	<1
Maximum internal leakage	[%]	<1
Total power/current consumption	[kW/A]	4.65/6.71
Phase/voltage/frequency	[f/VAC/Hz]	3/400/50
Control board		Comfort MCB
Insulation of walls	[mm]	50/30
Fans		
Fan type		EC
Impeller type		Backward curved
Supply air fan		
Phase/voltage/frequency	[f/VAC/Hz]	3/400/50
Power/current	[kW/A]	0.90592/3.5
Speed	[min ⁻¹]	2642
Control input	[VDC]	0-10
Protection class		IP54
Exhaust air fan		
Phase/voltage/frequency	[f/VAC/Hz]	3/400/50
Power/current	[kW/A]	0.90592/3.5
Speed	[min ⁻¹]	2627
Control input	[VDC]	0-10
Protection class		IP54
Integrated water heater		
Model		H-WH-865-390-130-01-11-35-01-L1ZN-1xDN15-S
Air flow	[m ³ /h]	2590
Input temperature	[°C]	18.1
Input relative humidity	[%]	11.3
Output temperature	[°C]	25
Output relative humidity	[°C]	6.95
Airspeed	[m/s]	2.41
Pressure drop	[Pa]	17
Power	[kW]	5.99
Water pressure drop	[kPa]	7.19
Input water temperature	[°C]	70
Output water temperature	[°C]	49.3
Water flow	[l/s]	0.08
Connection dimensions	[mm]	1xDN15
Filters		
Supply air filter		
Class		F7
Width	[mm]	1113
Height	[mm]	379
Thickness	[mm]	46
Model		MPL 1113x379x46-F7
Exhaust air filter		
Class		M5
Width	[mm]	1113

Height	[mm]	379	
Thickness	[mm]	46	
Model		MPL 1113x379x46-M5	
Pressure losses			
Assembly	Unit of measurement	Supply air	Exhaust air
Heat exchanger	[Pa]	93	120
Heater	[Pa]	17	-
Filter	[Pa]	162	85
Dampers	[Pa]	19	-
Total	[Pa]	291	205
Total system pressure	[Pa]	250	250
Fan pressure losses	[Pa]	119	190
Stationary pressure produced by fans	[Pa]	541	455

Air flow diagram

- operational limits
- - power consumption

Supply air



Exhaust air



Operating conditions

Place of operation	Indoors / outdoors / indoors and outdoors / outdoors with special accessories	
Operation in explosive environment		prohibited
Transporting of the polluted air		prohibited
Outdoor air temperature without preheater (Salda Antifrost** off)	[°C]	-5/+40*
Outdoor air temperature without preheater (Salda Antifrost** on)	[°C]	-15/+40
Outdoor air temperature with 100% by-pass***	[°C]	-23/+40
Outdoor air temperature with segmental by-pass***	[°C]	-30/+40
Outdoor air temperature limits with a selected pre-heater on an air duct	[°C]	-40/+40
Outdoor air max humidity	[%]	90
Temperature limits of an extracted air	[°C]	+15 / +40
Extract air max humidity	[%]	60
Maximum room temperature for installing the unit	[°C]	+40

* – when relative humidity of extracted air is lower than 35 %.
 ** – uses dis-balancing of the air flow and it may cause negative pressure in premises.
 *** – depends on AHU configuration.

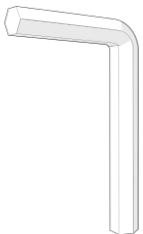
The air handling units installed outdoors shall be started only when the following obligatory conditions established by the manufacturer are met:

- Units that are stored at the site before installation shall be sealed using additional means in order to prevent the accumulation of moisture inside the unit.
- If the unit is installed and is not started for continuous operation, it must be ensured that no warm/humid air enters the unit through air ducts and that no moisture condensates inside the unit.
- If the ventilation units stand idle for a long time or are started infrequently, the system must be blown down at the maximum capacity 1/24 h to dehumidify.
- Voltage to the automatics of the unit is installed and connected; the system of water products is filled with glycol/water

In case of failure to comply with the requirements set out above, the manufacturer shall have the right not to apply the warranty in respect of the occurrence of moisture/water in damaged components.

Standard package of components

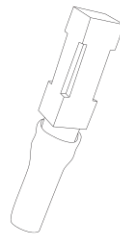
Standard package (without optional accessories) includes:



Key
1 pc.



Supply air temperature sensor TJ
1 pcs.



Water temperature sensor for water heater TV1
1 pcs. (water version only)



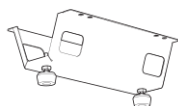
Hanging bracket
8 pcs. (Compact 1-3 CXP)
16 pcs. (Compact 4 CXP)



Anti-vibration rubber
8 pcs. (Compact 1-3 CXP)
16 pcs. (Compact 4 CXP)

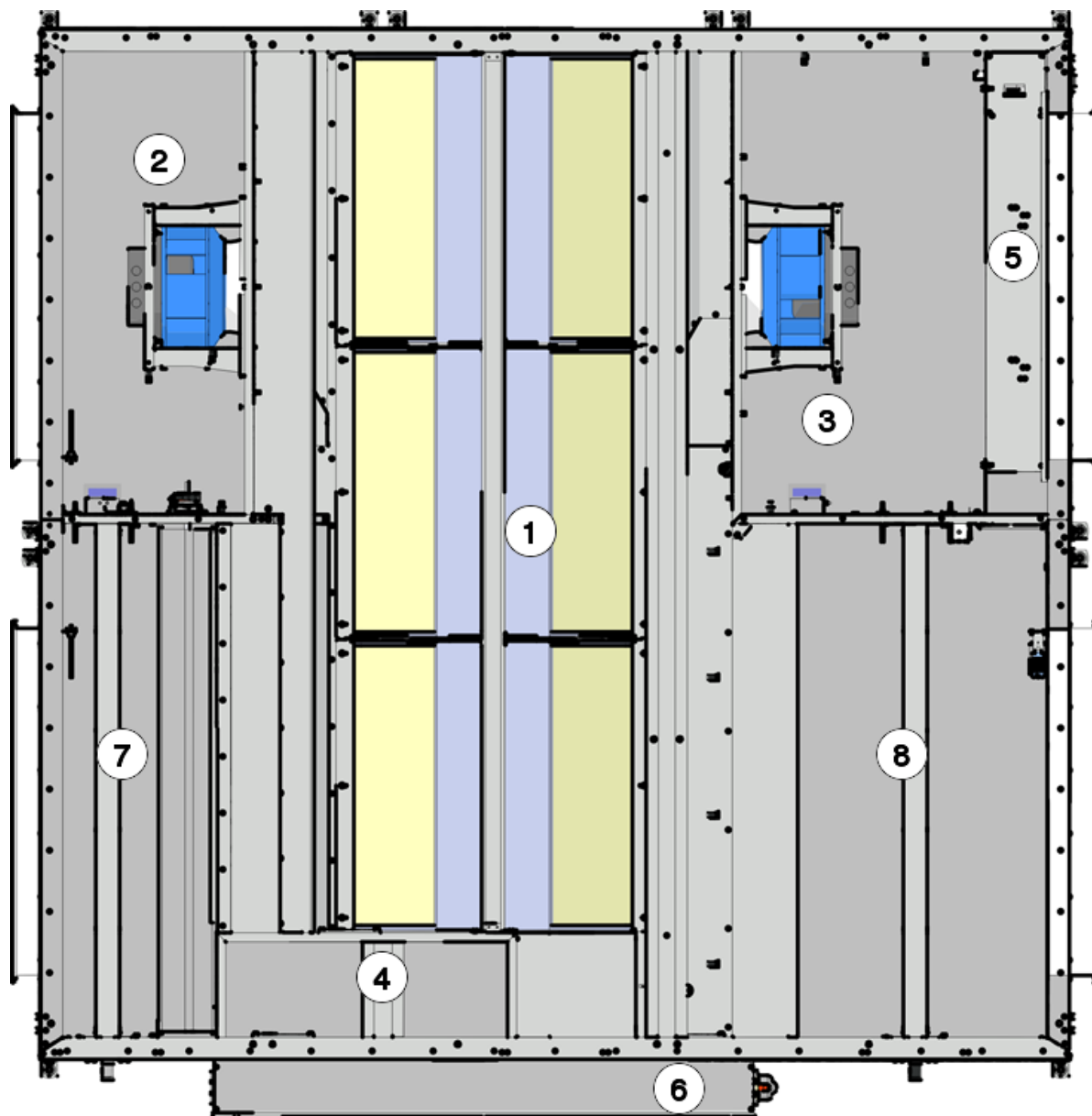


Legs for ground version
2 pcs. (Compact 1 CXP)
3 pcs. (Compact 2-4 CXP)



Legs for vertical version
2 pcs. (Compact 1 CXP)
3 pcs. (Compact 2-4 CXP)

Components



1. Heat exchanger
2. Supply air filter
3. Exhaust air filter
4. Exhaust air fan
5. Supply air fan
6. By-pass
7. Water heater
8. Control board
9. Supply air filter
10. Exhaust air filter

Accessories



Stouch



WIFI



MB-Gateway



S-RCO2-F2



S-RFF-U-D-F2



S-KFF-U



S-KCO2



UG3-A40



IR24- PC



PATROL_701



Energy meter



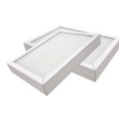
Push button, impulse



LM230A-TP



TF230



MPL



Condensate trap



RMG



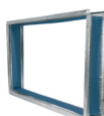
VVP



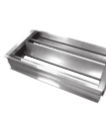
VXP



STP-CI



LJ/E



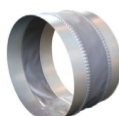
SSKM



ABV



SKG-A



LSVF



STP



MUTE



EKA NIS



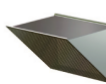
Kojelés (horizontali versija)



FLEX MCB



SSP



OCR



EKS NIS



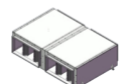
RWC



RFC



Roof



SSP-D



OCD



Kojelés (grindininė versija)



Bėgeliai



FDS

Roof for AmberAir Compact	Roof for 4 CXP	GNGPR168_1099_0
Reducer STP	STP-C 750x350_400	GSFSTPC161_340
Outlet-intake cover	ABV 400	GFDABV0400
Shut-off dampers	Damper SKG-A 400	GSKSKG037
Flange with Flexible Connection	LSVF 400	GVELSVF007
Clamps	Clamp AP 400	GAPAP009
Circular duct silencer AKS	AKS 400-10	GSOAKS046
Reducer STP	STP 750x350-700x400	GSFSTP161_342
Flexible connection	LJ-PG 75-35	GLJLJ/PG089
Dampers for rectangular ducts	SSK 750-350	GSKSSK713
Rectangular duct silencer SSP	SSP 750x350x1000-4/100	GSOSSP216_136
Rectangular duct silencer SSP	SSP 750x350x900-6/100/D	GSOSSP216_1025
Outlet-intake cover OCR	Outlet Cover 750x350	GNGPR168_737_0
Outlet-intake cover	Outlet Cover 4CXP_45	GNGPR168_1093_0
Water coolers for rectangular ducts	RWC 700x350 C4	GNGPR168_1068_0
Water coolers for rectangular ducts	RWC 750x350 C2	GNGPR168_1070_0
DX coolers RFC for rectangular ducts	RFC 750x350 F4	GNGPR168_1069_0
DX coolers RFC for rectangular ducts	RFC 750x350 F2	GNGPR168_1071_0
Filter boxes	FDS 75-35-M5	GFZFDS050
Filter boxes	FDS 75-35-F7	GFZFDS055
Filter boxes	FDS 75-35-G4	GFZFDS056
Rails for cover Compact CXP	Rails 4CXP	GNGPR168_1036_0
Base frame for Compact CXP ground version	Base frame 4CXP	GNGPR168_1028_0
Legs for Compact CXP horizontal version	Legs 4CXP	GNGPR168_1035_0
Room CO2 sensor S-RCO2-F2	S-RCO2-F2	ZAKKT0048
Duct CO2 sensor S-KCO2	S-KCO2	ZAKKT0049
Duct RH sensor S-KFF-U	S-KFF-U	ZAKKT0051
Room RH sensor S-RFF-U-D-F2	S-RFF-U-D-F2	ZAKKT0050
Remote control panel FLEX MCB	FLEX MCB without logo	PRGPU107
		PRGPU108
Control panel Stouch	Stouch	PRGPU051
Network module MB-Gateway	MB-Gateway	PRGPU082
Wireless Router	Wireless N Nano Router TL-WR802N	PRGPU105
Switch 774451_774411	Switch 774451_774411	ZEPSM001
Duct smoke detector Ug3a4o	Ug3a4o	ZAKKT0110
IR presence sensor IR24-P	IR24-P	ZAKJT019
IR presence sensor IR24-PC	IR24-PC	ZAKJT020
IR presence sensor PATROL 701	Patrol 701	ZAKJT021
Actuator for damper	LM230A-TP	ZAKP0045
Actuator for damper	TF 230	ZAKP0063
Energy Analyzers	Energy Analyzer EM23 (Pulse)	ZAKKT0118
Energy Analyzers	Energy Analyzer EM23 (Pulse+ModBus)	ZAKKT0119
Energy Analyzers	Energy Analyzer EM24 (M-Bus)	ZAKKT0121

Installation

Reception of goods

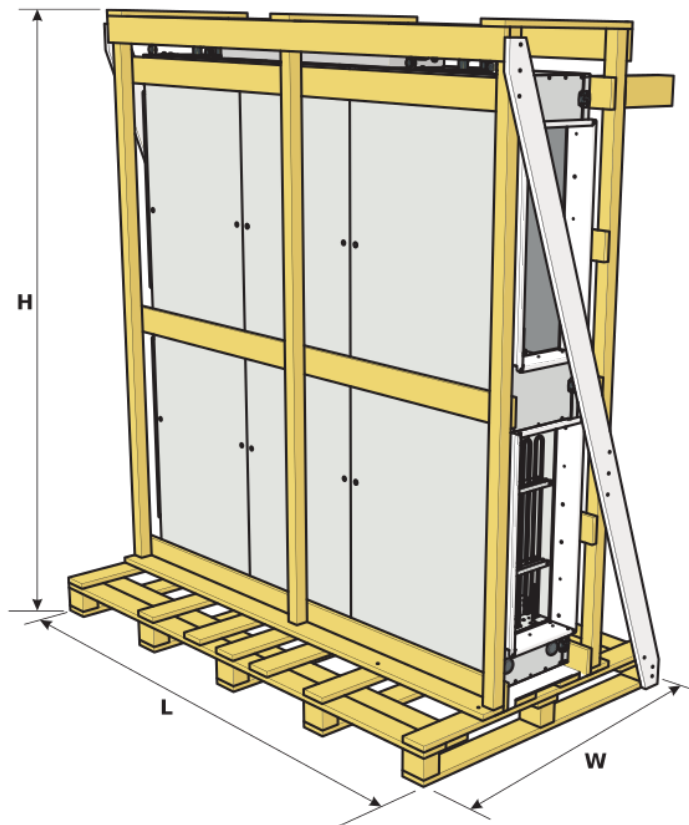
Each device is thoroughly checked before transportation. While receiving goods it is recommended to check whether devices were not damaged during transportation. If a damage to the device is noticed, immediately address the representatives of a transport company. Please inform a representative of the manufacturer, if any deviation from the order is noticed.

Transportation and storage

- The package is only for protection purpose!
- While unloading and storing the units, use suitable lifting equipment to avoid damages 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 units must be stored in a dry room with the relative air humidity not exceeding 70% (at +20 °C) and with the average ambient temperature ranging between +5 °C and +30 °C. The place of storage must be protected against dirt and water.
- The units must be transported to the storage or installation site using forklifts.
- The storage is not recommended for a period longer than one year. In case of storage longer than one year, before the installation it is necessary to verify whether the bearings of fans and motor rotate easily (turn the impeller by hand) and if the electric circuit insulation is not damaged or the moisture is accumulated.
- AmberAir Compact CX P are lifted from the pallet with a forklift or slings.



When lifting with a forklift, protect the condensate drainage pipes. The product is heavy. Exercise caution when transporting and installing. Follow safety requirements established in your country.

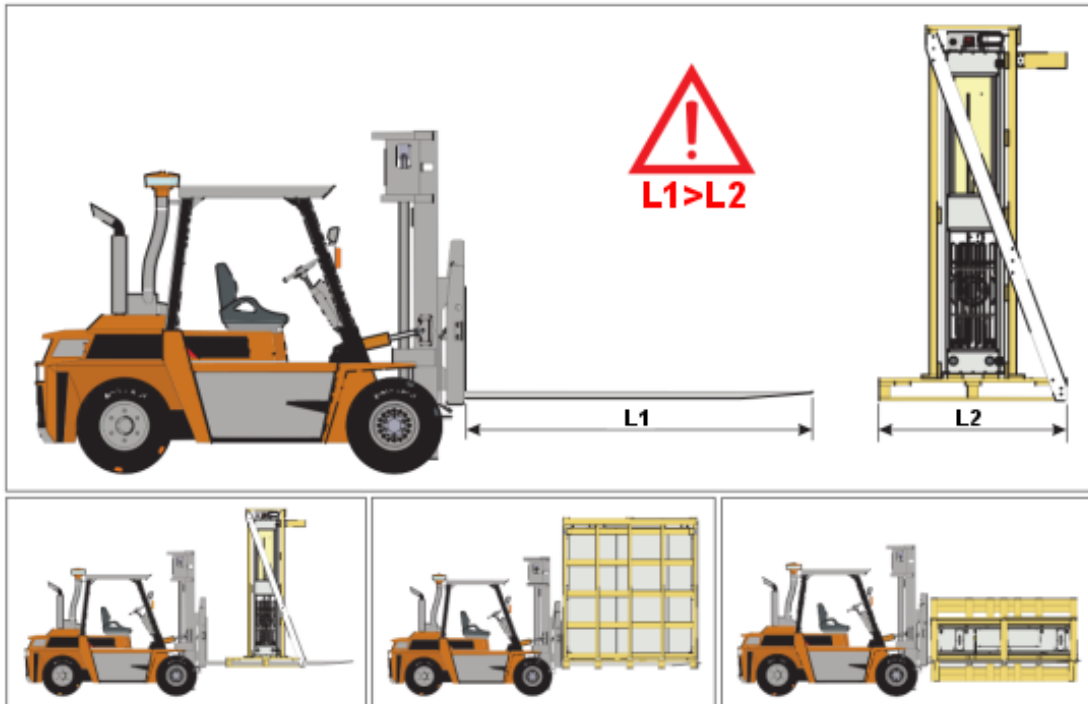


Unit	Dimensions, [mm]		
	H	W	L
Comapct 1 CX V	1750	1000	1945
Comapct 2 CX V	2095	1200	2190
Comapct 3 CX V	2400	1200	2165
Comapct 4 CX V	2580	1200	2465

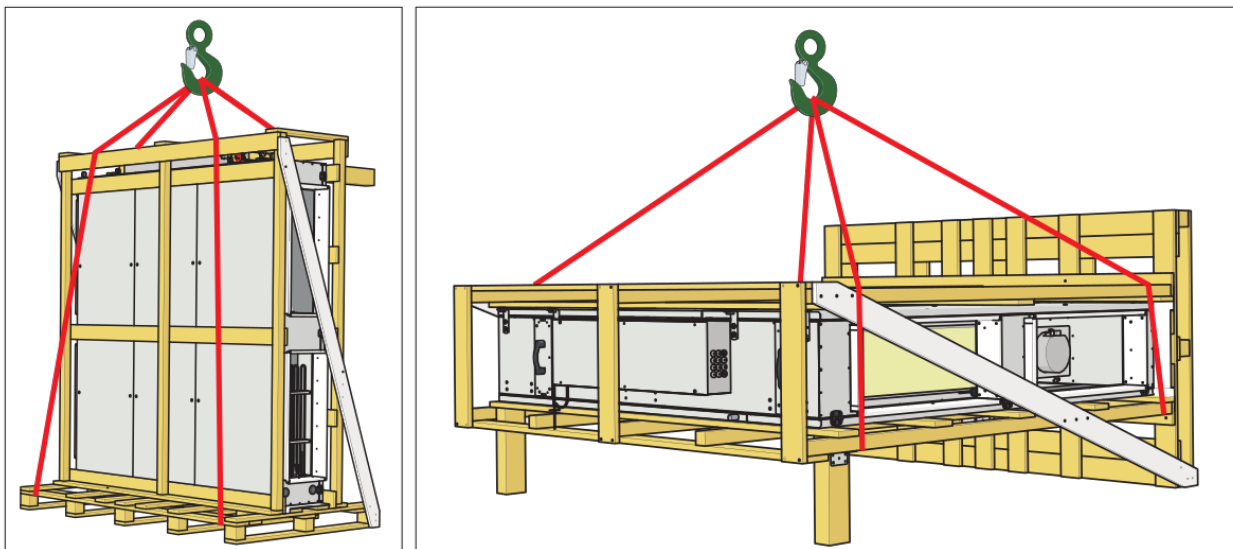
The product can be lifted with a forklift or a crane using slings.

When lifting with a forklift, the length of the fork must be greater than the length or width of the product (depending on the product version).

AmberAir Compact CX P lifting with a forklift



AmberAir Compact CX P lifting with slings



 Only a product placed on a pallet may be lifted in order to prevent damage to the casing.

Unpacking

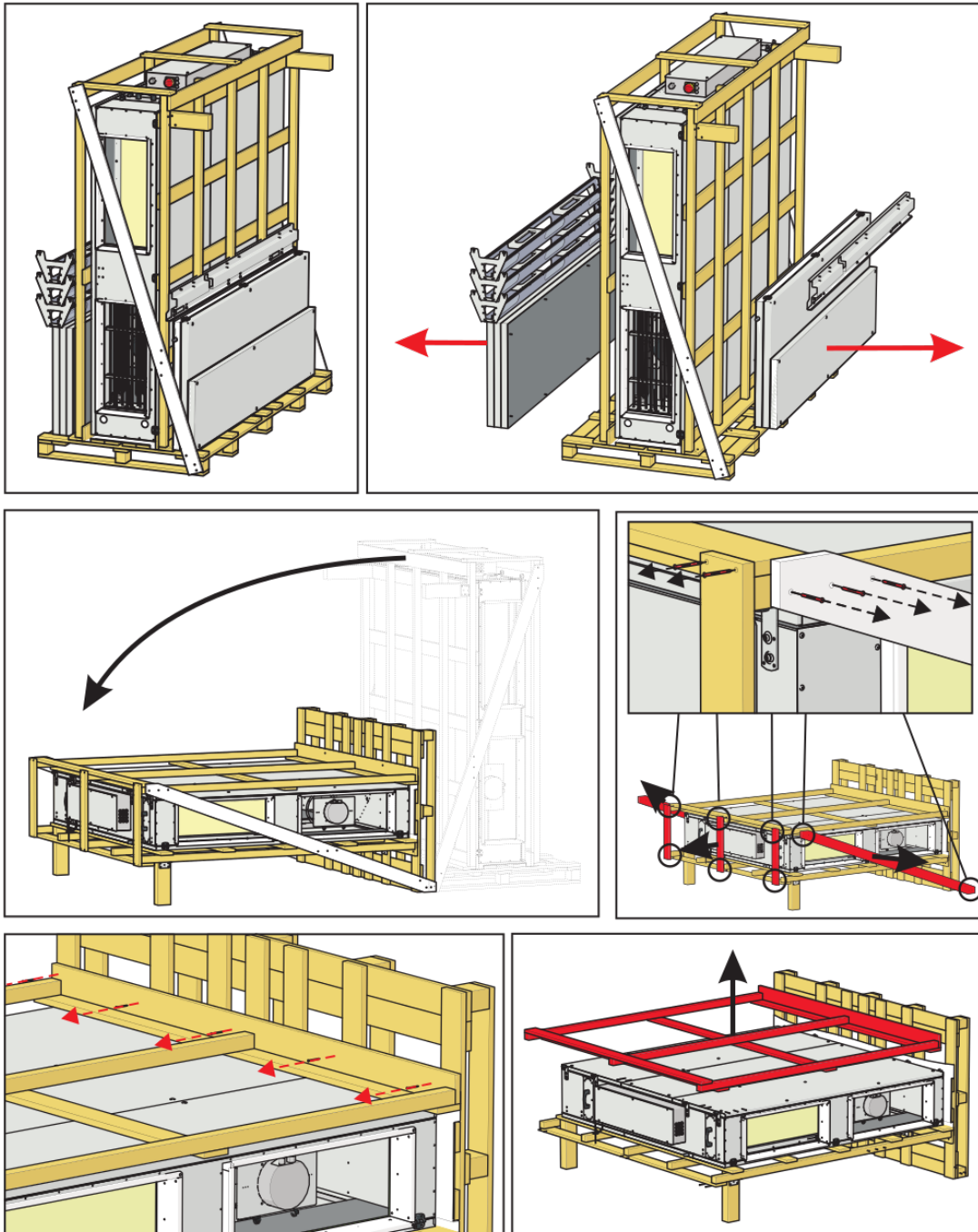
- Remove the film from the unit.
- Remove the tightening packaging tapes which keep the protective profiles.
- Remove the protective profiles, which are screwed up to the base with wood screws.
- After unpacking the unit, examine it to make sure that it has not been damaged during transportation. The installation of damaged units is prohibited!

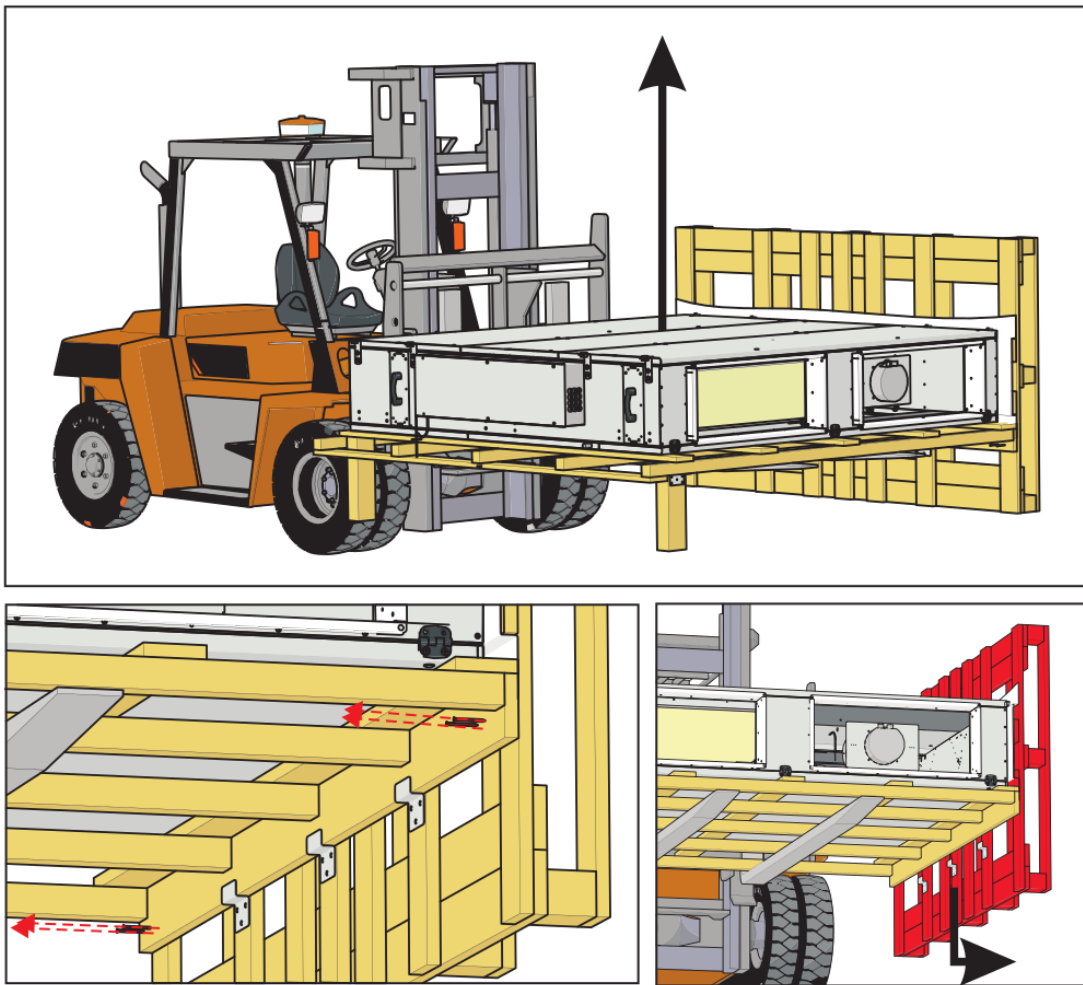


AmberAir Compact CX P are very heavy, so exercise caution when handling them. Follow safety requirements established in your country.



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

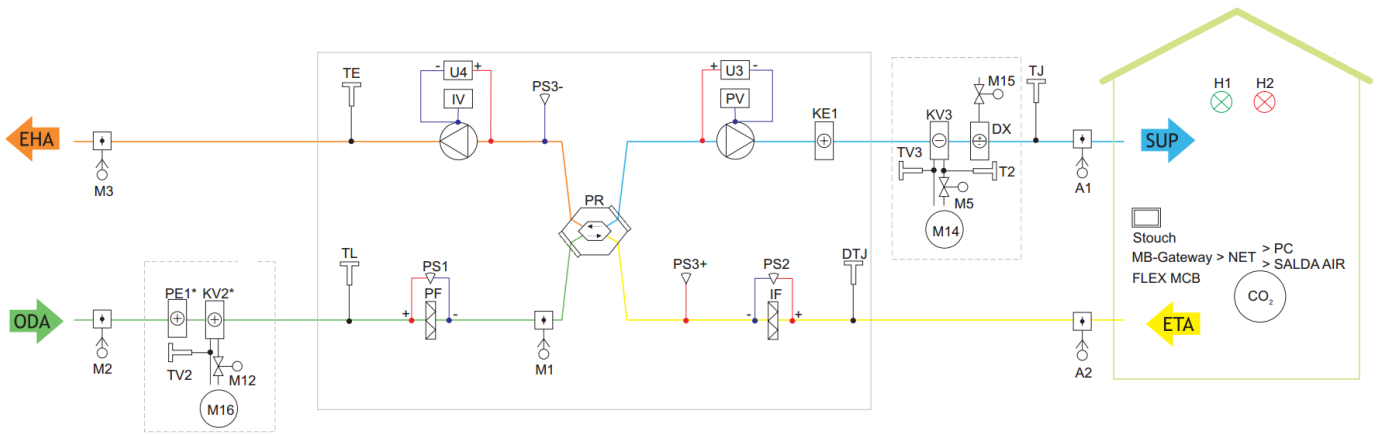




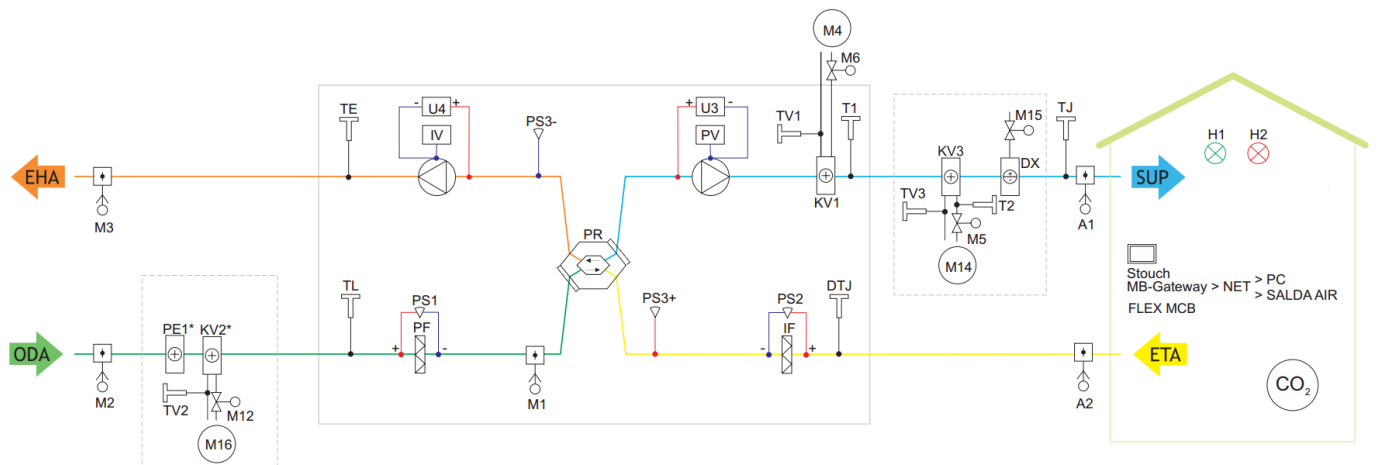
After unpacking AmberAir Compact 4 CX P, open the side covers and unscrew the supporting legs, which are used for transportation, from the fans.






Mounting diagram

Electrical version

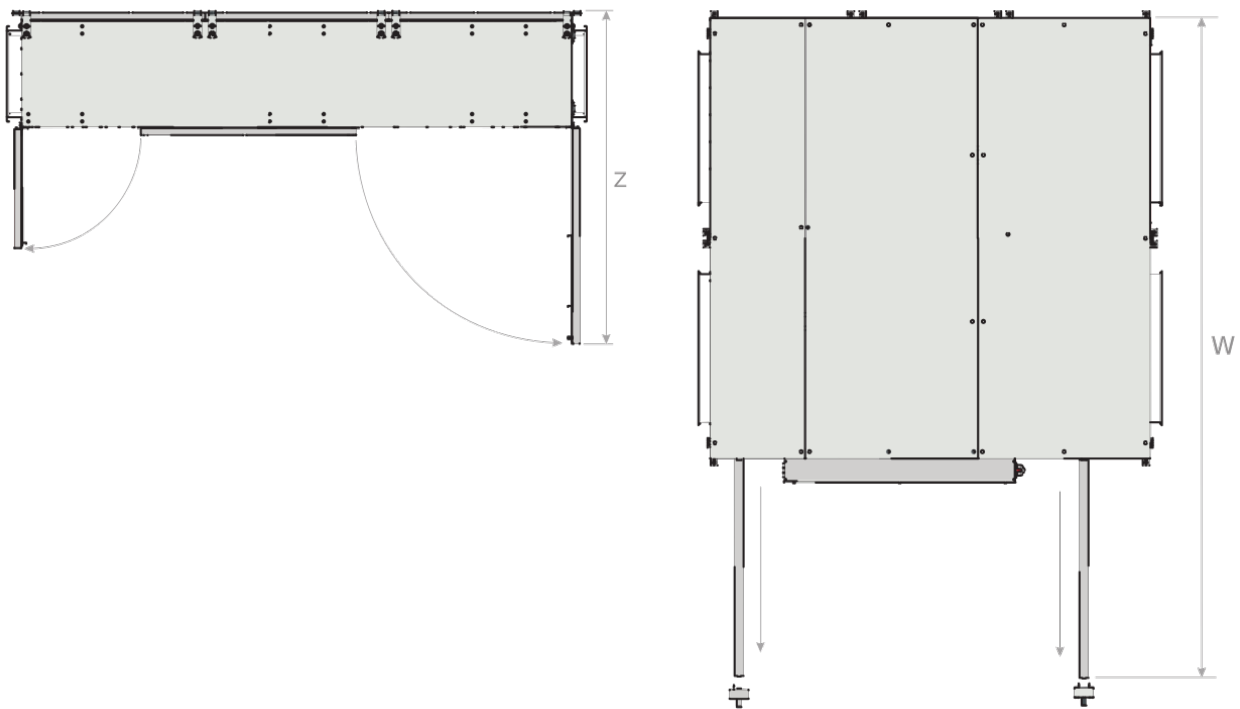


Water version



List of components	
PR	Plate heat exchanger
PV	Supply air fan
IF	Extract air filter
PF	Supply air filter
IV	Exhaust fan
KE1	Electric heater
PE1	Electric pre-heater (the electric and water pre-heaters may not be used at the same time)
KV1	Water heater (the possibility of the heating switch function)
KV2	Water pre-heater (the electric and water pre-heaters may not be used at the same time)
KV3	Water cooler
DX	DX cooler
M1	By-pass damper
M2	Supply air damper actuator
M3	Exhaust air damper actuator
M4	Water heater circulation pump
M5	Water cooler valve motor
M6	Water heater valve motor
M12	Water pre-heater valve motor
M14	Water cooler circulation pump
M15	DX cooler valve actuator
M16	Water pre-heater circulation pump
A1	Fire alarm damper actuator I
A2	Fire alarm damper actuator II
TJ	Supply air temperature sensor
TL	Outdoor air temperature sensor
TE	Exhaust air temperature sensor
DTJ	Extract air temperature and RH sensor
TV1	Water heater temperature sensor
TV2	Water preheater temperature sensor
TV3	Water cooler temperature sensor
T1	Water heater thermostat
T2	Cooler switching thermostat
PS1	Supply air filter switch (NO)
PS2	Extract air filter pressure switch (NO)
PS3	Heat converter pressure switch (NC)
U3	Supply air fan pressure sensor
U4	Extract air fan pressure sensor
	Outdoor air
	Exhaust air
	Extract air
	Supply air
CO₂	CO ₂ sensor
Stouch	Remote control panel
SALDA AIR	Mobile application
MB-Gateway	Network module
NET	Network
PC	Computer
	Ventilated premises
Possible PCB inputs/outputs	
FA	Fire alarm
FPP	Fireplace protection
	System mode switch (START/STOP)
	Fans speed switch (BOOST)
H1	Operation indication output
H2	Alarm indication output

Place requirements for the equipment



Alarm indication output	Z [mm]	1550
Distance to remove the filters*	W [mm]	3300

*The filters may be removed from the bottom or top after removing the cover.

Mounting

- Installation should only be performed by qualified and trained staff.
- When connecting air ducts, consider the notices indicated on the casing of the unit.
- Before connecting to the air duct system, the connection openings of ventilation unit should be closed.
- When connecting the ducts, you should pay attention to the air flow direction indicated on the device housing.
- Do not connect the bends close to 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 air duct must be $1xD$, in air exhaust duct $3xD$, where D is diameter of the air duct.
- It is recommended to use the accessories-holders. This will reduce vibration transmitted by the unit to the air duct system and environment.
- Enough space must be left for opening of the maintenance door and filter covers.
- If the installed ventilation unit is adherent to the wall, it may transmit noise vibrations to the premises. Though the level of noise caused by the fans is admissible, it is recommended to mount the unit at the distance of 400 mm from the nearest wall. If it is not possible, the mounting of the unit is recommended on the wall of the room where the level of noise is not important.
- Ducts are connected to the unit in such way that they could be easily disassembled and the heater could be removed from the unit when performing service or repair works.



The protective film is intended to protect the unit during transportation. It is recommended to remove the film because otherwise oxidation signs may occur.

Mounting position

The product can be installed under the ceiling or on the floor.

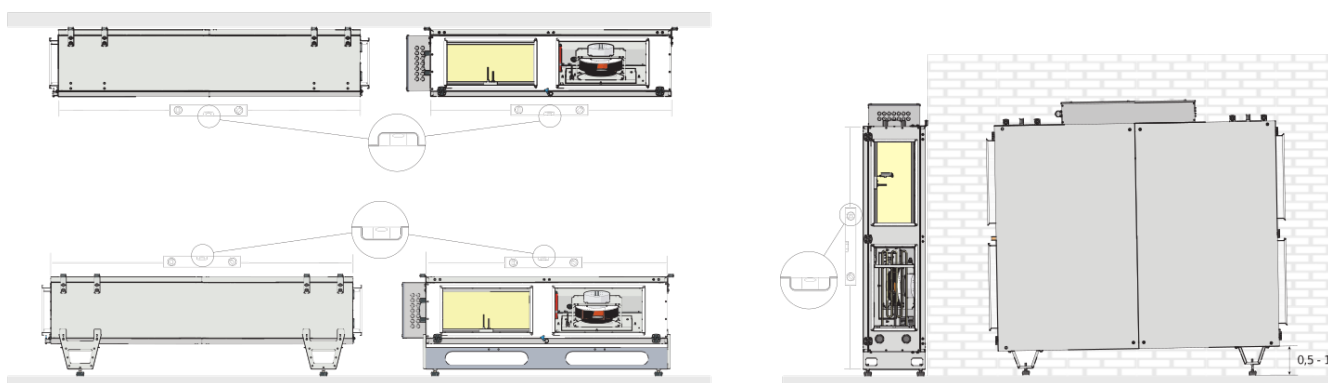
Installation under the ceiling

- When installing under the ceiling, the product is screwed up to the supporting legs with shock-absorbing gaskets.
- The method of raising the product is shown in the section "Transportation and Storage".
- AmberAir Compact 1 CX P is installed straight using a level. AmberAir Compact 2-4 CX P should be turned by $0.5-1^\circ$.

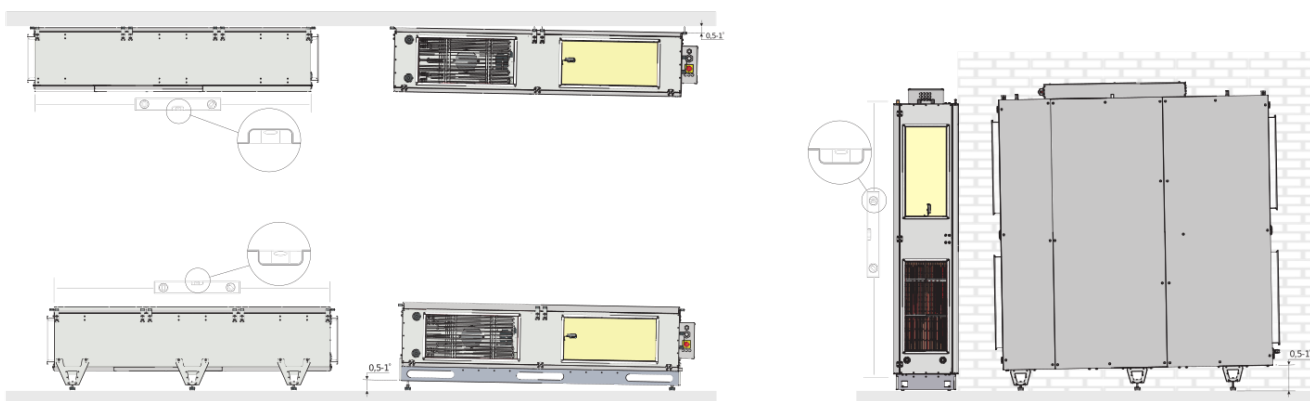
Installation on the floor

- When installing on the floor, the second supporting base attached by the manufacturer should be used.
- The installation of the base is shown on Page 23.
- AmberAir Compact 1 CX P is installed after alignment using a level.
- AmberAir Compact 4 CX P is installed with its end raised by $0.5-1^\circ$

AmberAir Compact 1 CX P mounting

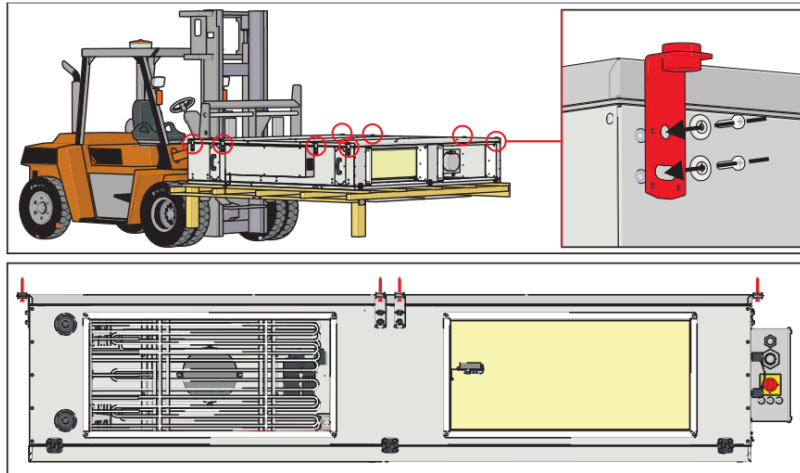


AmberAir Compact 2-4 CX P mounting

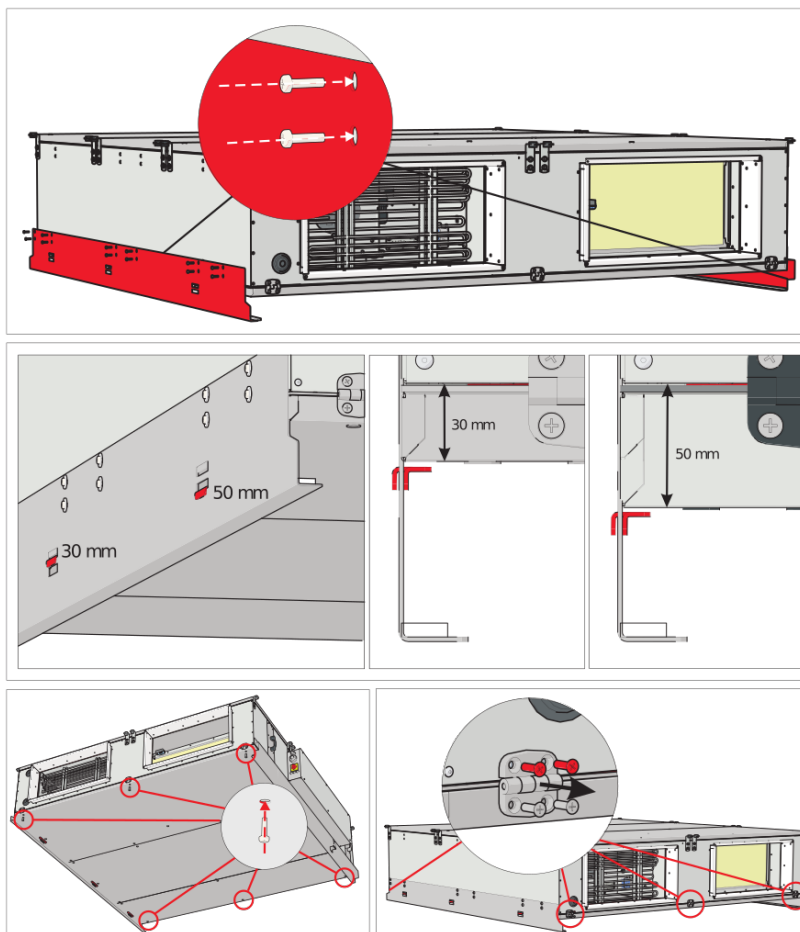


Installation under the ceiling

- Before starting installation work, first unpack the product as shown in the section “Unpacking”.
- After screwing up the suspension brackets, the product with the whole remaining pallet is raised to the ceiling using a forklift.
- After mounting the product to the wall, the forklift with the remaining pallet is withdrawn.

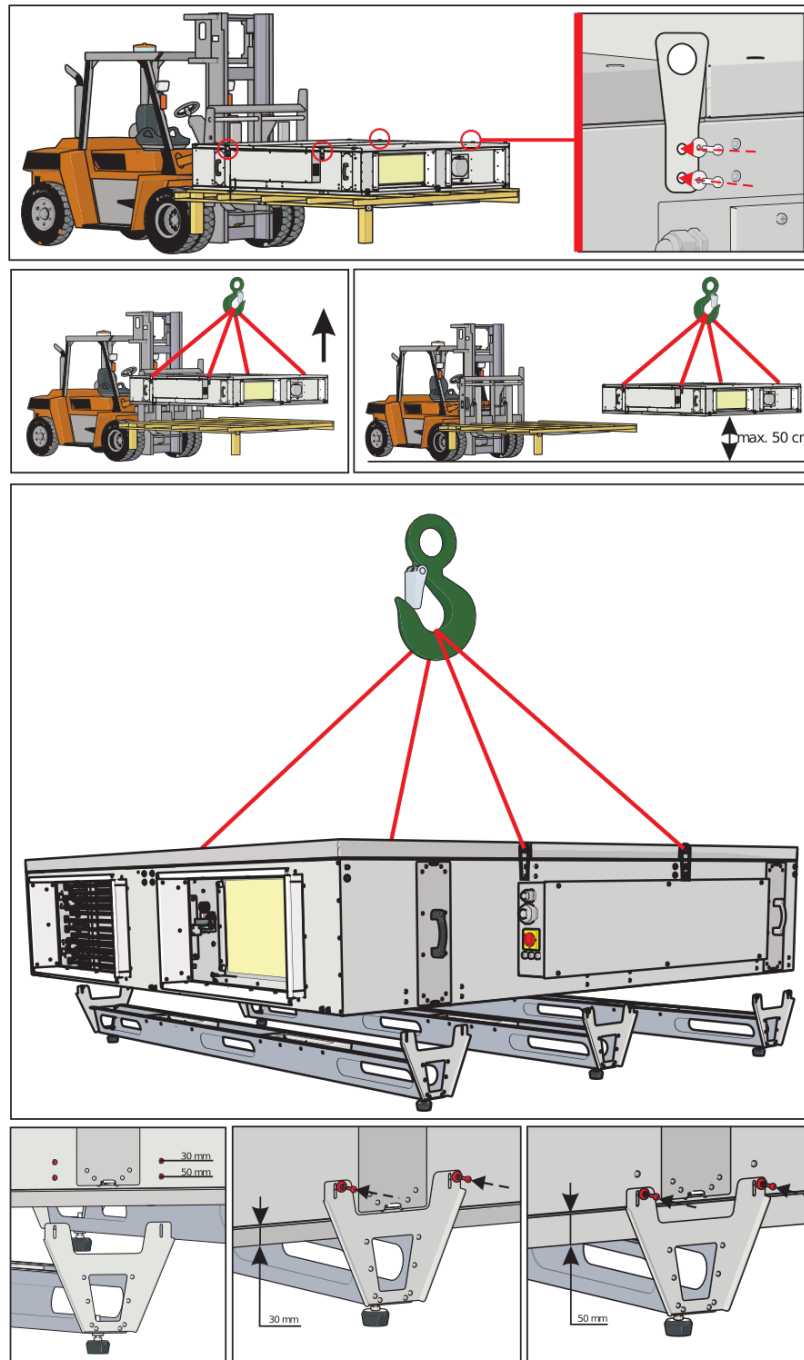


- Rails are offered as an accessory to be screwed up to the suspended product after installing the cover holders to the appropriate position.
- If the thickness of the cover is 30 mm, insert the holder into the upper hole. If the thickness of the cover is 50 mm, insert the holder into the lower hole.
- To screw up the rails, washers and screws are used.
- When using the rails, the hinges should be unscrewed from the cover after screwing up its ends. The accessories bag contains screws for fastening the end of the cover that was previously held by the hinges.



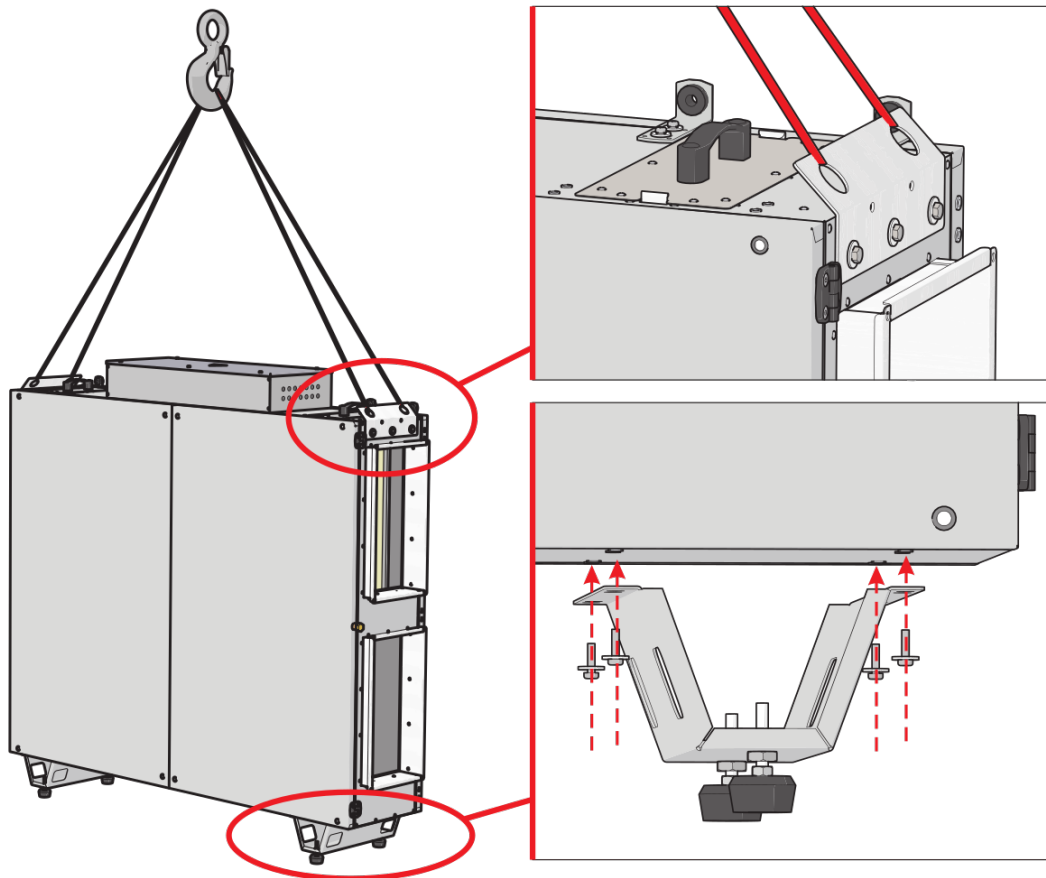
The installation of the supporting legs for the floor-mounted version

- Before starting installation work, first unpack the product as shown in the section "Unpacking".
- After screwing up 4 lifting brackets to the product, fasten the lifting slings to the brackets (use washers and screws for screwing up).
- Using a crane, lift the product by not more than 50 cm (as high as sufficient to insert the installation legs under the product).
- The legs are screwed up taking into account the cover thickness (30 mm or 50 mm).



Legs mounting for horizontal version

- Before starting mounting works, unpack unit how it's show in "Unpacking".
- Put lifting belts on bracket, how in the picture below.
- Lift the unit with crane not more then 50 cm.
- Unite legs are different. It's depend on unit doors thickness (30 mm or 50 mm).
- Unpacked unit is unstable at horizontal position, thus observe caution during the mounting process and additionally fasten at the top, in order prevent it from falling down.

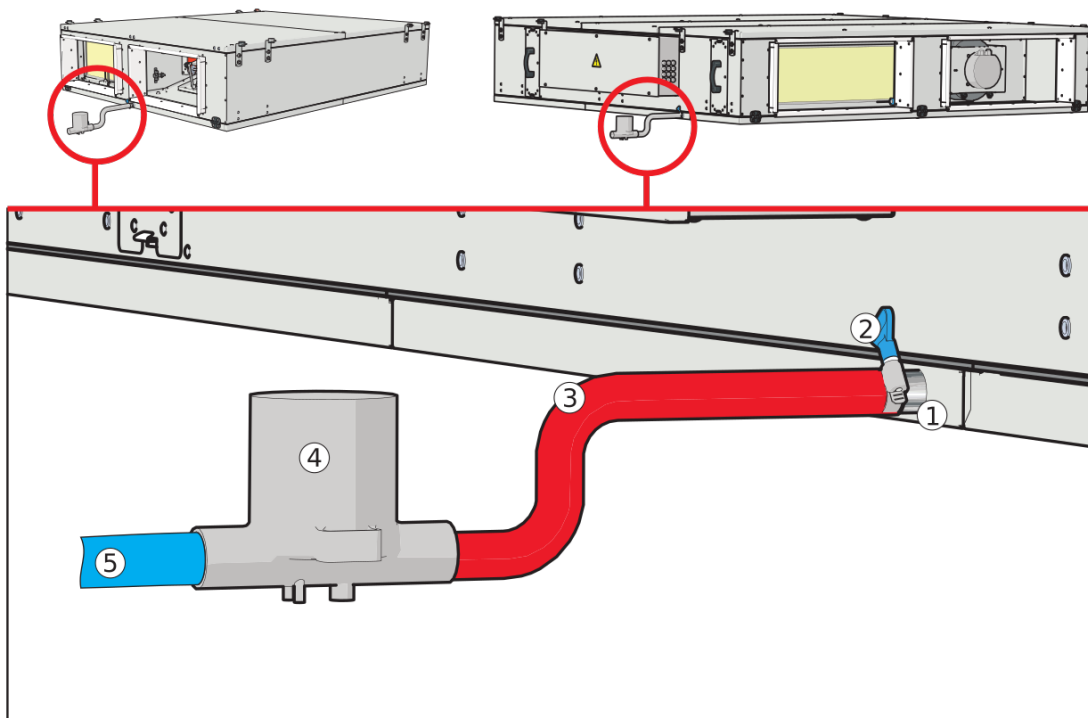


Drainage

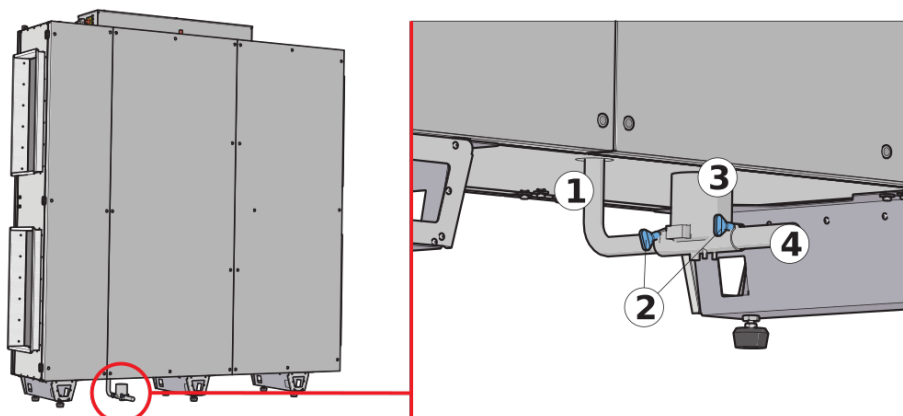
- After installing the air unit, the condensate drainage system should be connected: screw up the hose (3) with the attached fastener (2) to the condensate trap (1) of the heat recovery unit, insert the hose into the siphon (4) (shown at the bottom of the picture).
- The siphon (4) is connected with the sewage system via a pipe (5).
- It should have a gradient of at least 3° (a metre of the pipe should descent by 55 mm)!
- Prior to starting the recovery unit, the system should be filled with 0.5 litre or more water (the siphon (4) should always be filled up) and make sure that water goes to the sewage system)!
- Otherwise, the room may be flooded when operating the recovery unit!
- The condensate drainage system should be operated in a room with an ambient temperature not below 0 °C!
- Otherwise, the system must be protected using thermal insulation with additional installation of a heating cable and thermostat!
- The siphon (4) should not necessarily be downstream the recovery unit but below it.

AmberAir Compact 1 CX P

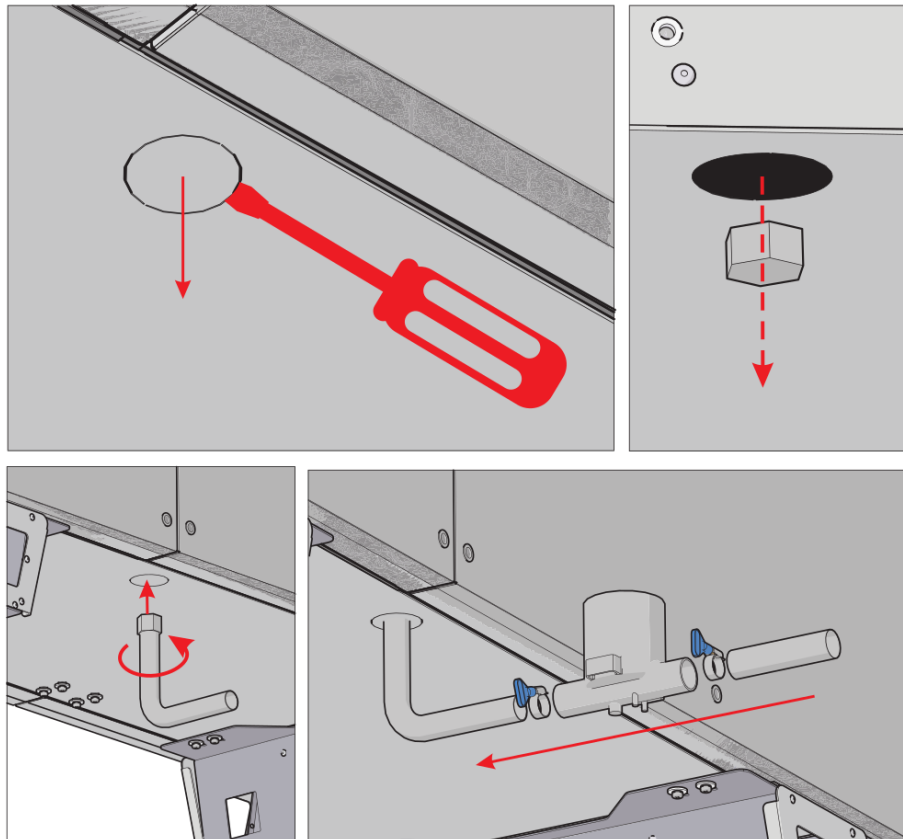
AmberAir Compact 2-4 CX P



AmberAir Compact CX P R



1. With screwdriver break protective cover;
2. Remove protective stopple (ZPG50183);
3. Screw condensate hose on condensate pipe G1/2.



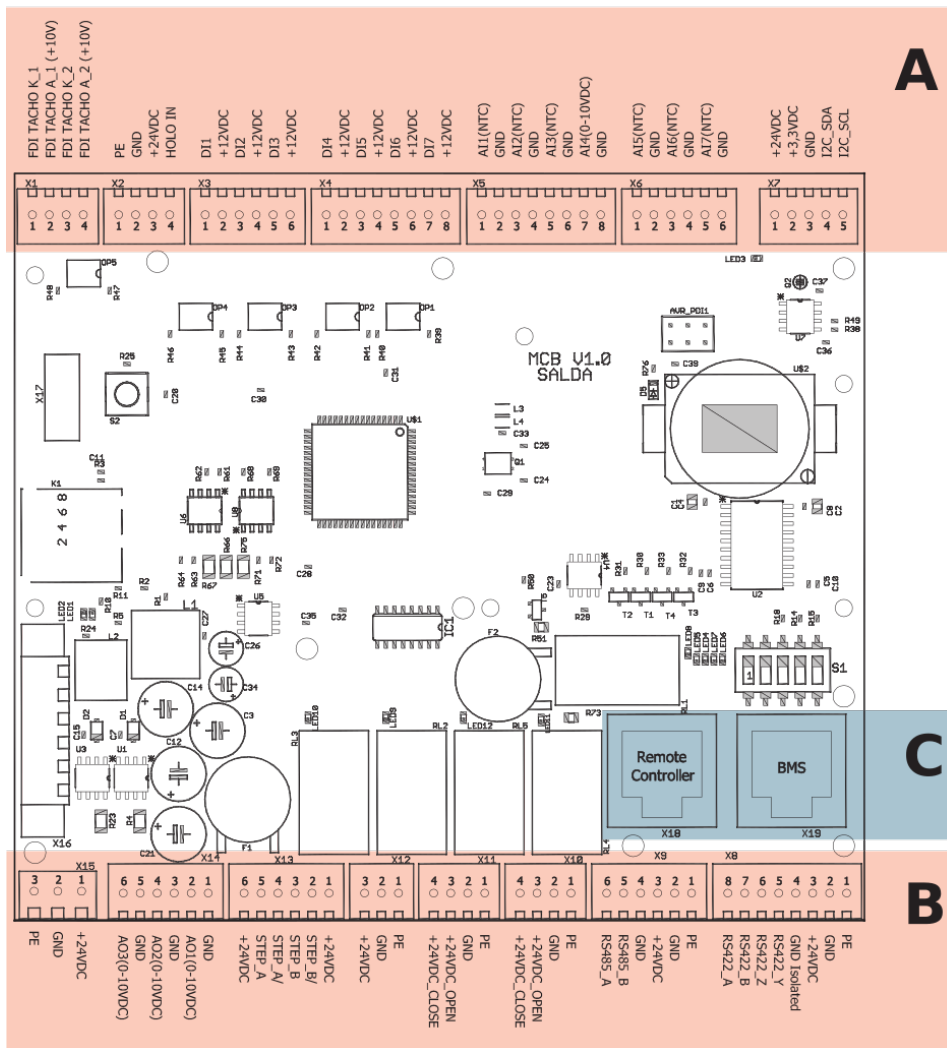
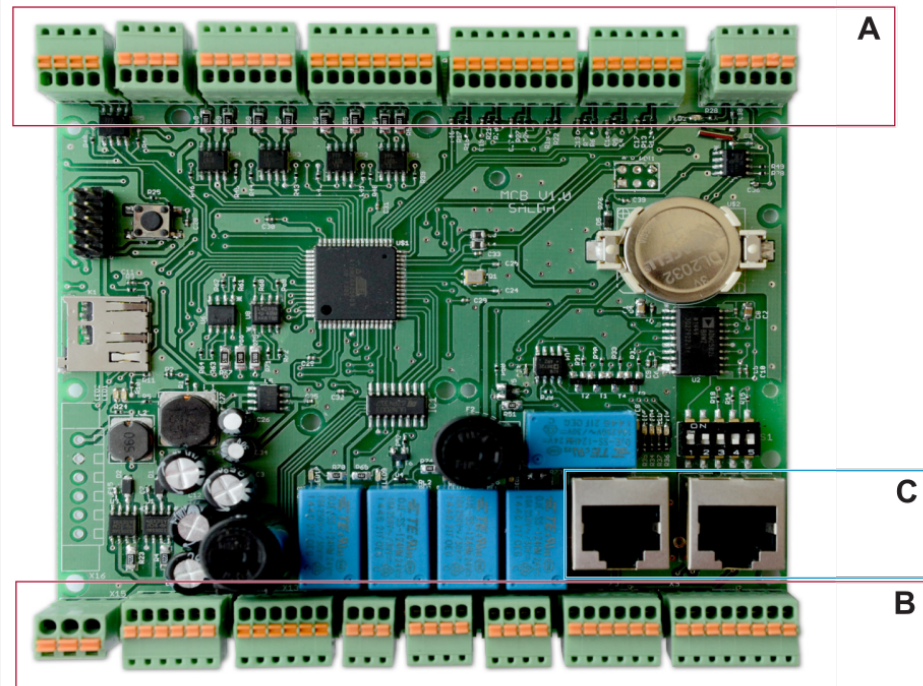
Before every heating season the condensate tube shall be filled with water as indicated during the first startup!

Connection of air duct

- Connected air ducts must be straight and have their own fixing.
- Make sure that the fans can not be entered through air duct heads. If it is possible to enter the fan, protective grid should be installed. You can choose it in our website.
- Do not reduce the diameter of the piping near air inlet or exhaust ducts. If you want to reduce the speed of air in the system, drop of pressure and noise level, you can increase the diameter.
- In order to reduce the level of the noise in the air supply system, install silencers (see chapter on their installation).
- In order to reduce air loss in the system, the air ducts and profile parts should be of class C and higher. Their catalog can be found in our website.
- Outside air and exhaust system piping should be isolated in order to prevent heat loss and condensation.
- It is recommended to maintain a distance of up to 8 meters between air intake and air exhaust ducts. Air supplying system should be installed further from potential air pollution sources.
- Use holders while installing air ducts next to the ventilation equipment. They suppress vibration and assure a firm installation of various system parts. Necessary holders can be found in our catalog or website.
- A common mistake is that air ducts are attached to improper airflow connection. On the ventilation equipment there are signs, indicating the air duct to be connected. Before starting the system carefully check whether the work was performed properly.

Connection of accessories

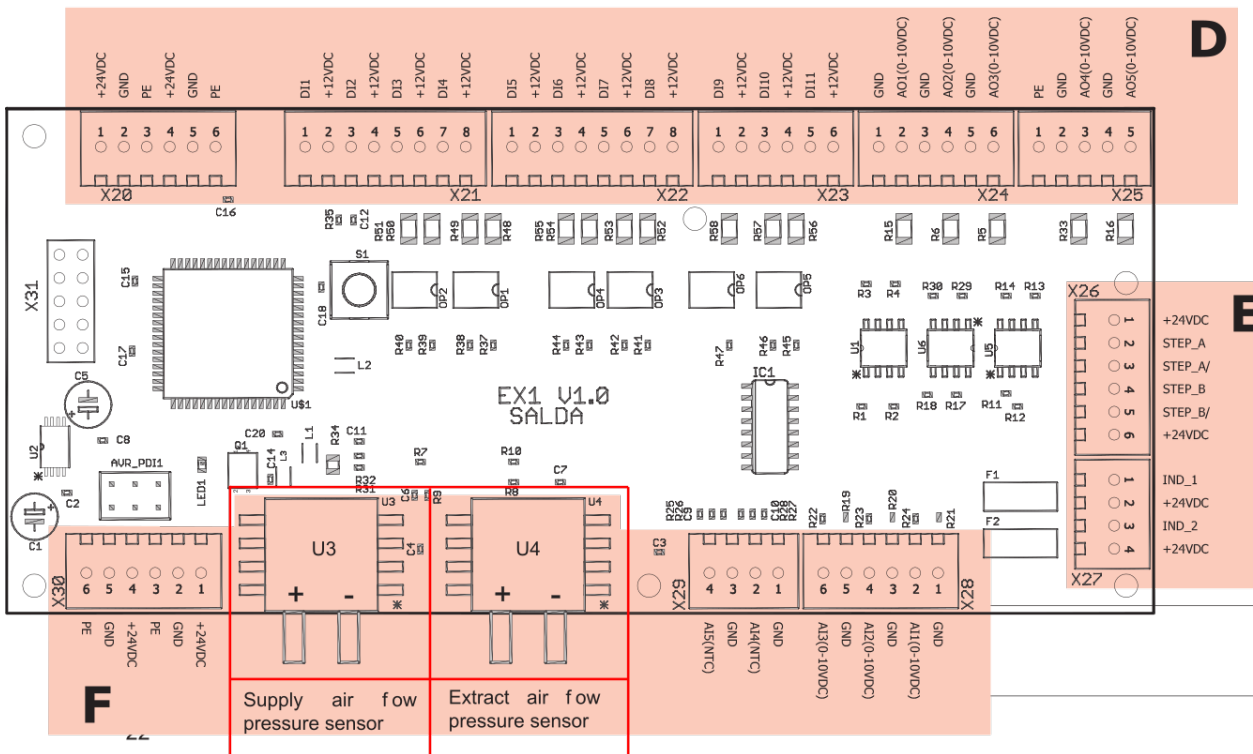
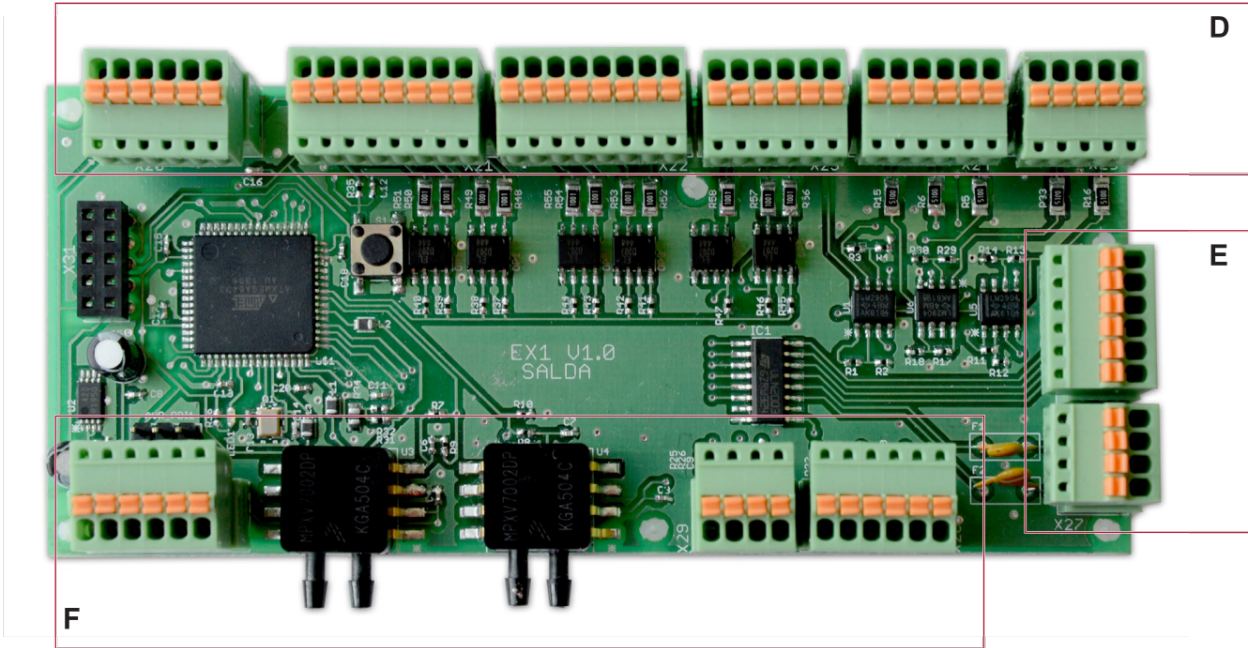
Arrangement of controller connections in MCB



			A
Connector	Contact No.	Contact name	Functional block name
MCB			
X1	1	MCB FDI TACHO K_1(GND)	Supply fan speed RPM
	2	MCB FDI TACHO A_1(+10V)	
	3	MCB FDI TACHO K_2(GND)	Extract fan speed RPM
	4	MCB FDI TACHO A_2(+10V)	
X2	1	PE	Rotor speed RPM
	2	GND	
	3	+24VDC	
	4	MCB HOLO	
X3	1	MCB DI1	Heater automatic protection (NC)
	2	+12VDC	Heater manual protection / Water heater protection - thermostat (NC)
	3	MCB DI2	
	4	+12VDC	Supply air fan failure (NC)
	5	MCB DI3	
	6	+12VDC	
X4	1	MCB DI4	Fire protection input (NC)
	2	+12VDC	By-pass closed (NC)
	3	MCB DI5	
	4	+12VDC	Rotor alarm (NC) / Heat exchanger pressure relay (NC).
	5	MCB DI6	
	6	+12VDC	Extract air fan failure (NC)
	7	MCB DI7	
	8	+12VDC	
X5	1	MCB AI1 (NTC)	Supply air temperature sensor
	2	GND	Outdoor air temperature sensor
	3	MCB AI2 (NTC)	
	4	GND	Exhaust air temperature sensor
	5	MCB AI3 (NTC)	
	6	GND	Heat exchanger pressure transmitter
	7	MCB AI4 (0-10V)	
	8	GND	
X6	1	MCB AI5 (NTC)	Extract air temperature sensor
	2	GND	Reserved
	3	MCB AI6 (NTC)	
	4	GND	Hydraulic heater water temperature sensor
	5	MCB AI7 (NTC)	
	6	GND	
X7	1	+24VDC	Connection with EX2-X47
	2	+3,3VDC	
	3	GND	
	4	I2C_SDA	
	5	I2C_SCL	

B			
Connector	Contact No.	Contact name	Functional block name
MCB			
X8	1	PE	BMS connection (RS485; RS422)
	2	GND	
	3	+24VDC	
	4	GND isolated	
	5	RS422_Y	
	6	RS422_Z	
	7	RS422_B	
	8	RS422_A	
X9	1	PE	Remote Control connection (RS485)
	2	GND	
	3	+24VDC	
	4	GND	
	5	RS485_B	
	6	RS485_A	
X10	1	MCB PE	Recirculation actuator control 3P
	2	MCB GND	
	3	MCB RECIRC_+24VDC_OPEN	
	4	MCB RECIRC_+24VDC_CLOSE	
X11	1	MCB PE	By-pass actuator control 3P
	2	MCB GND	
	3	MCB BYPASS_+24VDC_OPEN	
	4	MCB BYPASS_+24VDC_CLOSE	
X12	1	PE	24VDC Power supply for water heater actuator
	2	GND	
	3	+24VDC	
X13	1	+24VDC	By-pass step motor control
	2	STEP_B/	
	3	STEP_B	
	4	STEP_A/	
	5	STEP_A	
	6	+24VDC	
X14	1	GND	Supply air fan control (output 0-10VDC)
	2	MCB AO1(0-10VDC)	
	3	GND	Extract air fan control (output 0-10VDC)
	4	MCB AO2(0-10VDC)	
	5	GND	Electric/Water heater control (output 0-10VDC)
	6	MCB AO3(0-10VDC)	
X15	1	+24VDC	MCB Power supply 24VDC
	2	GND	
	3	PE	
C			
Connector	Contact No.	Contact name	Functional block name
MCB			
X18			Remote Control connection (RS485)
X19			BMS connection (galvanically isolated RS485 or RS422, configurable via SL1)

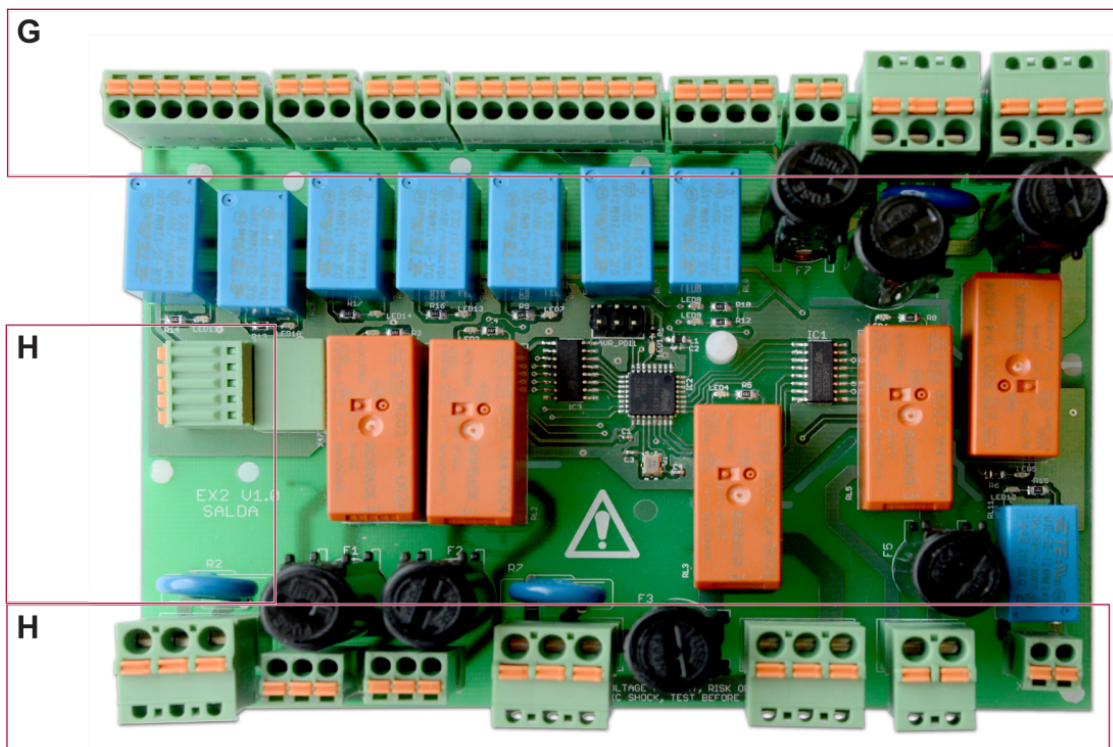
Arrangement of controller connections in EX1

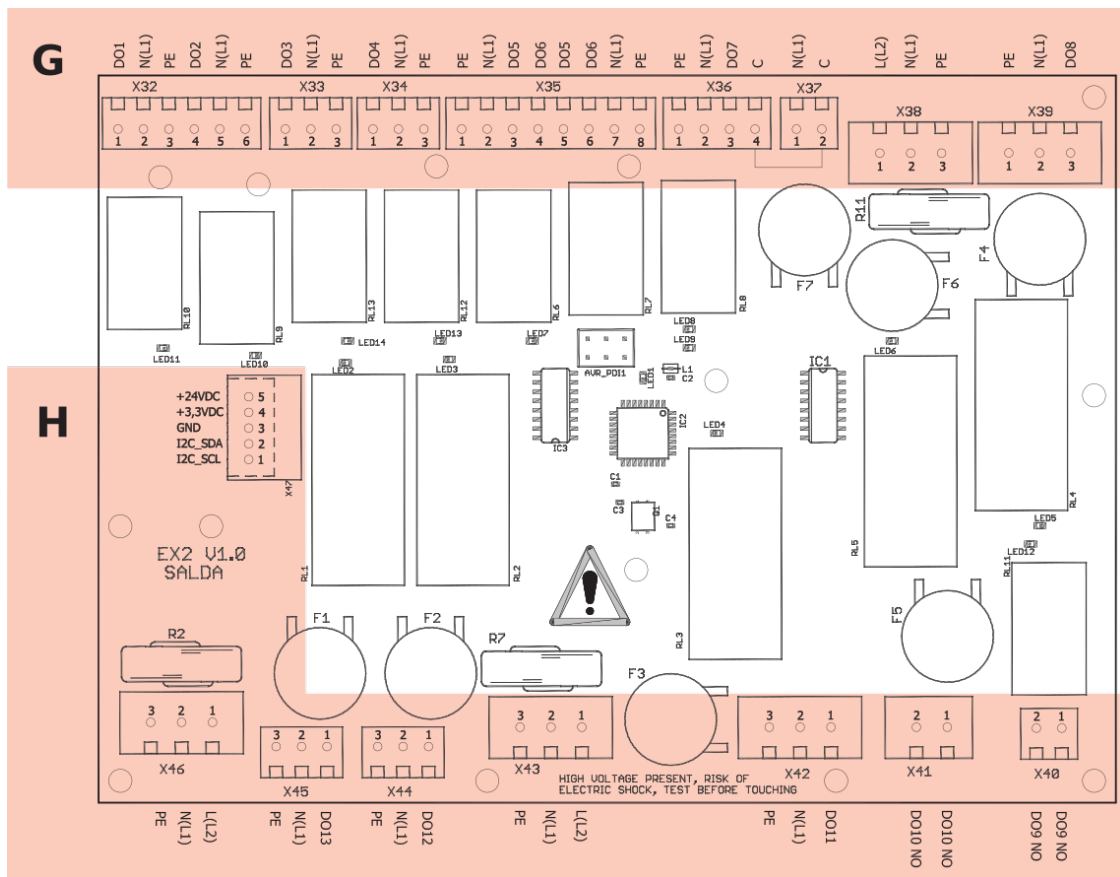


D			
Connector	Contact No.	Contact name	Functional block name
MCB			
X20	1	+24VDC	24VDC Power supply for water preheater actuator
	2	GND	
	3	PE	
	4	+24VDC	24VDC Power supply for water cooler actuator
	5	GND	
	6	PE	
X21	1	DI1	Electric Preheater automatic protection (NC) / DX cooler deicing
	2	+12VDC	
	3	DI2	Electric Preheater manual protection (NC)
	4	+12VDC	
	5	DI3	System mode switch (Start/Stop)
	6	+12VDC	
	7	DI4	Fans speed switch (Boost)
	8	+12VDC	
X22	1	DI5	DX cooler failure (NC)
	2	+12VDC	
	3	DI6	Supply air filter pressure switch (NO)
	4	+12VDC	
	5	DI7	Extract air filter pressure switch (NO)
	6	+12VDC	
	5	DI8	Fire place protection (NC)
	6	+12VDC	
X23	1	DI9	Fire damper opened (NC)
	2	+12VDC	
	3	DI10	Fire damper closed (NC)
	4	+12VDC	
	5	DI11	Recirculation damper closed (NC)
	6	+12VDC	
X24	1	GND	Electric/Water preheater control (0-10VDC) (output 0-10VDC)
	2	AO1(0-10VDC)	
	3	GND	DX cooler control (output 0-10VDC)
	4	AO2(0-10VDC)	
	5	GND	Water cooler control (output 0-10VDC)
	6	AO3(0-10VDC)	
X25	1	PE	Recirculation actuator control (output 0-10VDC) (išvestis 0-10VDC)
	2	GND	
	3	AO4(0-10VDC)	
	4	GND	Rotor control / By-pass actuator control (output 0-10VDC)
	5	AO5(0-10VDC)	
E			
Connector	Contact No.	Contact name	Functional block name
EX1			
X26	1	+24VDC	Recirculation step motor control
	2	STEP_A	
	3	STEP_A/	
	4	STEP_B	
	5	STEP_B/	
	6	+24VDC	
X27	1	IND_1	Working indication output (START). 24VDC; max 50mA, 1.2W.
	2	+24VDC	
	3	IND_2	Alarm indication output (STOP). 24VDC; max 50mA, 1.2W.
	4	+24VDC	

F			
Connector	Contact No.	Contact name	Dunctional block name
EX1			
X28	1	GND	Supply/Extract air co ₂ /RH (input 0-10VDC)
	2	AI1 (0-10V)	
	3	GND	Supply/Extract air co ₂ /RH (input 0-10VDC)
	4	AI2 (0-10V)	
	5	GND	Reserved (input 0-10VDC)
	6	AI3 (0-10V)	
X29	1	GND	Water cooler temperature sensor
	2	AI4 (NTC)	
	3	GND	Hydraulic preheater water temperature
	4	AI5 (NTC)	
X30	1	+24VDC	24VDC Power supply for Air quality transmitter I
	2	GND	
	3	PE	
	4	+24VDC	24VDC Power supply for Air quality transmitter II
	5	GND	
	6	PE	
U3		SUP_PRESS	Current supply air flow pressure (Pa)
U4		EXT_PRESS	Current extract air flow pressure (Pa)

Arrangement of controller connections in EX2





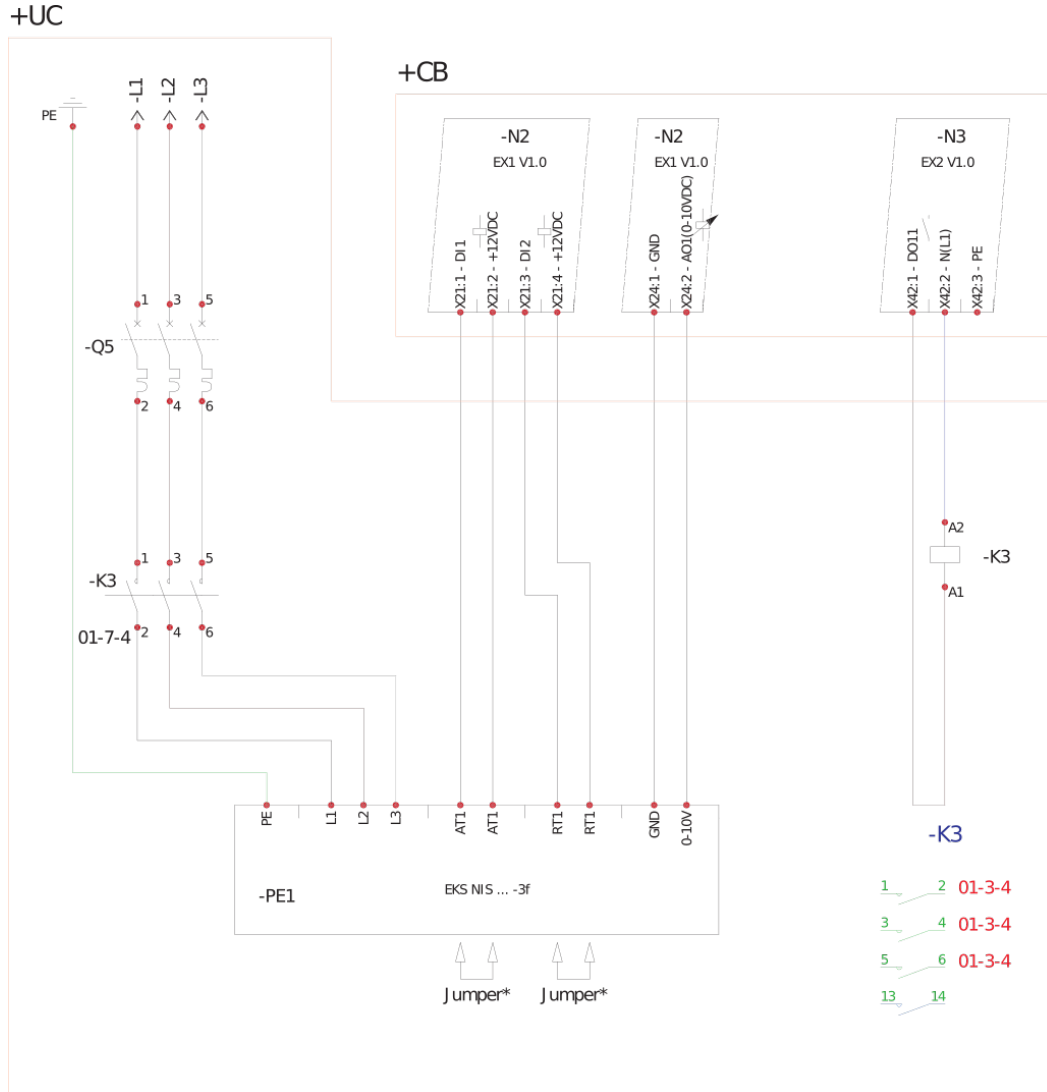
G			
Connector	Contact No.	Contact name	Dunctional block name
EX2			
X32	1	DO1	Power supply for Fire damper actuator 1, max 100 mA
	2	N(L1)	
	3	PE	
	4	DO2	Power supply for Fire damper actuator 2, max 100 mA
	5	N(L1)	
	6	PE	
X33	1	DO3	Water cooler circulation pump
	2	N(L1)	
	3	PE	
X34	1	DO4	Control box heater control or Control box ventilation fan control
	2	N(L1)	
	3	PE	
X35	1	PE	Supply/extract air damper control DO5 (Open) DO6 (Close)
	2	N(L1)	
	3	DO5	
	4	DO6	
	5	DO5	
	6	DO6	
	7	N(L1)	
	8	PE	

X36	1	PE	Rotor motor control
	2	N(L1)	
	3	DO7	
	4	C - capacitor	
X37	1	N(L1)	
	2	C - capacitor	
X38	1	N(L2)	230VAC Power supply for X32, X33, X34, X35, X36 and X39
	2	N(L1)	
	3	PE	
X39	1	PE	Electric/Water Heater power line/circulation pump
	2	N(L1)	
	3	DO8	
H			
Connector	Contact No.	Contact name	Dunctional block name
EX2			
X40	1	DO9 NO	DX cooler reverse (NO-cooling; NC-heating)
	2	DO9 NO	
X41	1	DO10 NO	DX cooler power line
	2	DO10 NO	
X42	1	DO11	Preheater power line/circulation pump
	2	N(L1)	
	3	PE	
X43	1	L (L2)	230VAC Power supply for X42
	2	N (L1)	
	3	PE	
X44	1	DO12	Extract fans power line (IV vent. Max 3,5 A)
	2	N(L1)	
	3	PE	
X45	1	DO13	Supply fans power line (PV vent. Max 3,5 A)
	2	N(L1)	
	3	PE	
X46	1	N(L2)	230VAC Power supply for X44 and X45
	2	N(L1)	
	3	PE	
X47	1	+24VDC	Connection with MCB-X7
	2	+3,3VDC	
	3	GND	
	4	I2C_SDA	
	5	I2C_SCL	

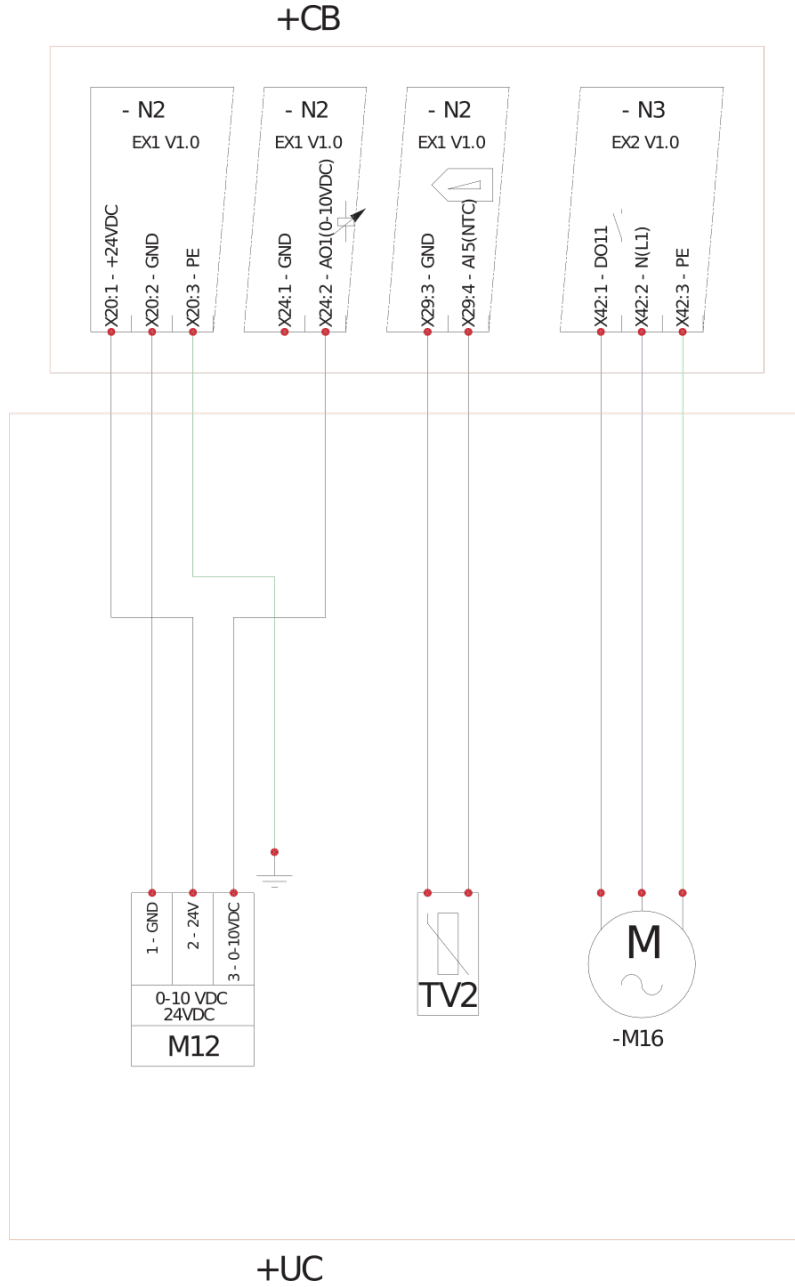
Abbreviation in electrical circuit diagrams

Abbreviation	Explanation
CB	Control board
UC	Components to be connected by the user
N1	MCB control board
N2	EX1 control board
N3	EX2 control board
Q5	Electrical pre-heater power supply circuit breaker
K3	Electrical pre-heater contact
PE1	Electric pre-heater
A1	Fire alarm damper actuator I (supply air)
A2	Fire alarm damper actuator I (exhaust air)
K5	Fire alarm damper I open
K6	Fire alarm damper I closed
K7	Fire alarm damper II open
K8	Fire alarm damper II closed
M2	Supply air damper
M3	Exhaust air damper
FA	Fire alarm
FPP	Fireplace protection
START	Operation indicator
START	Warning indicator
System mode switch	System mode switch (START/STOP)
Fan speed switch	Fan speed switch (BOOST)
M4	Water heater circulation pump
M6	Water heating indicator output 0-10VDC
T1	Water heater protection thermostat
T2	Cooling switching thermostat
TV	Water heater temperature sensor
M12	Water heater control output 0-10VDC
TV2	Water heater temperature sensor
M16	Water heater circulation pump
TV3	Water cooler temperature sensor
M13	Water cooler control output 0-10VDC
M14	Water cooler circulation pump
M15	DX cooler control output 0-10VDC
K4	DX cooler error
X40 [1:2]	DX cooler reserve mode (NO - cooling / NC - heating)
X41 [1:2]	DX cooler power supply
Transmitter1	Exhaust air RH sensor
Transmitter2	Exhaust air CO ₂ sensor

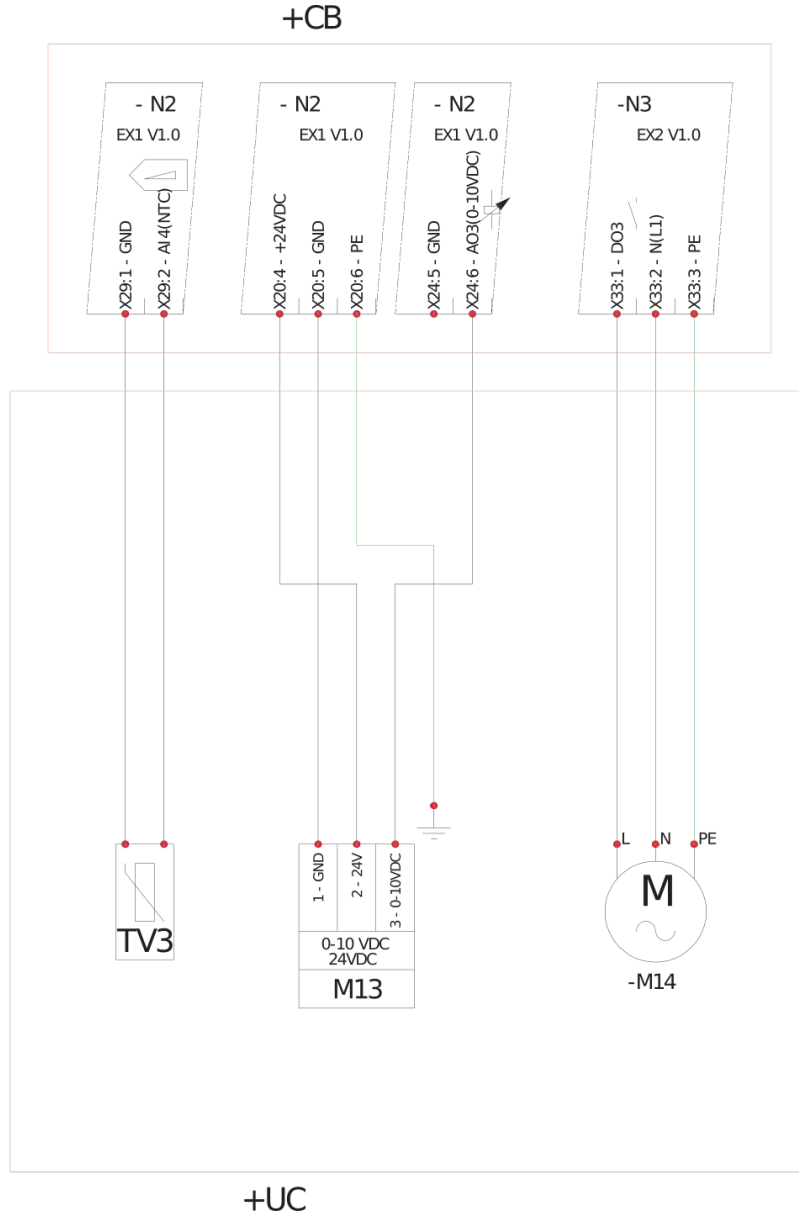
Electrical external pre-heater



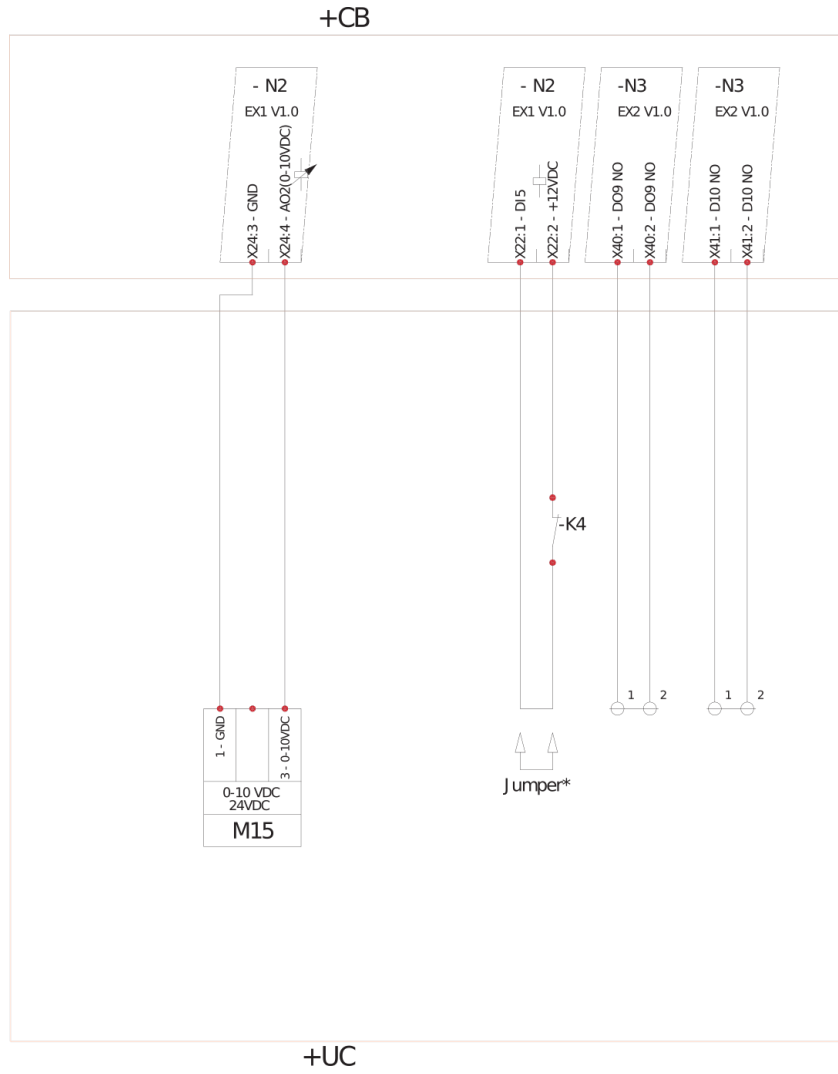
External water pre-heater



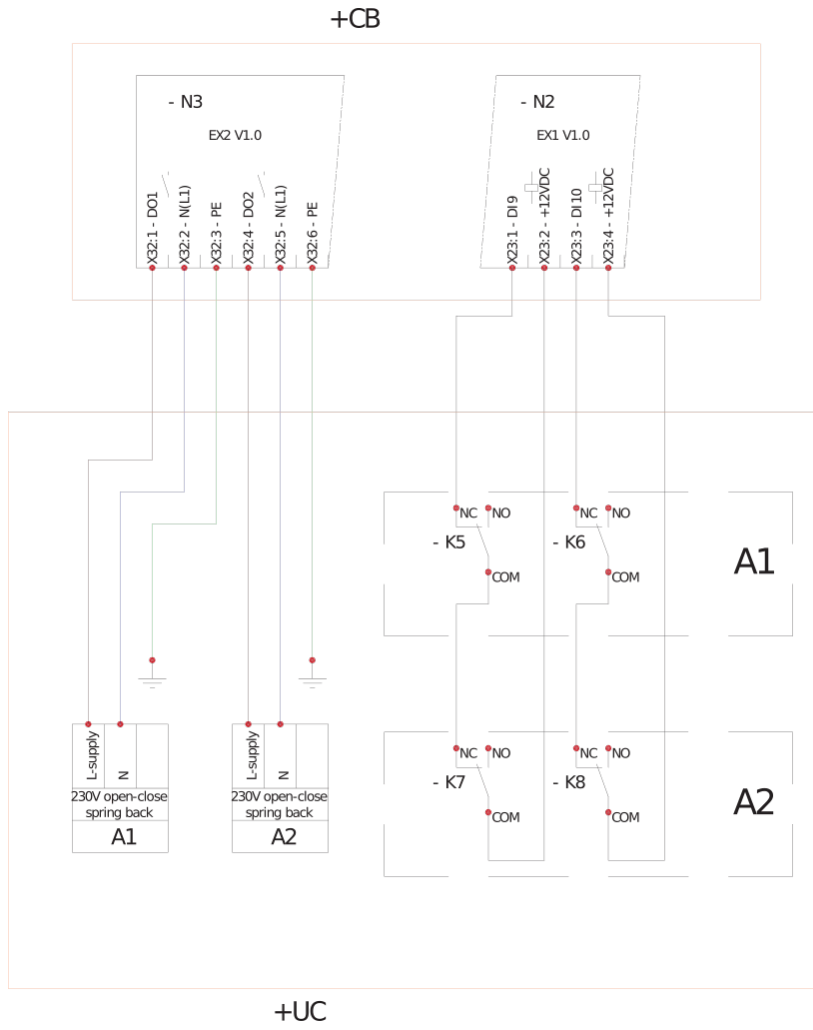
External water cooler



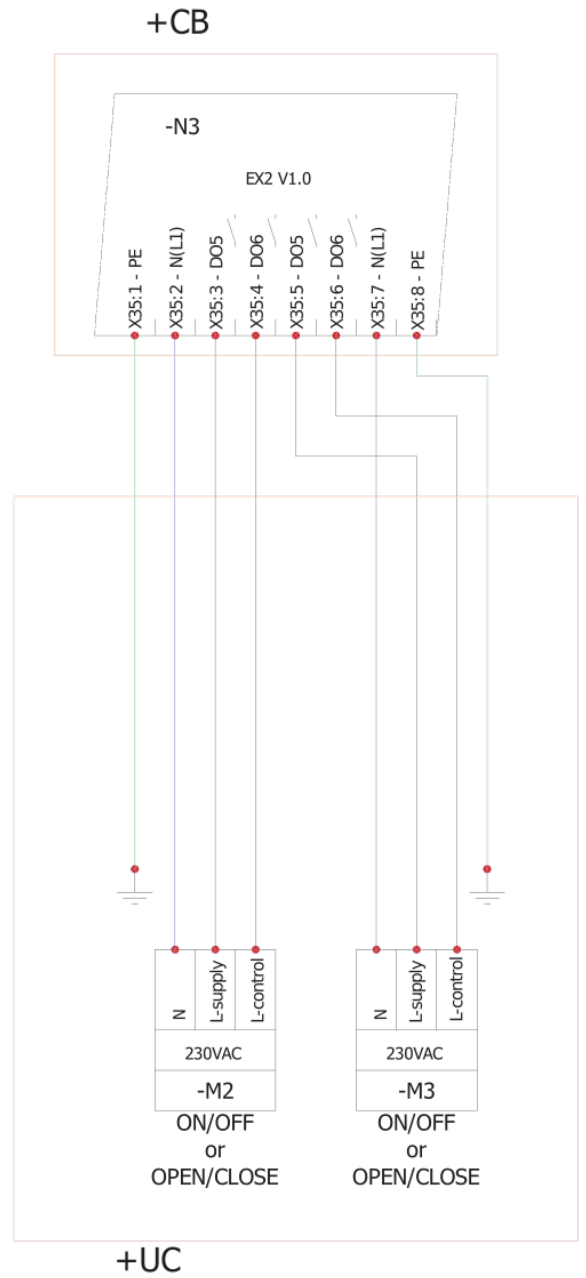
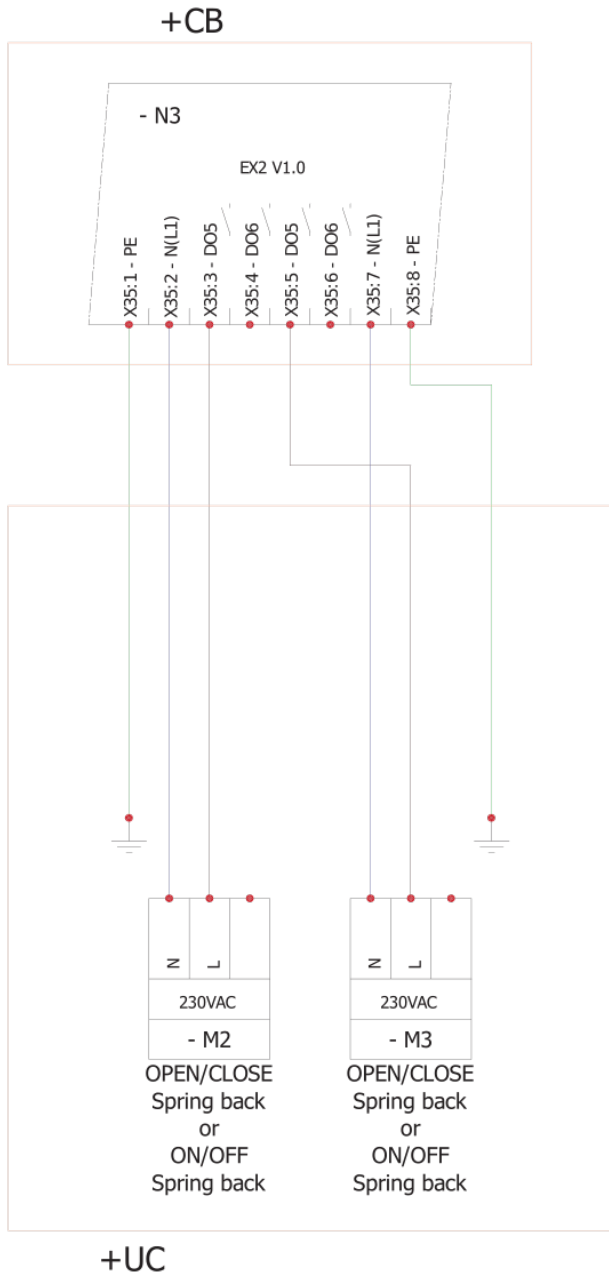
External DX cooler



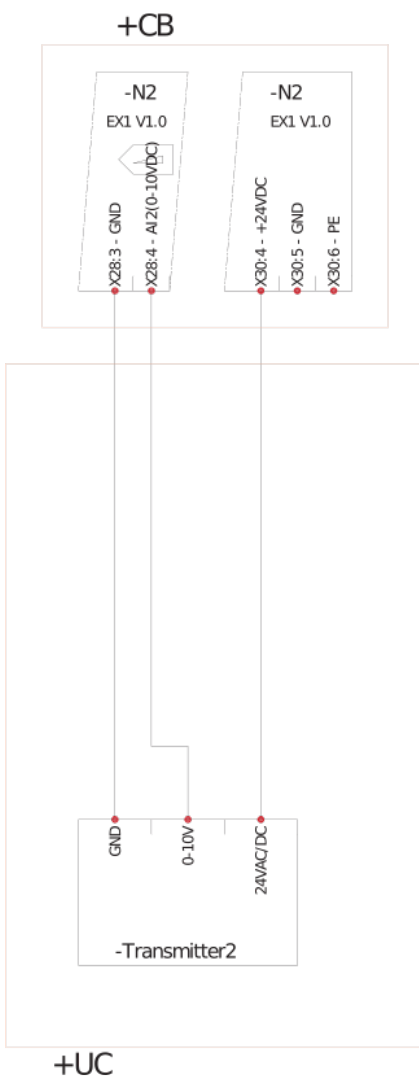
Fire protection connection



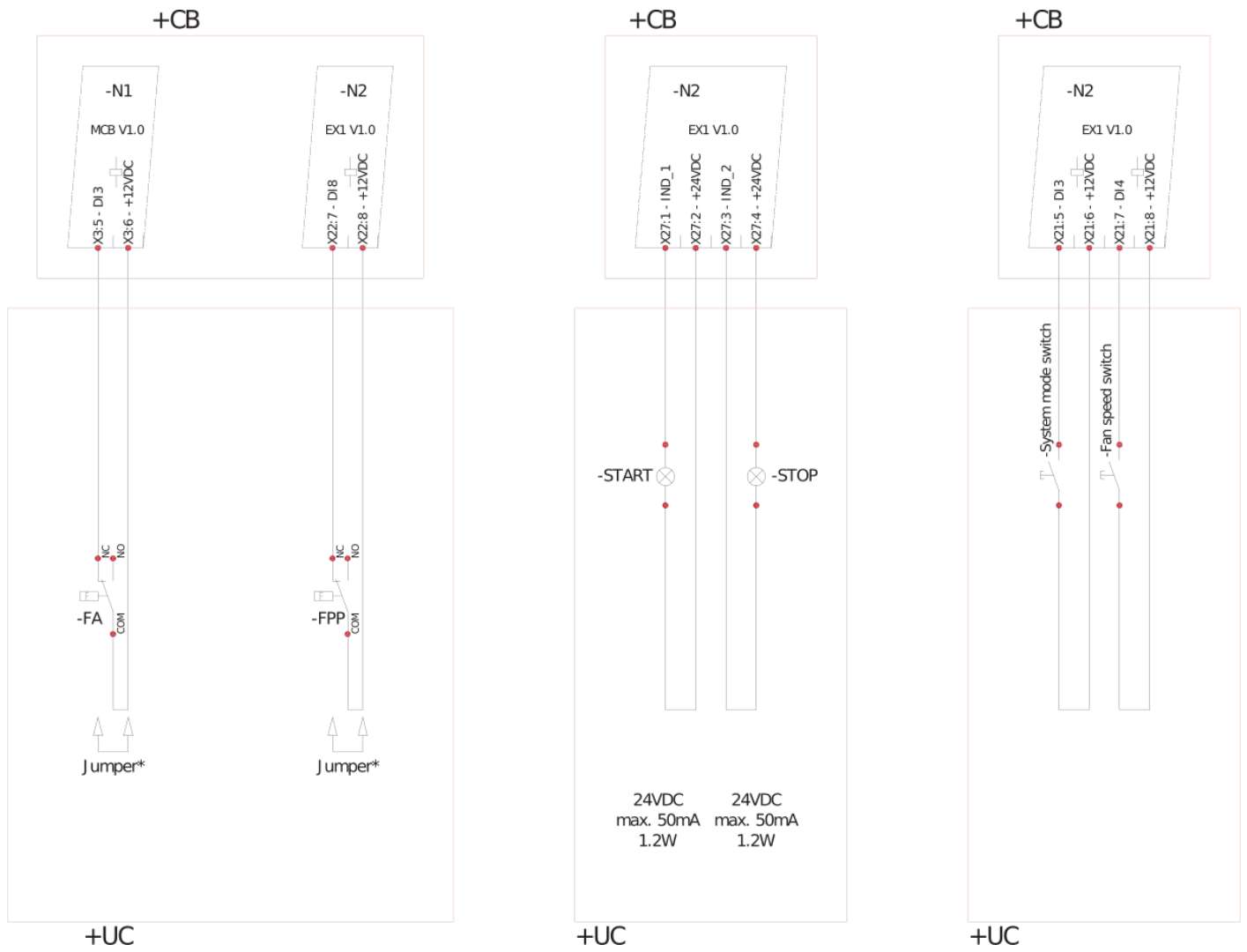
Motorised air dampers



CO₂ arba RH sensors



Unit status indication / mode change / fire alarm inlet / fireplace function input



*The jumpers are installed by the manufacturer (see on the automatics switchboard).

*All the external electrical connections must be made in accordance with effective legal acts and safety requirements.

*The configuration and control of accessories is presented in the section "Functions" of this Certificate.

Connection of the unit to electric network

- Supply voltage to the unit must be connected by a qualified specialist following the manufacturer's instructions and effective safety instructions.
 - The unit's power network voltage must correspond to electrotechnical parameters of the unit indicated in the technical decal.
 - The unit's voltage, power and other technical parameters 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 compliance with the effective requirements.
 - The unit must be earthed according to the rules on installing electrical equipment.
 - It is prohibited to use extension wires (cables) and power network plug socket distribution devices.
- Prior to carrying out any ventilation unit installation and connection activities (until its hand-over to the customer), 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 is performed through the two-pole circuit breaker (by disconnecting phase pole and neutral).
 - The unit must be thoroughly checked against damages (execution, control, measurement nodes) during transportation before it is connected to the power network.
 - The power cable can be replaced only by a qualified specialist upon the evaluation of the rated power and current.



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

Start-up recommendations

System protection

The control automatics of the unit have integrated protection against a short circuit of those assemblies. The controllers have the following protectors:

MCB

F1, F2 - 1A(5x20) MCB protection;

EX2

to change depending on the product



To ensure safe maintenance of the unit, it is necessary to remove the plug from the power network.

Recommendations before the start of the unit (before the final user)

Prior to start-up the system must be thoroughly cleaned. Check whether:

- 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 MCB, EX1, EX2 terminal blocks,
- cable connection to MCB, EX1, EX2 terminal blocks comply with the existing power connection diagrams,
- all electrical equipment protection elements are properly connected (if they are additionally used),
- cables and wires correspond to all applicable safety and functional requirements, diameters, etc.,
- earthing and protection systems are properly installed,
- condition of all seals and sealing surfaces is proper.

Possible faults and troubleshooting

Failure	Cause	Explanation / corrective actions
Unit is not operating	No supply voltage	Check whether the device is connected to the plug socket
	Two-pole protection device is off or a current leakage relay is active (if installed by the installer)	Switch on only if the unit condition has been evaluated by a qualified electrician. If the system failed, the failure MUST BE rectified prior to switching it on.
Air supply heater or pre-heater is not operating or malfunctioning (if installed)	Too low air flow in air ducts activates automatic protection	Check if air filters are not clogged Check if fans are rotating
	Manual protection is activated	Possible heater or unit failure. MUST address the servicing staff for failure detection and its elimination.
Too low air flow at rated fan speed	Clogged supply and/or extract air filter(s)	Filter replacement needed
Filters are clogged and no message is shown on the remote control	Wrong time in filter timers or their switch is broken, or its pressure is set improperly.	Shorten filter timer time till the message of clogged filters or replace the pressure switch of the filters, or set their proper pressure.

Improvements and changes to this manual necessitated by typographical errors, inaccuracies of current information, or improvements to programs and/or equipment, may be made by the manufacturer at any time and without notice. Such changes will, however, be incorporated into new editions of this manual. All illustrations are for illustrative purposes only and may not accurately depict the actual device.



Declaration of conformity

Manufacturer:

SALDA UAB
Ragainės g. 100
LT-78109 Šiauliai, Lithuania
Tel.: +370 41 540415
www.salda.lt

Hereby confirms that the following products - Air handling units:

AmberAir Compact SD50+*; AmberAir Compact CD50*

(where by „*“ indicates possible unit design size and modification)

Provided it was delivered and installed in the facility in accordance with the included installation instructions, comply with all applicable requirements in the following directives:

Machinery Directive 2006/42/EC
EMC Directive 2014/30/EU
Ecodesign Directive 2009/125/EC

The following harmonized standards are applied in applicable parts:

LST EN ISO 12100:2011 - Safety of machinery - General principles for design - Risk assessment and risk reduction.
LST EN 60204-1:2006 - Safety of machinery - Electrical equipment of machines - Part 1: General requirements.
LST EN 60335-1:2012 - Household and similar electrical appliances. Safety. Part 1: General requirements.
LST EN 60529:1999 - Degrees of protection provided by enclosures (IP code).
LST EN 61000-6-2:2005 - Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
LST EN 61000-6-3:2007 - Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.

Should any alterations be made in the products, this declaration will no longer apply.

Notified body: VšĮ Technikos priežiūros tarnyba, Naugarduko g. 41, LT - 03227 Vilnius, Lithuania, identification number 1399.

Quality: Salda UAB activities are in line with the international quality management system standard ISO 9001:2015.

Data 2017-02-07

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned above the name of the signatory.

Darius Buožinis
Director product development

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Notes

Lined area for notes with horizontal ruling lines.