



## AMBERAIR COMPACT CX H

EN MOUNTING AND INSTALLATION INSTRUCTION



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## 2. SYMBOLS AND MARKING



**Warning – pay attention**



**Additional information**

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.



Fig. 2.1 Technical label

1 - Logo; 2 - Product code (SKU); 3 - Product name; 4 - Technical data; 5 - Production place; 6 - Batch number and production date; 7 - Serial number.



Fig. 2.2 Indication for duct connection.

ODA - outdoor air; SUP - supply air; ETA - extract air; EHA - exhaust air.



Units tested and produced according to EC directives



AmberAir Compact range is Eurovent certified product



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.

### 3. 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

##### Danger



- Before performing any electrical 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 accessed 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 connect the device into the mains, that differs from that indicated on the label or on the housing, or in technical documentation.
- Voltage of the mains should comply with the electrotechnical parameters indicated on the label, or in technical documentation.
- 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*.

##### Warnings



- 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.

##### Warning!



- 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.

##### Before starting the equipment



- 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.

##### Danger: Fumes



*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, fireplaces, 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).

## 4. INFORMATION ABOUT THE PRODUCT

### 4.1. DESCRIPTION

AmberAir Compact CX H include the following model options:

*Model:* CX H

*Model box:* SD50+ (T2TB1), SD50 (T3 TB4), MD50+(T3 TB1), MD50(T3 TB4).

*Heating electric coil:* EL1 (low power), EL2 (medium power), EL3 (high power).

*Heating water coil:* HW1 (low power), HW2 (medium power), HW3 (high power, only for vertical), HW4 (extra high power only for vertical).

*Right or left models:* R (Right) L (Left). The side where the supply air is located when viewed from the access side.

*Fan (plastic/metal impellers):* F1 (low power), F2 (medium power), F3 (high power), F4 (extra high power).

*Rotor:* C (Condensation), E (Hygroscopic), S (Sorption).

*Cooling water coil:* HW1 (low power), HW2 (medium power). More power capacity available with accessories.

*Control type:* C1 MCB, C2 Pre-wiring.

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

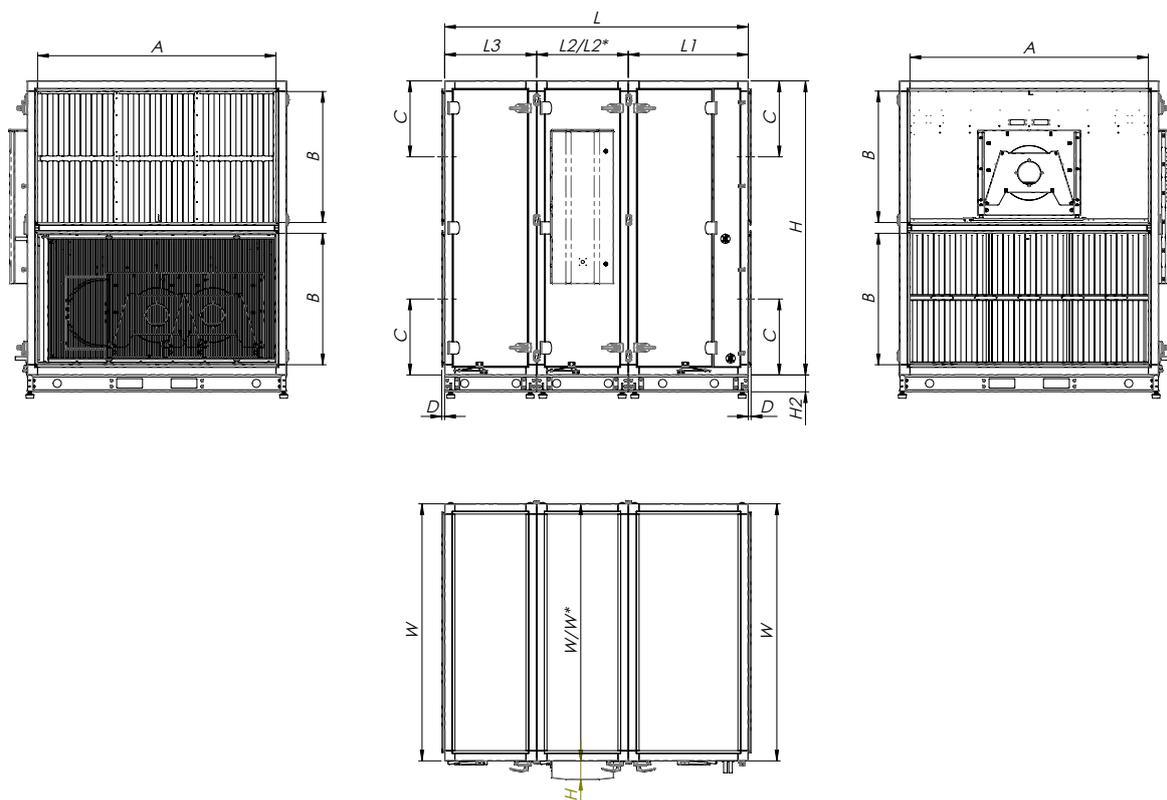
PARAMETER	VALUE	VALUE	VALUE
Model size			
Heat exchange type			
Installation type			
Service side			
Fan type			
Integrated heater/cooler			
Control type			
Filter type			
Installation version			
Rotor drive			

Thank you for purchasing the devices of our company!



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

### 4.2. DIMENSIONS AND WEIGHT



AMBERAIR COMPACT	L	L1	L2	L3	W	H	L4	W1	H1	H2	A	B	Weight
	[mm]	[kg]											
1 CX H	1796	-	-	-	850	950	550	624	120	130	700	395,5	222
2 CX H	2195	-	-	-	860	1210	550	624	120	130	707	489,5	272
3 CX H	2350	-	-	-	895	1285	550	624	120	130	743	526,5	325
4 CX H	2350	-	-	-	1220	1285	550	721	114	130	1070	526,5	380
5 CX H	2350	-	-	-	1290	1285	550	721	114	130	1139	526,5	428
6 CX H	3147	685	1540	965	1596	1550	550	624	120	140	1445	659,5	762
7 CX H	3215	720	1540	1000	1961	1550	550	624	120	140	1810	659,5	890

### 4.3. TECHNICAL DATA

#### ELECTRICAL DATA

Model	Fans power, [kW]	Fans current, [A]	Fans phase/voltage, [?/V]	Heat power, [kW]	Heat current, [A]	Heater phase/voltage, [?/V]	Total power and current, [kW/A]
1 CXH F1 E1	0,76	3,3	1~ / 230	2	8,7	1~ / 230	3,26 / 14,17
1 CXH F1 E2	0,76	3,3	1~ / 230	3	13,04	1~ / 230	4,26 / 18,51
1 CXH F1 E3	0,76	3,3	1~ / 230	2	8,7	2~ / 230	3,26 / 14,17
1 CXH F1 E4	0,76	3,3	1~ / 230	3	13,04	2~ / 230	4,26 / 18,51
1 CXH F1 W	0,76	3,3	1~ / 230	-	-	-	1,26 / 5,47
1 CXH F2 E1	0,94	4,08	1~ / 230	2	8,7	1~ / 230	3,44 / 14,95
1 CXH F2 E2	0,94	4,08	1~ / 230	3	13,04	1~ / 230	4,44 / 19,29
1 CXH F2 E3	0,94	4,08	1~ / 230	2	8,7	2~ / 230	3,44 / 14,95
1 CXH F2 E4	0,94	4,08	1~ / 230	3	13,04	2~ / 230	4,44 / 19,29
1 CXH F2 W	0,94	4,08	1~ / 230	-	-	-	1,44 / 6,25
2 CXH F1,F3 E1	0,94	4,08	1~ / 230	3	13,04	1~ / 230	4,44 / 19,29
2 CXH F1,F3 E2	0,94	4,08	1~ / 230	3,6	15,65	1~ / 230	5,04 / 21,9
2 CXH F1,F3 E3	0,94	4,08	1~ / 230	3	13,04	2~ / 230	4,44 / 19,29
2 CXH F1,F3 E4	0,94	4,08	1~ / 230	3,6	15,65	2~ / 230	5,04 / 21,9
2 CXH F1,F3 W	0,94	4,08	1~ / 230	-	-	-	1,44 / 6,25
2 CXH F2,F4 E1	1,43	6,2	1~ / 230	3	13,04	1~ / 230	4,93 / 21,41
2 CXH F2,F4 E2	1,43	6,2	1~ / 230	3,6	15,65	1~ / 230	5,53 / 24,02
2 CXH F2,F4 E3	1,43	6,2	1~ / 230	3	13,04	2~ / 230	4,93 / 21,41
2 CXH F2,F4 E4	1,43	6,2	1~ / 230	3,6	15,65	2~ / 230	5,53 / 24,02
2 CXH F2,F4 W	1,43	6,2	1~ / 230	-	-	-	1,93 / 8,37
3 CXH F1,F3 E1	1,43	6,2	1~ / 230	3,6	5,2	3~ / 400	5,53 / 13,57
3 CXH F1,F3 E2	1,43	6,2	1~ / 230	6	8,67	3~ / 400	7,93 / 17,04
3 CXH F1,F3 E3	1,43	6,2	1~ / 230	3,6	9,05	3~ / 230	5,53 / 17,42
3 CXH F1,F3 E4	1,43	6,2	1~ / 230	6	15,08	3~ / 230	7,93 / 23,45
3 CXH F1,F3 W	1,43	6,2	1~ / 230	-	-	-	1,93 / 8,37
3 CXH F2,F4 E1	2,56	11,2	1~ / 230	3,6	5,2	3~ / 400	6,66 / 18,57
3 CXH F2,F4 E2	2,56	11,2	1~ / 230	6	8,67	3~ / 400	9,06 / 22,04
3 CXH F2,F4 E3	2,56	11,2	1~ / 230	3,6	9,05	3~ / 230	6,66 / 22,42
3 CXH F2,F4 E4	2,56	11,2	1~ / 230	6	15,08	3~ / 230	9,06 / 28,45
3 CXH F2,F4 W	2,56	11,2	1~ / 230	-	-	-	3,06 / 13,37
4 CXH F1,F3 E1	2,56	11,2	1~ / 230	6	8,67	3~ / 400	9,06 / 22,04
4 CXH F1,F3 E2	2,56	11,2	1~ / 230	7,2	10,4	3~ / 400	10,26 / 23,77
4 CXH F1,F3 E3	2,56	11,2	1~ / 230	6	15,08	3~ / 230	9,06 / 28,45
4 CXH F1,F3 E4	2,56	11,2	1~ / 230	7,2	18,1	3~ / 230	10,26 / 31,47
4 CXH F1,F3 W	2,56	11,2	1~ / 230	-	-	-	3,06 / 13,37
4 CXH F2 E1	3,8	5,86	3~ / 400	6	8,67	3~ / 400	10,3 / 16,7



\* - according to ISO 16890.

#### 4.4. 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	-23/+40 °C
Outdoor air temperature limits with a selected pre-heater on an air duct	-40/+40 °C
Outdoor air max humidity	90 %
Temperature limits of an extracted air	+15 / +40 °C
Extract air max humidity	60 %
Room temperature for installing the unit	0 / +40 °C

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.

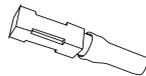
In case of failure to comply with the requirements set out above, the manufacturer shall have the right not to refute the warranty in respect of the occurrence of moisture/water in damaged components.

#### 4.5. STANDARD PACKAGE OF COMPONENTS

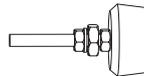
Standard package (without optional accessories) includes:



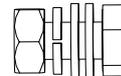
Supply air temperature sensor TJ  
1 pcs.



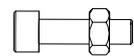
Water temperature sensor for water heater TV1  
1 pcs. (water version only)



Anti-vibration pad  
6 pcs. (Compact 1-5 CH H)  
14 pcs. (Compact 6-7 CH H)

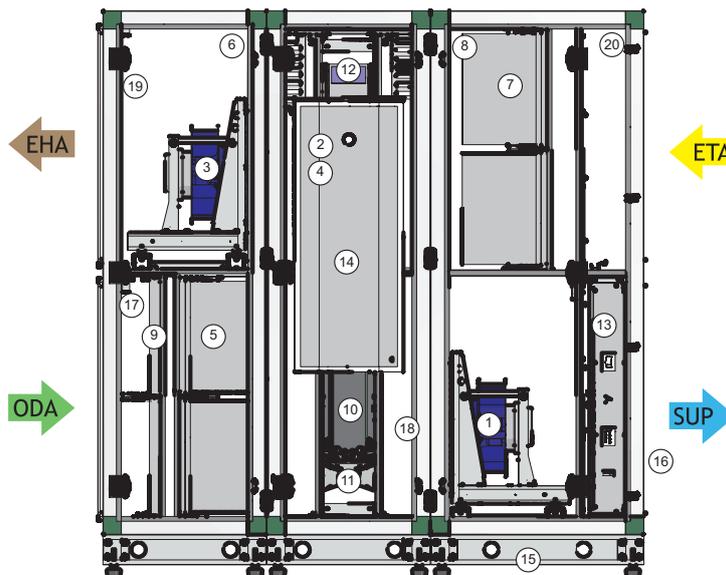


Set of bolts for pad connection  
8 pcs. (Compact 6-7 CH H)



Set of bolts and nuts for sections connection  
12 pcs. (Compact 6-7 CH H)

#### 4.6. DESCRIPTION OF COMPONENTS



1 - supply air fan; 2 - supply air fan pressure sensor (on control board); 3 - extract air fan; 4 - extract air fan pressure sensor (on control board); 5 - supply air filter; 6 - supply air filter filter pressure sensor; 7 - extract air filter; 8 - extract air filter pressure sensor; 9 - supply air prefilter; 10 - heat exchanger; 11 - heat exchanger motor; 12 - heat exchanger motor driver; 13 - heater/cooler - electrical/water (water cooler only on horizontal supply chanel); 14 - control box; 15 - mounting base; 16 - supply air temperature sensor; 17 - outdoor air temperature sensor; 18 - after rotor temperatre sensor; 19 - exhaust air temperatrate sensor; 20 - extract air temperature and humidity sensor DTJ.

## 5. INSTALATION

### 5.1. RECEPTION OF GOODS

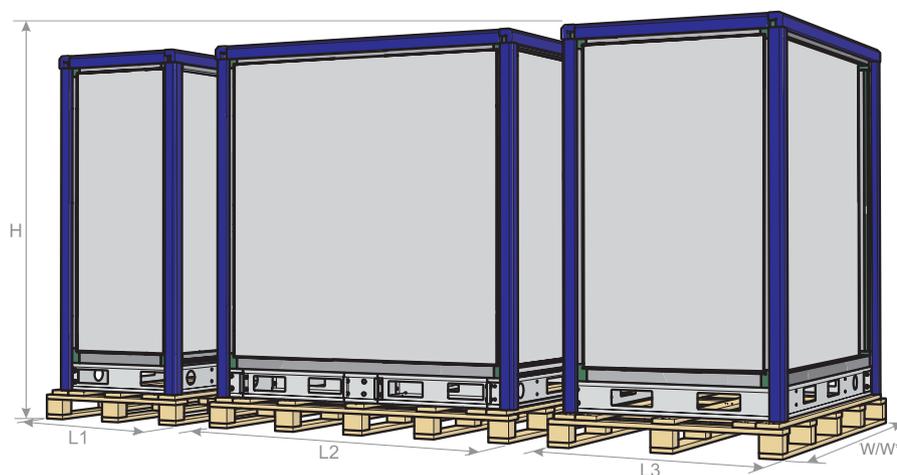
Each device is thoroughly checked before transportation. While receiving goods it is recommended to check whether devices were not damaged during transportation. If a damage to the device is noticed, immediately address the representatives of a transport company. Please inform a representative of the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

### 5.2. RANSPORTATION AND STORAGE

- All units are packed in the factory to withstand regular conditions of transportation.
- The package is only for protection purpose!
- When unloading and storing the units, use suitable lifting equipment to avoid damage or injuries. Do not lift units by holding on power supply cables, connection boxes, air extract or exhaust flanges. Avoid impact and shock overloads. Before installation units must be stored in a dry room with the relative air humidity not exceeding 60% (at +20 °C) and with an 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 are lifted from the pallet with a forklift or slings, which are inserted through the supporting legs (four corners).
- AmberAir Compact are lifted from the pallet with a forklift at the recesses at the supporting base, or with slings.



**When lifting with a forklift, protect the condensate drainage pipes. The product is heavy. Exercise caution when transporting and installing.**



Unit	Dimensions, [mm]				
	H	W*	L1	L2	L3
Comapct 1 CX H	1345	1080	2150	-	-
Comapct 2 CX H	1605	1200	2450	-	-
Comapct 3 CX H	1680	1200	2450	-	-
Comapct 4 CX H	1680	1370	2400	-	-
Comapct 5 CX H	1680	1440	2400	-	-
Comapct 6 CX H	1960	1750	800	1600	1050
Comapct 7 CX H	1960	2150	800	1640	1080

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). The condensate pipes must be protected against damage.

The inner legs of the product of AmberAir Compact 1-5 CX H versions are covered with protection to prevent damage of the condensate drainage pipes. Therefore, when lifting with a forklift, the width of the fork must be greater than the condensate protection width.

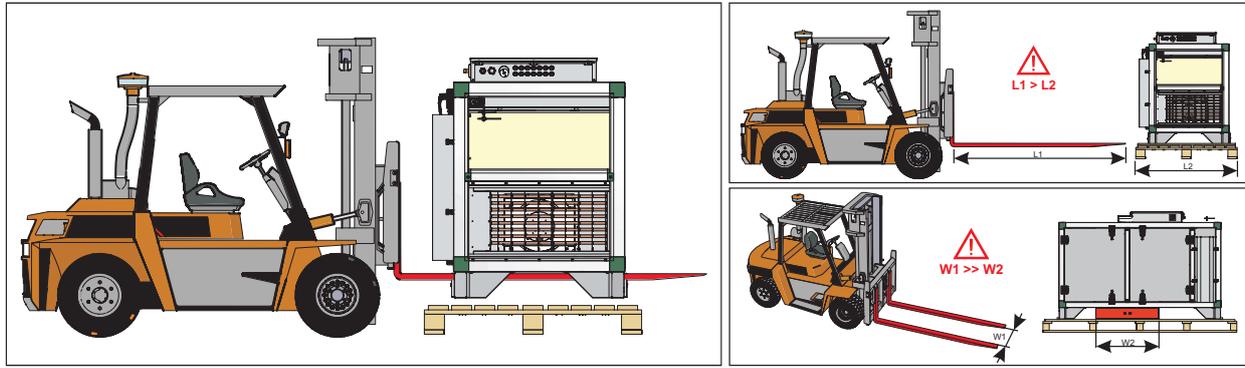


Fig. 5.2.1 AmberAir Compact 1-5 CX H lifting with a forklift

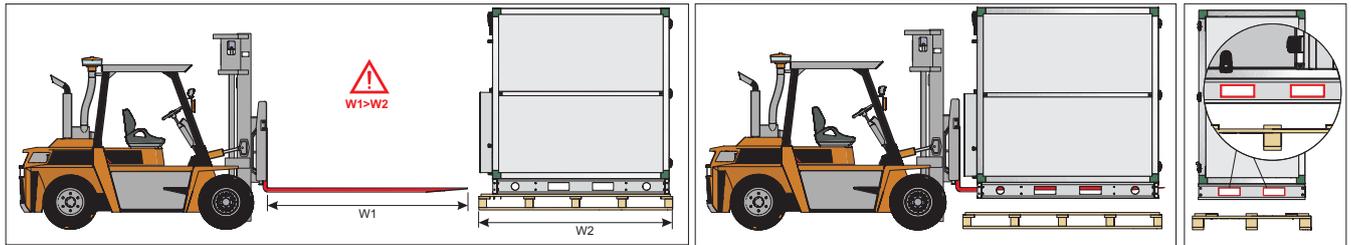


Fig. 5.2.2 AmberAir Compact 6-7 CX H lifting with a forklift

When lifting the product with slings, it is necessary to insert spacers between them in order to prevent damage to the casing of the product.

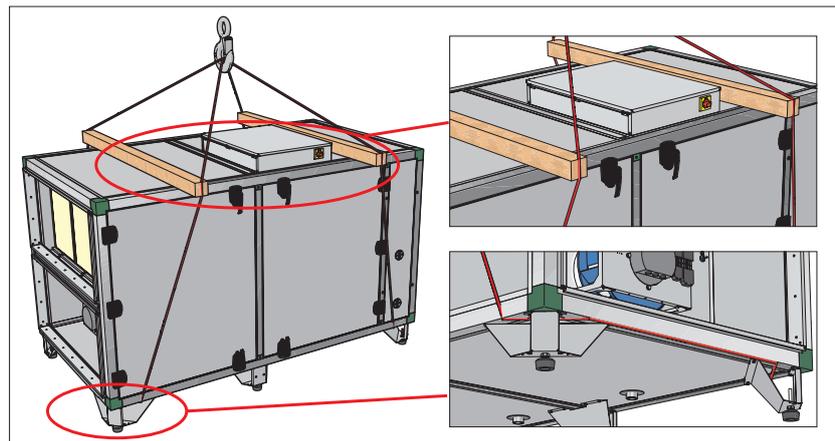


Fig. 5.2.3 AmberAir Compact 1-5 CX H lifting with slings

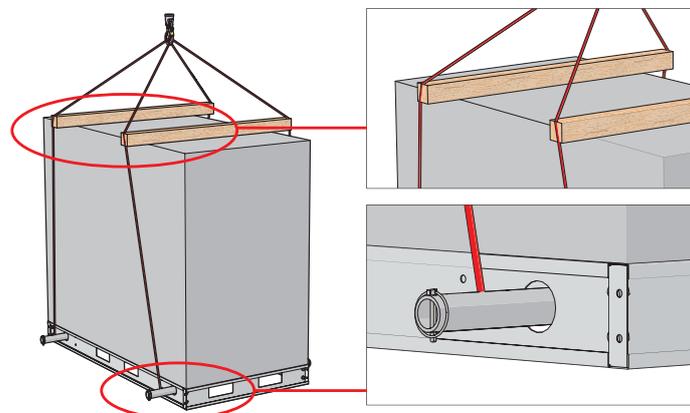


Fig. 5.2.4 AmberAir Compact 6-7 CX H lifting with slings

### 5.3. UNPACKING

- Remove the film from the unit.
- Remove the tightening packaging tapes which keep the protective profiles.

- Remove the protective profiles.
- Unscrew the wood screws which fasten the unit legs to the pallet.
- 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 of sizes 1-5 CX H are lifted from the pallet with a forklift or slings, which are roved through the supporting legs (four corners).
- AmberAir Compact of sizes 6-7 CX H are lifted from the pallet with a forklift at the recesses at the supporting base, or with slings.

 **When lifting with a forklift, protect the condensate drainage pipes.**

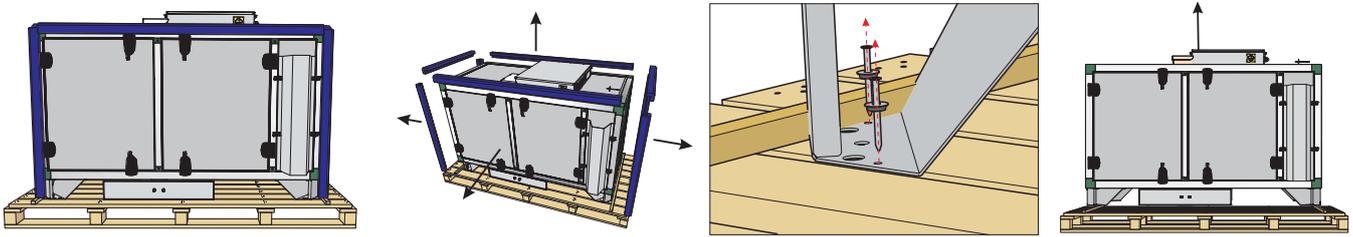


Fig. 5.3.1 AmberAir Compact 1-5 CX H

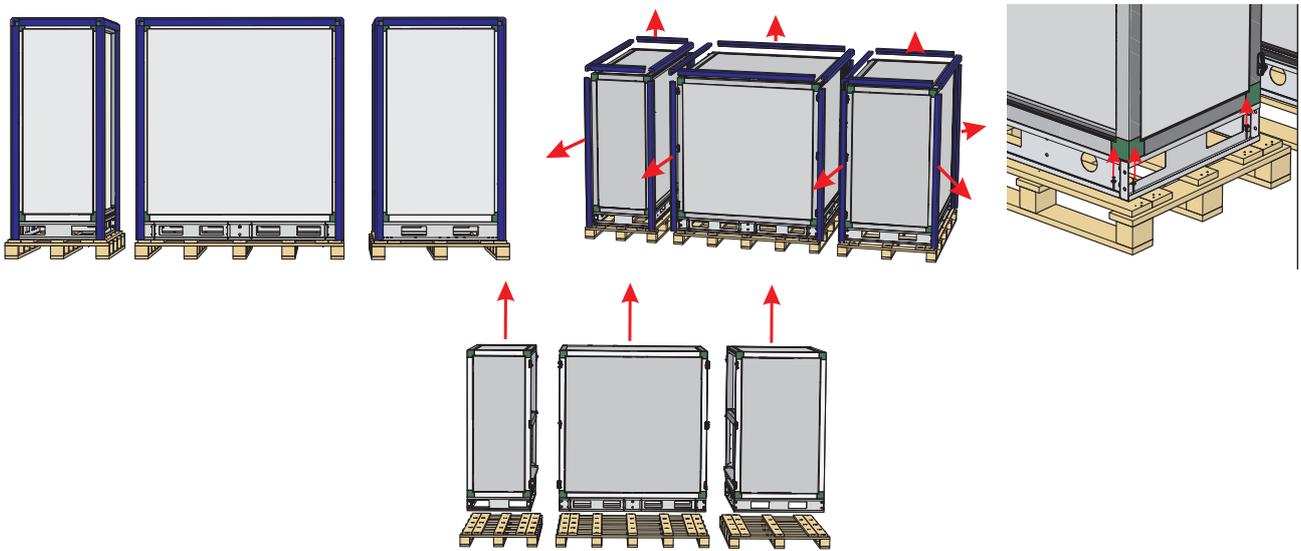


Fig. 5.3.2 AmberAir Compact 6-7 CX H

**5.4. MOUNTING DIAGRAM**

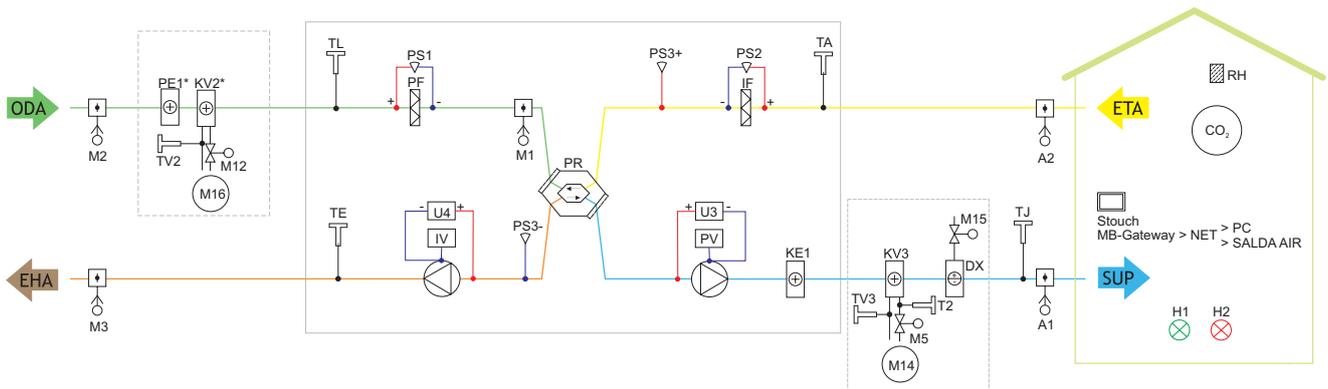


Fig. 5.4.1 Electrical version

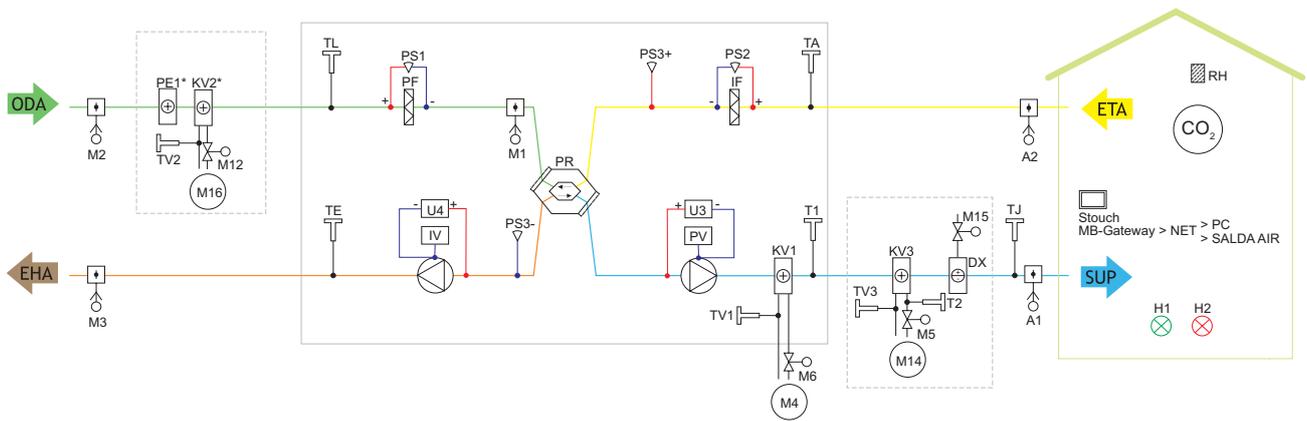


Fig. 5.4.2 Water version

**LIST OF COMPONENTS**

<b>PR</b>	Plate heat exchanger	<b>TJ</b>	Supply air temperature sensor
<b>PV</b>	Supply air fan	<b>TL</b>	Outdoor air temperature sensor
<b>IF</b>	Extract air filter	<b>TE</b>	Exhaust air temperature sensor
<b>PF</b>	Supply air filter	<b>TA</b>	Extract air temperature sensor
<b>IV</b>	Exhaust fan	<b>DTJ</b>	Extract air temperature and RH sensor
<b>KE1</b>	Electric heater	<b>TV1</b>	Water heater temperature sensor
<b>PE1</b>	Electric pre-heater (the electric and water pre-heaters may not be used at the same time)	<b>TV2</b>	Water preheater temperature sensor
<b>KV1</b>	Water heater (the possibility of the heating switch function)	<b>TV3</b>	Water cooler temperature sensor
<b>KV2</b>	Water pre-heater (the electric and water pre-heaters may not be used at the same time)	<b>T1</b>	Water heater thermostat
<b>KV3</b>	Water/DX cooler (the water and DX coolers may not be used at the same time)	<b>T2</b>	Cooler switching thermostat
<b>M1</b>	Actuator by-pass damper	<b>PS1</b>	Supply air filter switch (NO)
<b>M2</b>	Supply air damper actuator	<b>PS2</b>	Extract air filter pressure switch (NO)
<b>M3</b>	Exhaust air damper actuator	<b>PS3</b>	Heat converter pressure switch (NC)
<b>M4</b>	Water heater circulation pump	<b>U3</b>	Supply air fan pressure sensor
<b>M5</b>	Water cooler valve motor	<b>U4</b>	Extract air fan pressure sensor
<b>M6</b>	Water heater valve motor	<b>RH</b>	Relative humidity sensor
<b>M12</b>	Water pre-heater valve motor	<b>CO<sub>2</sub></b>	CO <sub>2</sub> sensor
<b>M14</b>	Water cooler circulation pump	<b>Stouch</b>	Remote control panel
<b>M15</b>	DX cooler valve actuator	<b>SALDA AIR</b>	Mobile application
<b>M16</b>	Water pre-heater circulation pump	<b>MB-Gateway</b>	Network module
<b>A1</b>	Fire alarm damper actuator I	<b>NET</b>	Network
<b>A2</b>	Fire alarm damper actuator II	<b>PC</b>	Computer
	Ventilated premises		

**Possible PCB inputs/outputs**

<b>FA</b>	Fire alarm	<b>H1</b>	Operation indication output
<b>FPP</b>	Fireplace protection	<b>H2</b>	Alarm indication output
System mode switch (START/STOP)		Fans speed switch (BOOST)	

**5.5. 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.**

The product should be slightly lifted and installed on the legs. The lifting methods are shown in the section “Transportation and Storage”. Versions 1-5 of AmberAir Compact have drainage protection, which is removed after installing the legs. The protection is a part intended for transportation only and should not be reinstalled after mounting the drainage.

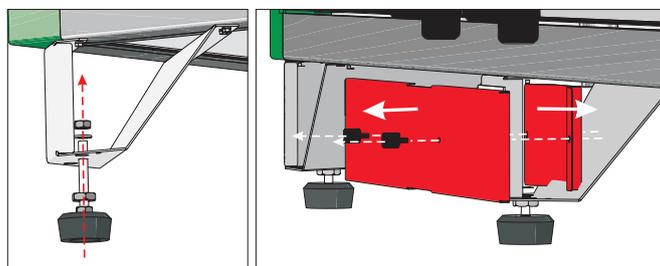


Fig. 5.5.1 AmberAir Compact 1-5 CX H

The products shall be installed on the legs. In order to do so, the unit should be slightly lifted. The hoisting methods are shown in the section “Transportation and Storage”.

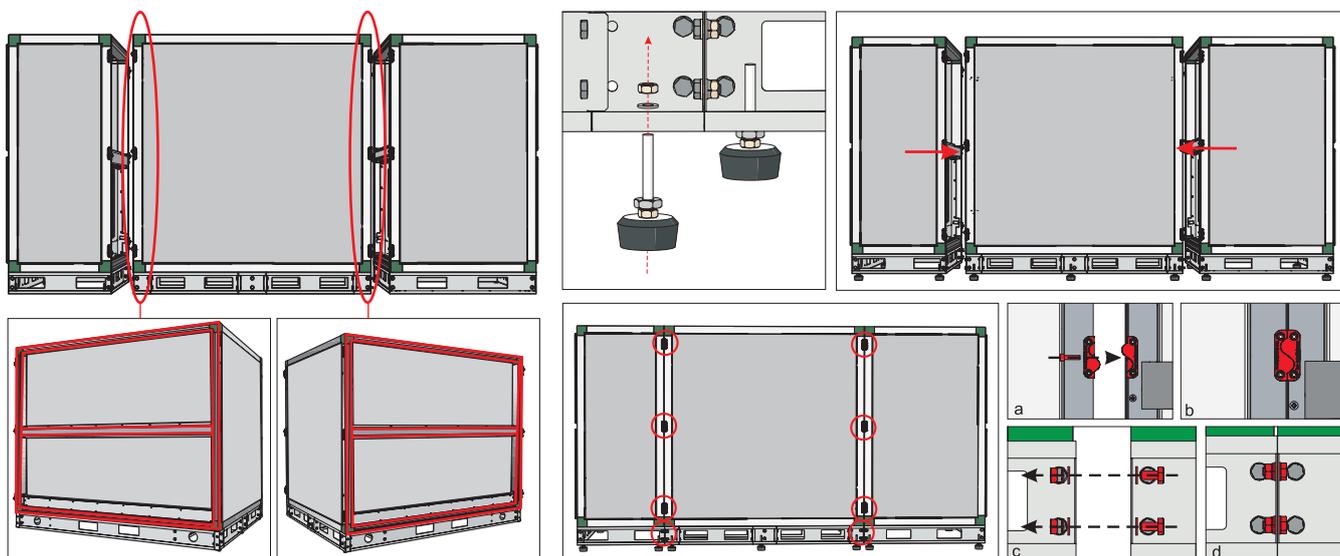
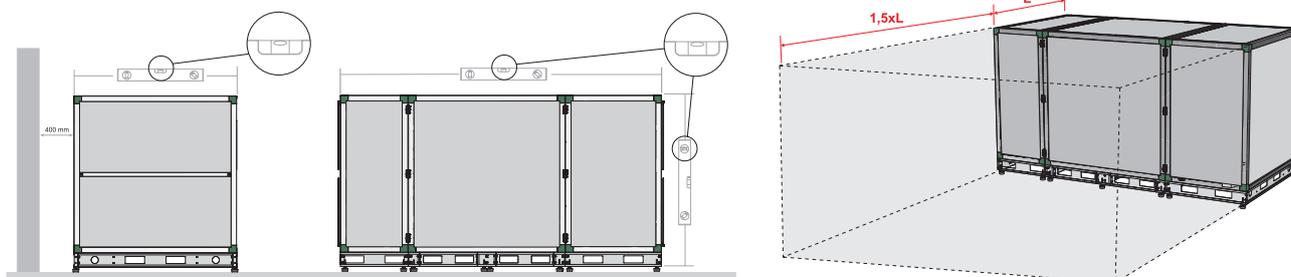


Fig. 5.5.2 AmberAir Compact 6-7 CX H

### 5.5.3. PLACE REQUIREMENTS FOR THE EQUIPMENT AND MOUNTING POSITIONS

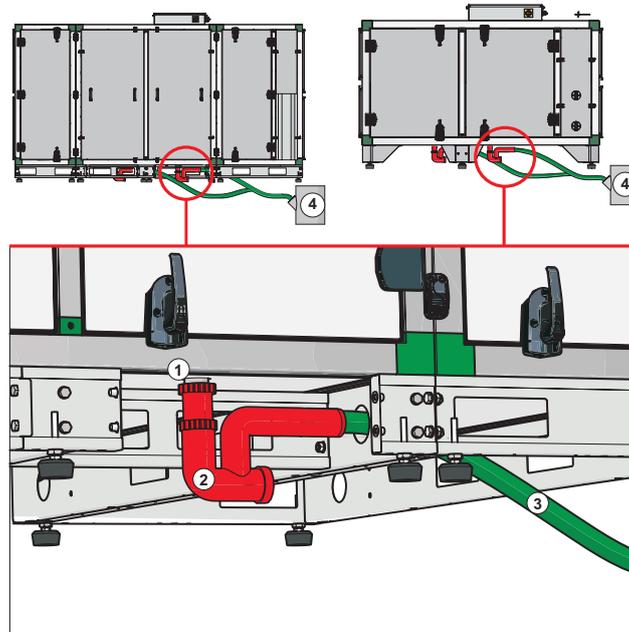


Alarm indication output	Z [mm]	
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1. The installation position only in the horizontal direction.
2. Install the supporting legs.
3. AmberAir Compact of sizes 6-7 CX H are assembled from separate sections.
4. They must be adjusted without a gradient (because a gradient of 3° is aligned in the condensate drip trays).
5. Leave space in the front (1,5xL) that it would be sufficient to open the doors and to remove or install a required component.

### 5.5.4. DRAINAGE

- After installing the air handling unit, the condensate drainage system should be connected: connect the siphon (2) (shown at the bottom of the picture) to the condensate trap (1) of the heat recovery unit.
- Two siphons are used at each AmberAir Compact CX H product because two condensate drip trays are installed at each of those units).
- The siphon (2) is connected with the sewage system via a pipe (3), which can be made either of metal, plastic or rubber. 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 (2) should always be filled up) and make sure that water goes to the sewage system (4)! 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! If it may drop below 0 °C, the system must be protected with thermal insulation with additional installation of a heating cable and thermostat.
- The siphon (2) should not necessarily be downstream the recovery unit but below it.
- The legs of AmberAir Compact products of sizes 1-5 CX H are fitted with condensate pipe protection to prevent it from damage when lifted by a forklift. When connecting the condensate drainage system, this protection should be removed (it is a component intended for transportation only).



**Before every heating season the condensate tube shall be filled with water as indicated during the first start-up!**

### 5.5.5. CONNECTION OF AIR DUCTS

- Connected air ducts must be straight and have their own fixing.
- Make sure that the fans can not be accessed through air duct heads. If it is possible to access 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.
- If air handling unit is installed in heated premises, outdoor and exhaust air ducts must be insulated in order to avoid heat losses and condensing. If AHU is installed outdoors, it's recommended to insulate all the air ducts.
- 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 ensure 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.

### 5.5.6. FILTER BOX MOUNTING

#### Box preparation

The filter box is being connected to the flange of the unit as a part of air duct system.

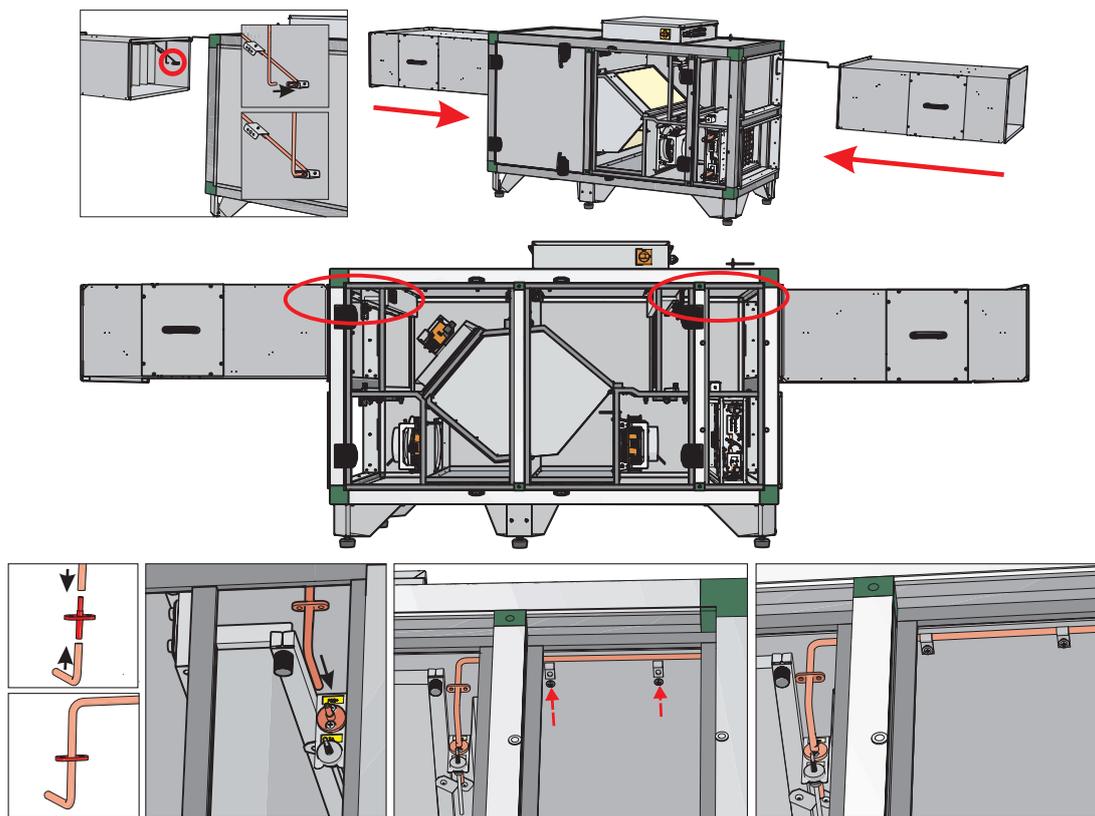
C-profile must be used for the connection.

The connection additionally can be strengthened by screwing the flanges' corners with the screws.

Filter box must be mounted according to the air duct installation rules, and have their own fixing.

- The filter box can be connected to the pressure relays that indicates a filter pollution.
- Nozzles are used to connect hoses connect to each other. The nozzles are added in the package.
- The hose is supplied at its maximum length. Cut off required length of it.
- Take off hose from nozzle 1 and attach to nozzle 2 (such switch must be performed next to outside and extract air flanges).

- Fasten the hose with the brackets. The brackets are added to the package.



 The filter box is available as an accessory.

### 5.5.7. ROOF MOUNTING

- The roof must be mounted in a sequence as shown in the pictures below.
- Necessarily check out the AHU version, because the mounting sequence depends on it.
- Pay attention to the internal holders' mounting to the units' casing.

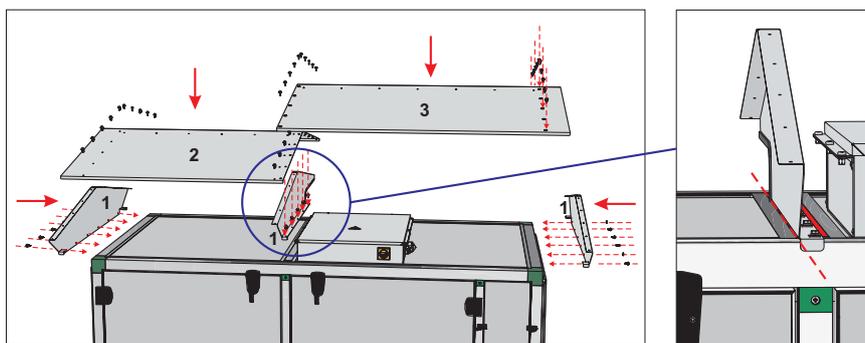


Fig. 5.5.7.1

AmberAir Compact 1-5 CX H

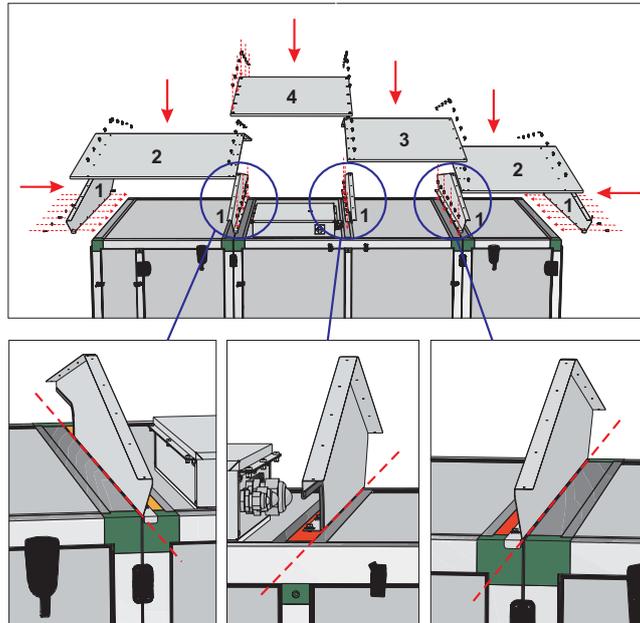


Fig. 5.5.7.2

AmberAir Compact 6-7 CX H



The filter box is available as an accessory.

## 5.6. 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 table or in the technical manual.
- The unit's voltage, power and other technical parameters are provided in the unit's technical table or in the technical manual. The unit must be connected to the power network in compliance with the effective requirements and following the manufacturer's instructions.
- 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, disconnection from the power network is performed through the external protection device and unit main switch.
- 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 noncompliance with the provided instructions.

## 5.7. START-UP RECOMMENDATIONS

### 5.7.1. 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 turn off main switch and/or external protection device.

### 5.7.2. PRE-STARTUP RECOMENDATIONS OF THE UNIT (IN THE PRESENCE OF THE ENDUSER)

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 correct.

## 6. MAINTENANCE

### 6.1. SAFETY INSTRUCTION



It's necessary to stop the unit before opening its doors. Disconnect the main switch and open doors after fans stop completely (approximately 2 min.). It necessary to assure, that the main switch cannot be turned on by the third parties.

### 6.2. GENERAL RECOMMENDATIONS FOR THE MAINTENANCE OF VENTILATION SYSTEM

In order to ensure proper functioning of the system, maintenance requirements and its periods should be followed. Otherwise the warranty shall not be valid. Some recommendations are provided in the table below, but they are just advisory, as the need of system maintenance depends on the place of the device installation, the pollution of the atmosphere, the population, the working hours and etc.

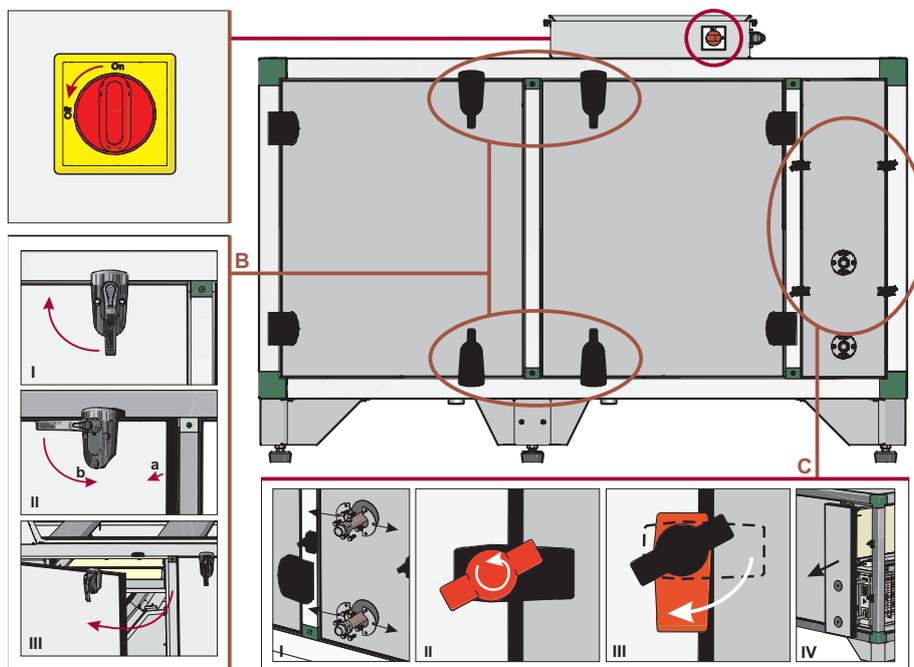
COMPONENT	DURING START-UP	AT LEAST EVERY 6 MONTHS
Filters	Check the cleanliness of the filters	Replace filters every 3 to 4 months or according to the console indications.
		Make sure that the pressure relay/transmitter is clean and clean it if necessary.
Fans	Check the connections and the direction of rotation	Check for any damaged filter fastening parts.
		Check cleanliness. Clean, if necessary
		Make sure that the impellers are not unbalanced.
		Make sure that the impellers do not cause noise when rotated by hand.
		Make sure that the fastening screws are not loose and free of mechanical damage.
Rotor Heat exchanger	Check the direction of rotation	Check electrical connections and make sure that these are secured properly and are free of signs of corrosion.
		Check cleanliness and clean, if necessary
Plate Heat exchanger	Check the cleanliness of the heat exchanger	Check the tension of a belt
		Check cleanliness and clean, if necessary
Control panel	Check the connections	Check the connections
Electric heater	Check the connections	Clean off dust, and check the electrical components and connections of the heater
Water heater	Check the tightness	Check cleanliness and clean, if necessary
		Check the tightness and seal the connections, if necessary
Condensate discharge trap		Clean
Pressure sensor	Check electrical connections	Check the operation
Temperature sensor	Check electrical connections	Check the operation and tune up, if necessary
Air intake and discharge system	Check the connections	Clean
Air duct system	Check the tightness	Clean
Dampers, diffusers, grid	Check the tightness of connections	Clean
Switching unit (contactor)		Every 3 to 4 months, visually assess the functioning of the switching unit (contactor), i.e. make sure that its casing has no signs of melting or is not thermally damaged otherwise and does not produce any unusual sounds. All the contactors in the product or in its accessories must be checked.
Condensate discharge assembly	Check the condensate discharge assembly and make sure that water runs from the bath properly.	Clean

### 6.3. COVER OPENING

(A) Make sure, that units' switch is at off position.

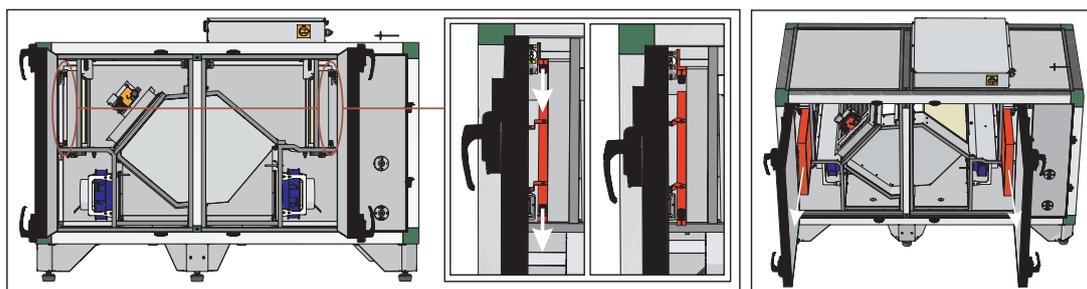
(B) Turn the handles by 90 degrees (I). After pulling the doors towards yourself (II - a), return the handles to the primary position (II - b). Open the doors (III). All the doors of AmberAir Compact units can be opened accordingly.

(C) Opening of the heat exchangers' doors. If the AHU is equipped by electrical heater, then, in order to open the doors just unscrew all 4 holding handles (II, III) and take off the doors (IV). In case of water heater – unscrew pipe sealing half-rings (I) firstly.



### 6.4. FILTERS MAINTENANCE

- Open the doors as described in the section "Opening the doors".
- Holding at the holes near the arrows, pull the red-marked filter clamps. Remove the filters.
- When inserting a filter, make sure that the arrow on the filter coincides with the flow direction.



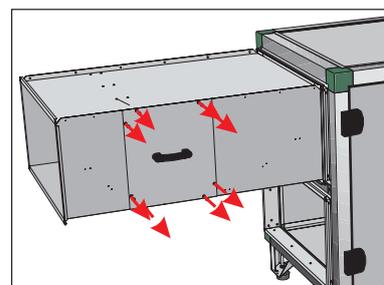
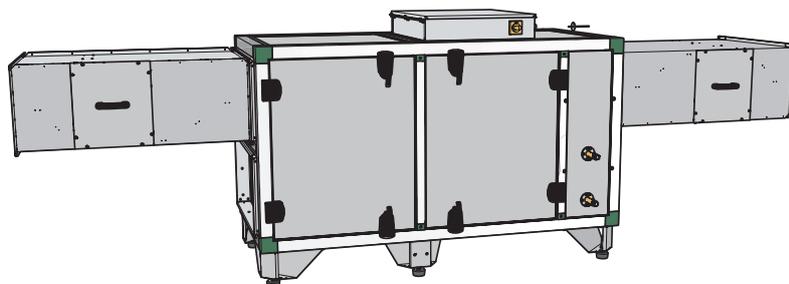
**Prieš įdedant naują filtrą, atkreipkite dėmesį į oro srautų žymėjimo kryptį ant filtro, bei gaminio. Kryptys turi sutapti.**  
**After filter changing, reset filters timer if used filter timer. Strictly prohibited to operate the unit without filters!**

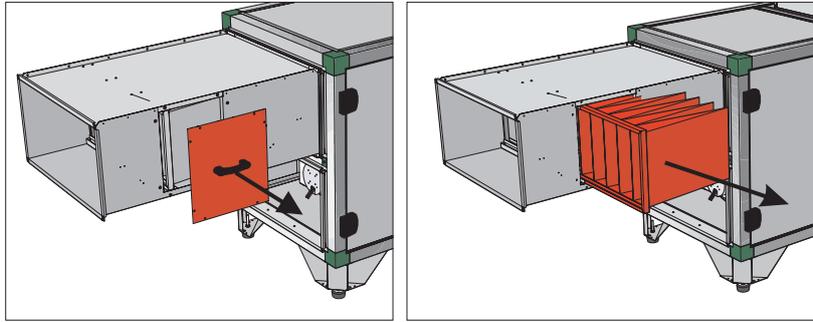


It is recommended to change the filters every 3 - 4 months, or according to filter timer, or filter pressure relay or pressure transmitter indication in remote control panel or BMS.

### 6.5. FILTER BOX MAINTENANCE

- The cover is unscrewed and removed using a key.
- The filters are removed.





The filter box can be purchased as an accessory.

## 6.6. FANS MAINTENENCE



Before starting maintenance or repair work, make sure that the unit is disconnected from the electrical network and/or that the main circuit breaker is turned off

- Maintenance should be performed only by experienced and trained staff.
- The fan should be inspected and cleaned at least once a year.
- Be sure the fan is disconnected from power source before performing any maintenance or repair.
- Begin maintenance works only after a full stop of the fan.
- When performing technical maintenance works, follow all work safety rules.
- The structure of the motor includes high-performance bearings. They are pressurised and, therefore, do not require lubrication throughout the motor service life.
- Detach fan connections from the unit.
- Disconnect fan air pressure hose.
- Impeller should be specially checked for built-up material or dirt which may cause an imbalance. Excessive imbalance can lead to accelerated wear on motor bearings and vibration.
- Clean the impellers and the inside of the casing with a soft, non-soluble and non-corrosive detergent and water, with ph (6-8).
- Do not use high pressure cleaner, abrasives, sharp instruments or caustic solvents that may scratch or damage housing and impeller.
- Do not plunge the motor into any fluid while cleaning impeller.
- Make sure, that impeller's balance weights are not moved.
- Make sure the impeller is not hindered.
- Mount the fan back into the unit. Connect the fan to power supply source. Connect air pressure hose.
- If after maintenance the fan does not start or stop itself, contact the producer. Malfunction of the fan can be identified according to the pressure in the system (when pressure switches are connected). When there is a fault in fan's motor, any separate notice is shown on the control panel.
- Before starting the unit, make sure that no tools or other foreign items are left.

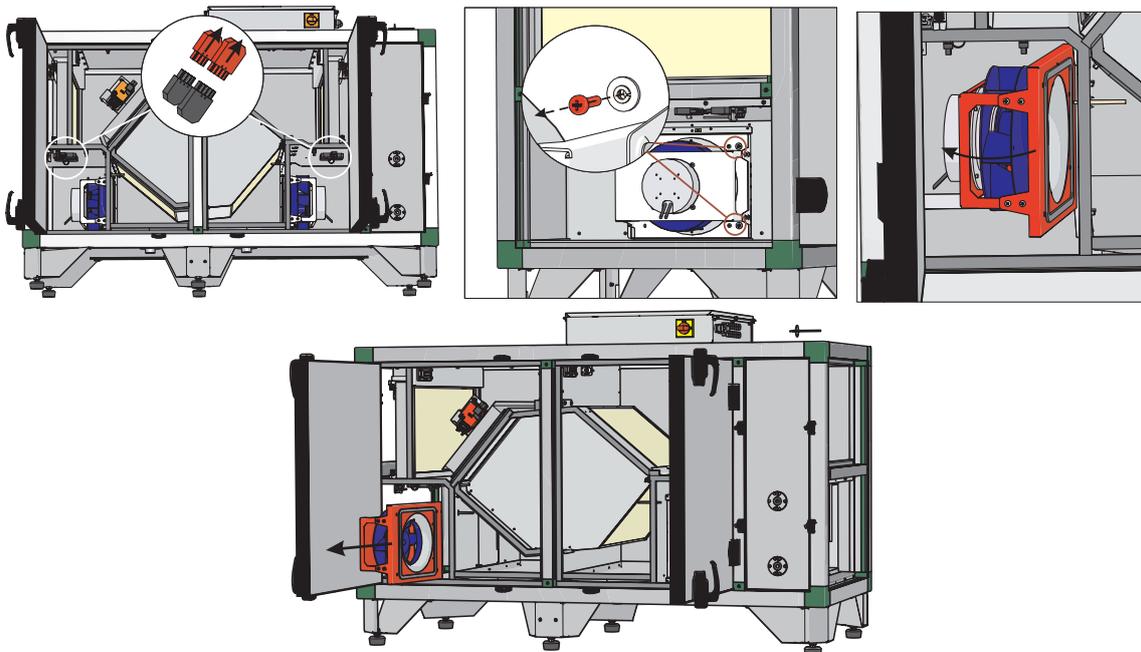


Fig. 6.6.1 AmbertAir Compact 1-5 CX H

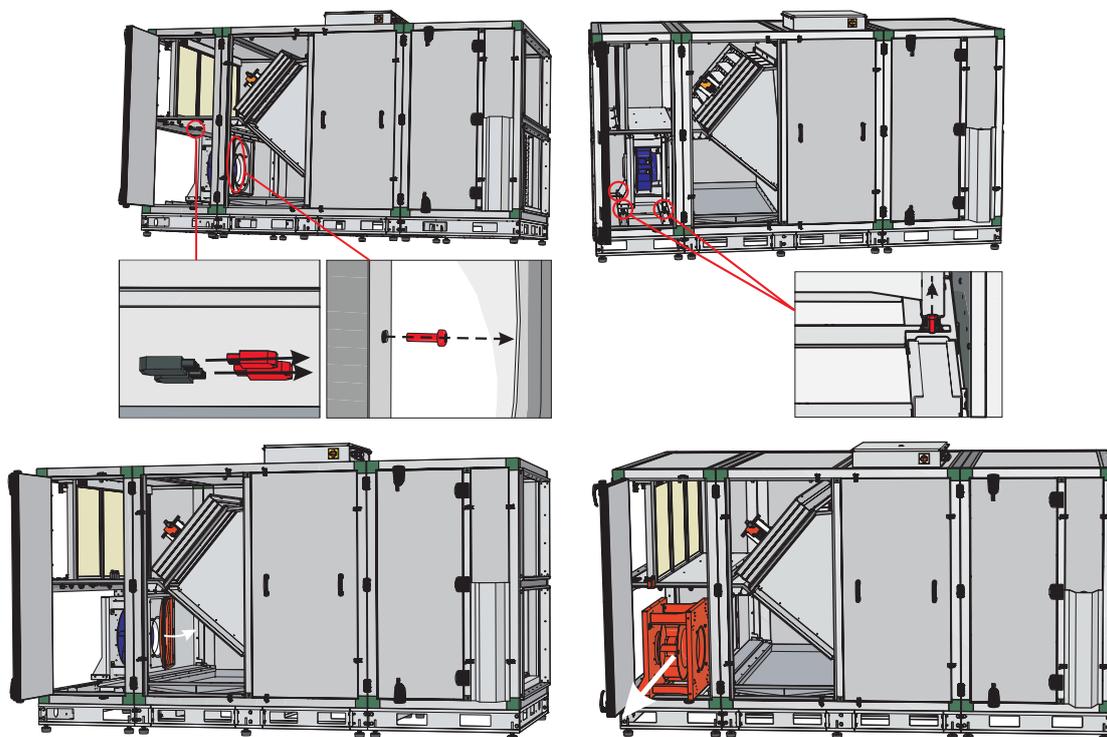


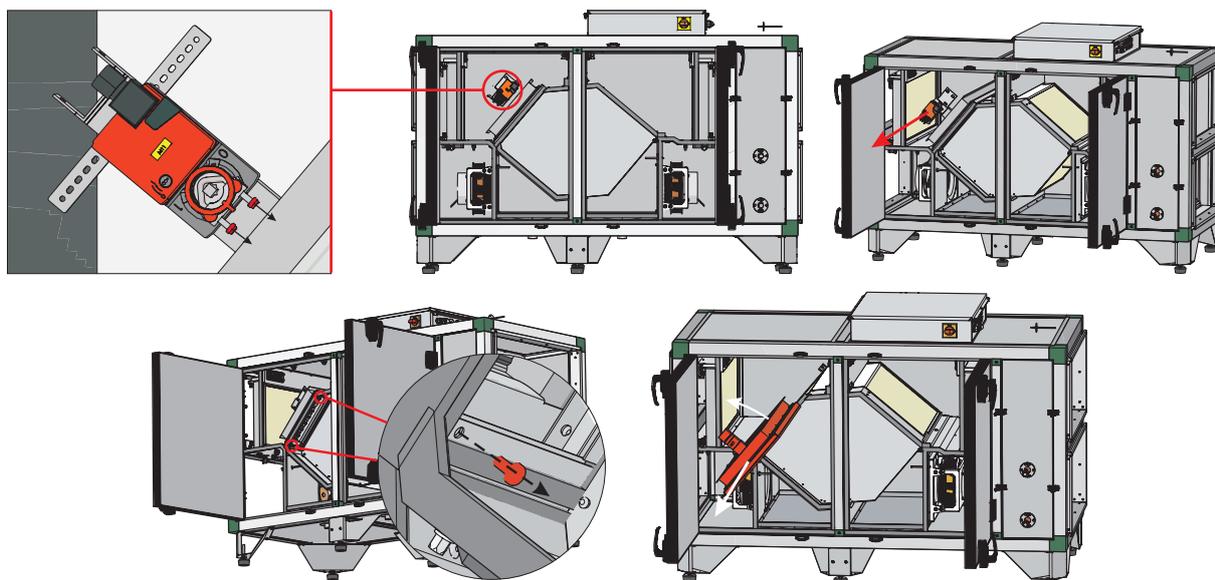
Fig. 6.6.2 AmberAir Compact 6-7 CX H

## 6.7. AIR DAMPER MAINTENANCE

- Open the doors.
- Disconnect the damper wires from the automatics.
- Unscrew the drive and remove it from the axle.
- Unscrew the screw and remove the clamp.
- Remove the damper.

### Removal of the recirculation valve:

- Perform the above actions for disconnecting the drive;
- Remove the damper together with the bypass assembly (follow the Heat Exchanger Maintenance Description).

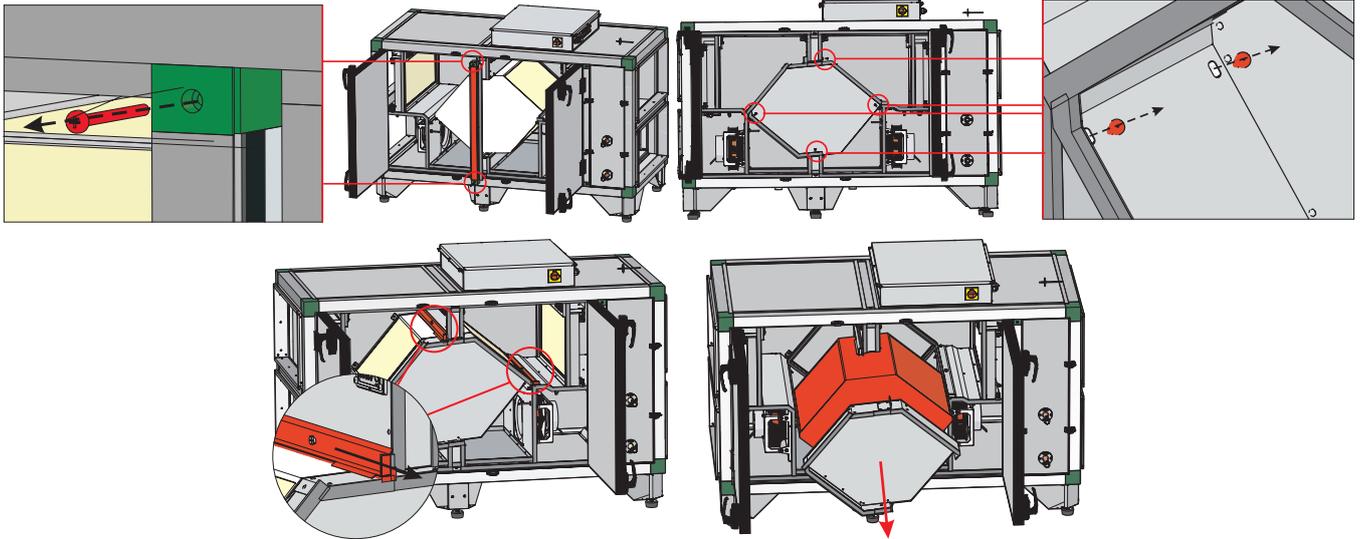


## 6.8. HEAT EXCHANGER MAINTENANCE

- Maintenance works may only be started after a full stop of the fans.
- Clean the heat exchanger once a year.
- Carefully remove the heat exchanger cartridge and immerse it in a container with soapy water (do not use soda). Then wash the cartridge with a weak hot water flow (excessively strong water flow may bend its plates). The heat exchanger may be installed into the unit only when it is completely dry.

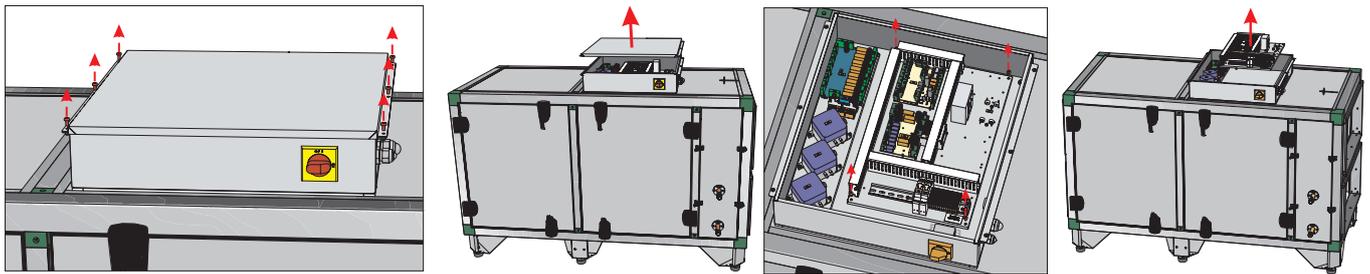


The heat exchanger cartridge may not be removed after removing the bypass valves.



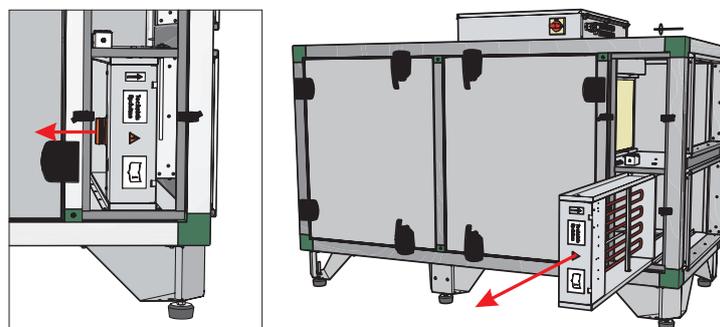
### 6.9. CONTROL BOARD MAINTENANCE

- Turn off the main circuit breaker of the product.
- Unscrew and remove automatics section cover.
- Disconnect the connections from the controller.
- Remove the controller.
- To reassemble, repeat the actions in the reverse order. When connecting connectors back pay attention to the connectors' markings – they must match.

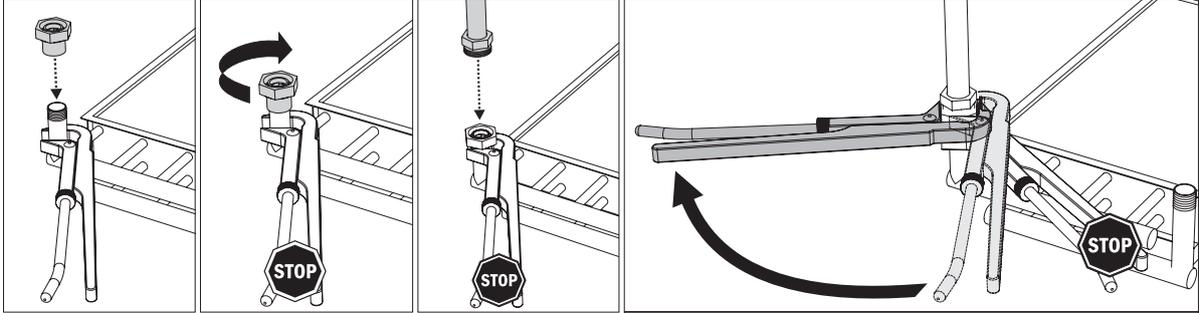
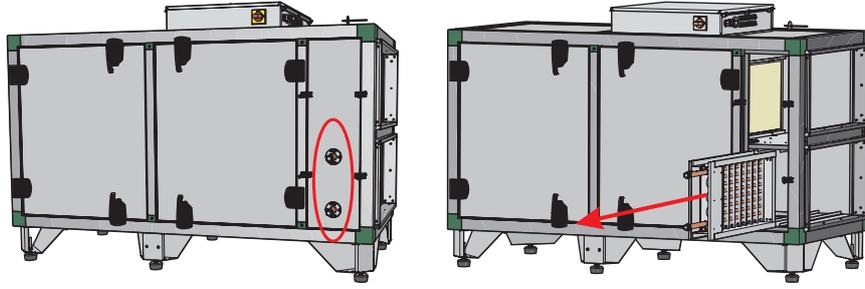


### 6.10. ELECTRIC, WATER HEATER AND COOLER MAINTENANCE

- Turn off the main circuit breaker of the product.
- Open the doors of the product.
- Disconnect the electrical heater from the harness.
- Remove the heater. Don't take heater at the heating element, but hold it at casing.
- Before installing heater back, please pay attention at the airflow direction markings.



- Turn off the main circuit breaker of the product.
- Open the doors of the product.
- Disconnect the supply and return water pipelines.
- Remove the heater.



## 7. CONTROL

### 7.1. EVICE CONTROL

Ventilation unit equipped with MCB control board can be controlled with remote controller, WEB interface or mobile app via MB-GATEWAY and BMS (building management system). More information provided in the table below.

With MB-GATEWAY	Remote control panels	BMS direct connection	Wireless communication
Web interface SALDA AIR mobile application BMS over Modbus TCP/IP BMS over BACnet TCP/IP	Stouch SA-Control	Modbus RTU (RS485)	MB-GATEWAY + WIFI router

### 7.2. DEVICE FUNCTIONS

All MCB control boards has the same software with all functions included. Full function list and description you can find on the MCB control board manual. However, operation and control of the device depends on the following:

1. Selected control interface (remote control panel, MB-GATEWAY and etc.). Chosen interface just affects access to the information and settings but not affects the logic of control. Full access to the information and settings are available on SA-Control, MB-GATEWAY WEB application and SALDA AIR mobile application.
2. Unit configuration (internal/external components, sensors and control board settings)

## 8. ACCESSORIES



### ELECTRICAL ACCESSORIES

Remote controller with logo	<b>Stouch</b>	PRGPU051
Remote control panel SA-Control	<b>SA-Control</b>	ACC000271
Router TP-Link TL-WR802N	<b>WIFI</b>	ACC000273
Network module MB-Gateway	<b>MB-Gateway</b>	ACC000269
Sensor CO <sub>2</sub> room	<b>S-RCO2-F2</b>	ACC000278
Sensor humidity room	<b>S-RFF-U-D-F2</b>	ACC000280
Sensor humidity duct	<b>S-KFF-U</b>	ACC000279
Sensor CO <sub>2</sub> duct	<b>S-KCO2</b>	ACC000277
incl VR-0,6M.	<b>UG3-A40</b>	ACC004464
	<b>IR24-PC</b>	ACC004458
Sensor judesio	<b>PATROL_701</b>	ACC004459
Energy meter (pulse+modbus)	<b>EM23DINAV93XS1X</b>	ACC004462
Energy meter (pulse)	<b>EM23DINAV93XO1X</b>	ACC004461
Energy meter (m-bus)	<b>EM24DINAV93XM1X</b>	ACC004463
	<b>EM24DINAV53DM1X</b>	ACC004645
Energy meter	<b>EM21072DAV53XOXX</b>	ACC004642
	<b>EM21072DAV53XOSX</b>	ACC004644
Switch	<b>774451+774411</b>	ACC004460
Actuator for damper (4 Nm, spring, on-off)	<b>LF230</b>	ACC000309
Actuator for damper (2 Nm, spring, on-off)	<b>TF230</b>	ACC000316
Actuator for damper (10 Nm, spring, on-off)	<b>NF230A</b>	ACC001657
Actuator	<b>NM230A-TP</b>	ACC004384

### MECHANICAL ACCESSORIES

## 8.1. CONNECTION OF ACCESSORIES

### 8.1.1. ELECTRICAL DIAGRAMS AND ABBREVIATION IN ELECTRICAL CIRCUIT DIAGRAMS

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

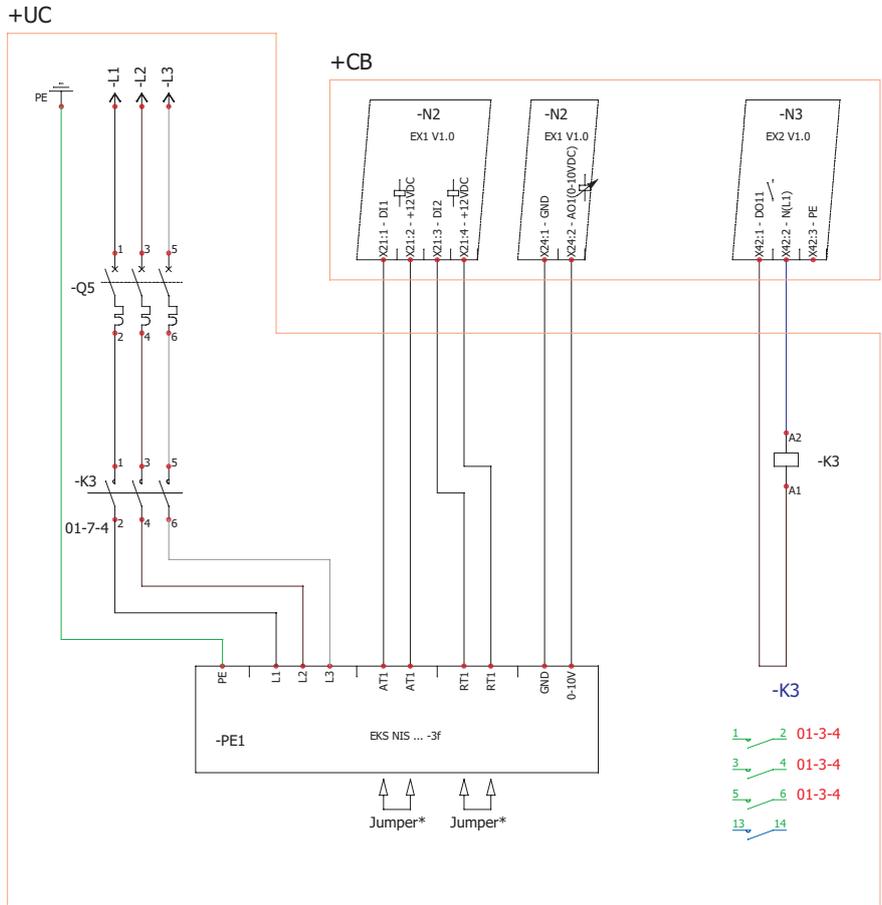


Fig. 8.1.1.1 Electrical external pre-heater

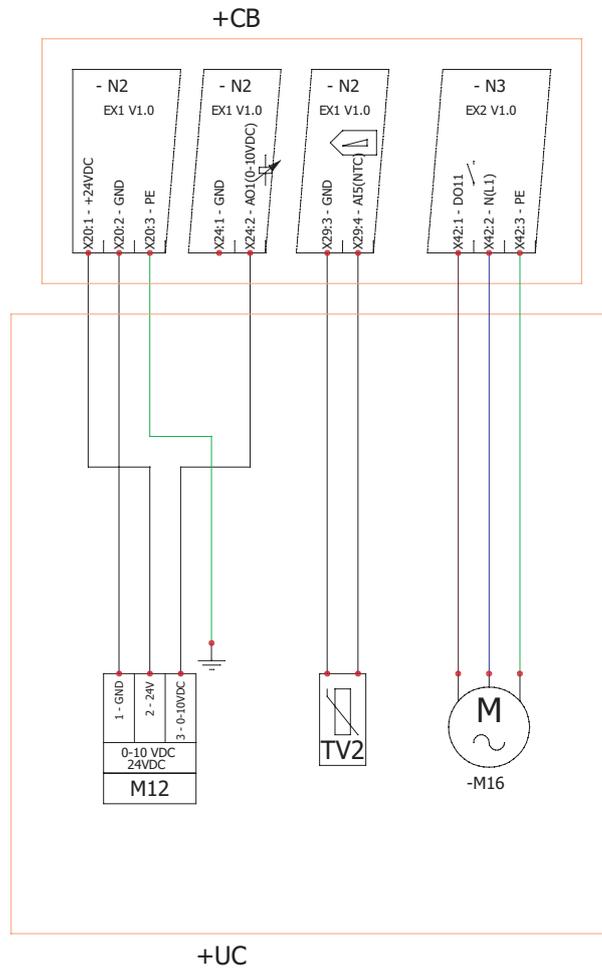
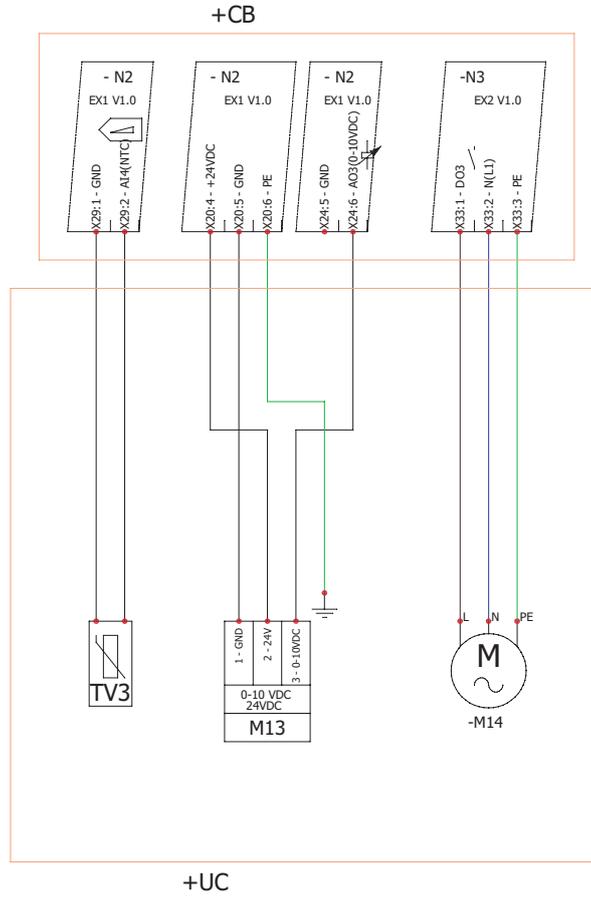
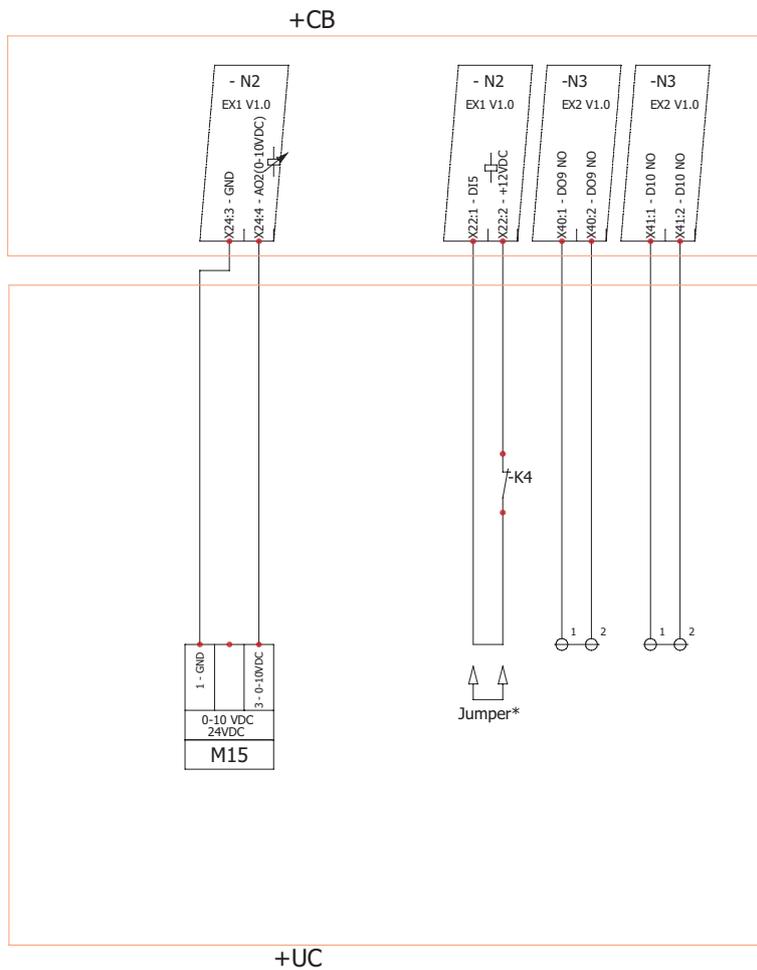


Fig. 8.1.1.2 External water pre-heater



**Fig. 8.1.1.3** External water cooler



**Fig. 8.1.1.4** External DX cooler

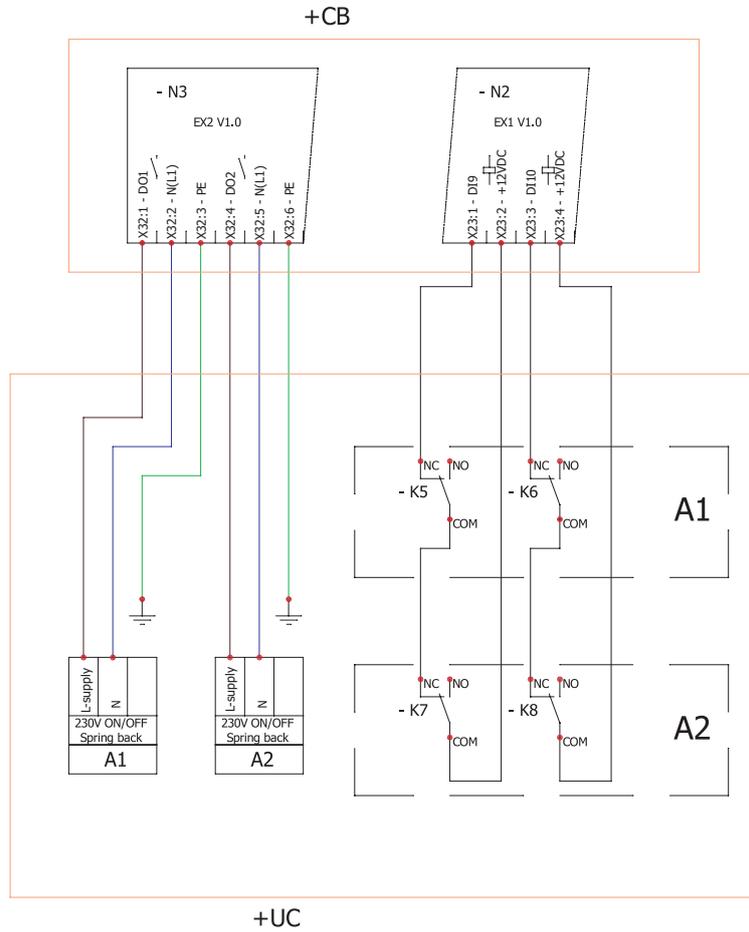


Fig. 8.1.1.5

Fire protection connection

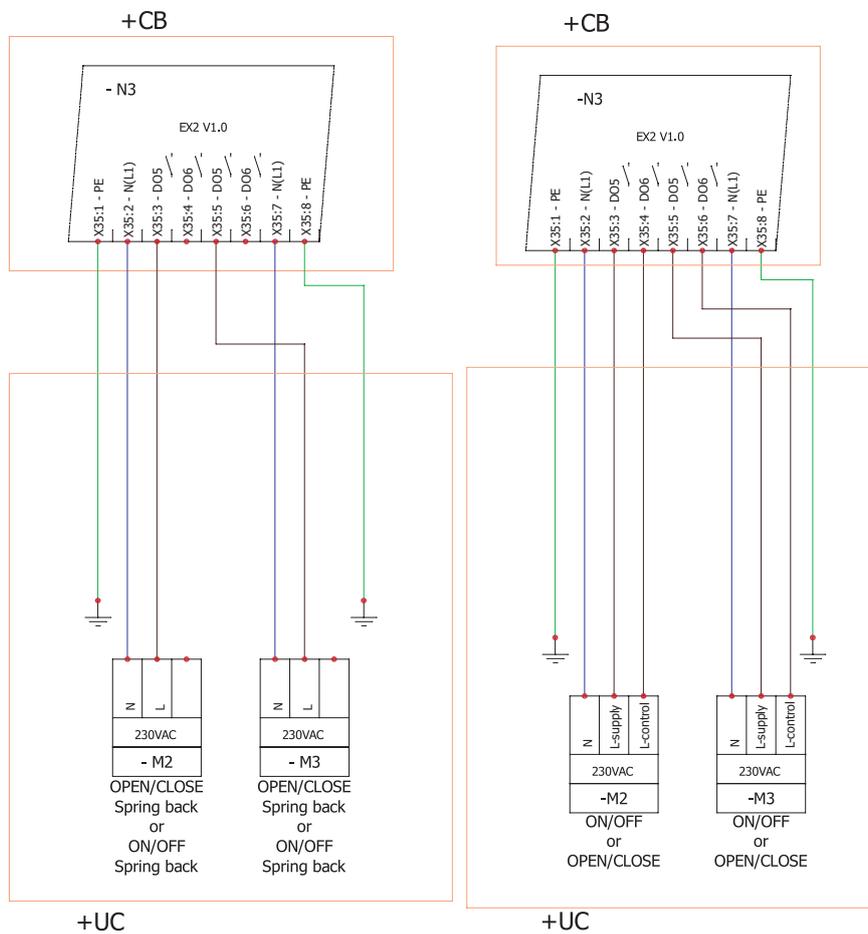


Fig. 8.1.1.6

Motorised air dampers

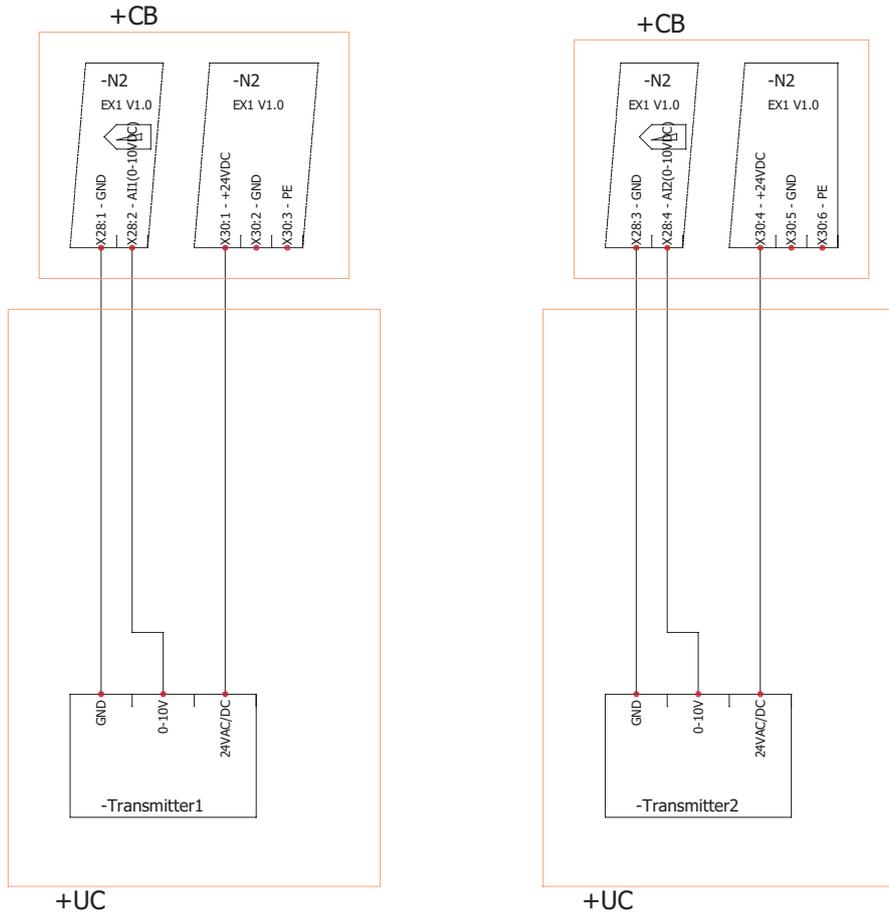


Fig. 8.1.1.7

CO<sub>2</sub> or RH sensors

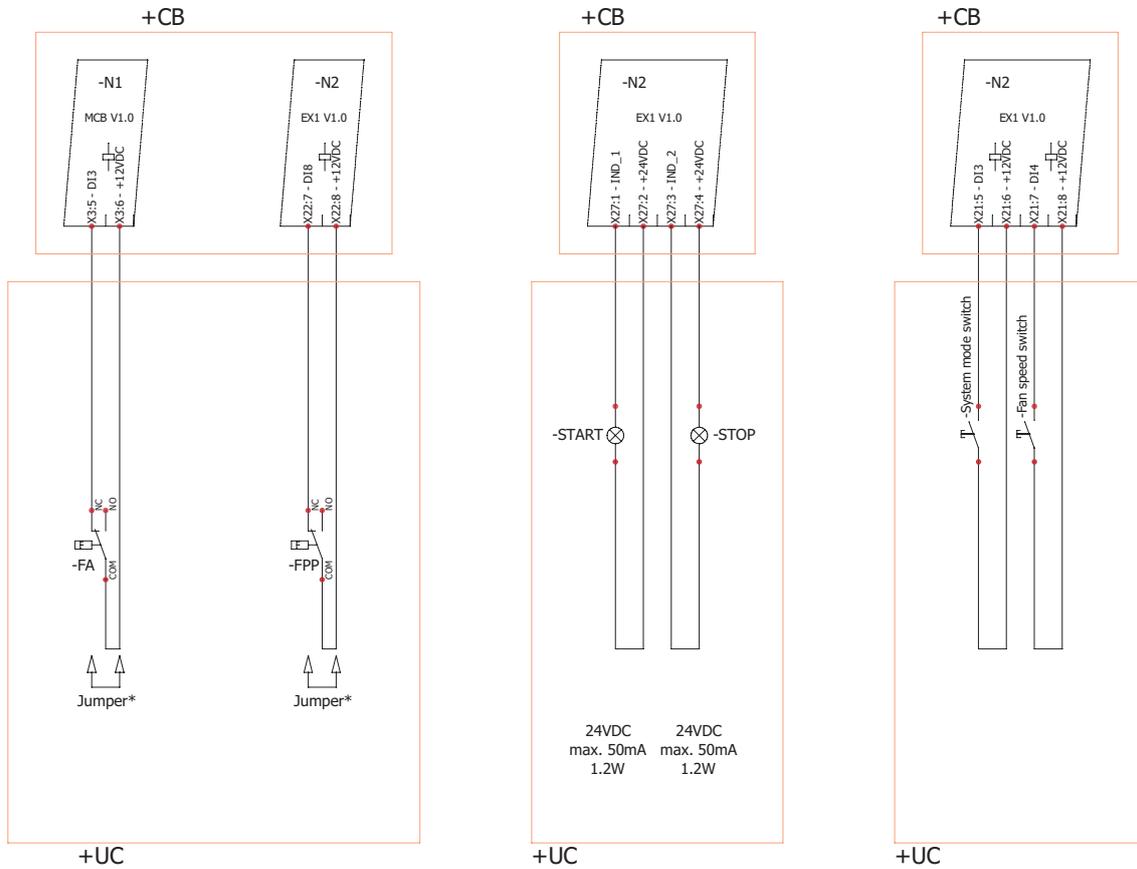


Fig. 8.1.1.8

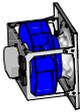
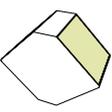
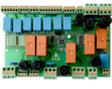
Unit status indication / mode change / fire alarm inlet / fireplace function input

\*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.

**9. SPARE PARTS**

									
Door	Fan	100% damper	Sectional damper	Recirculation damper	Control board	Electric heater	Water heater	Heat Exchanger	Damper actuator
									
Air temperature sensor	Thermostat	Wire harness	Water temperature sensor	Panel filter MPL	Pocket filter FMK	MCB	EX1	EX2	

## 10. POSSIBLE FAULTS AND TROUBLESHOOTING

FAILURE	CAUSE	EXPLANATION / CORRECTIVE ACTIONS
Unit is not operating	No supply voltage	Check whether the device is connected to the power network
	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 contact 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.

## 11. DECLARATION OF CONFOMITY

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\***

**(where by “\*” indicates possible unit installation type 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.

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

Date 2019-02-01

Giedrius Taujenis  
 Director product development

**12. WARRANTY**

1. All equipment manufactured in our factory is checked in operating conditions and tested before delivery. Test protocol is supplied together with the unit. The equipment is shipped in good working order and condition to the direct client. The unit is warranted for the period of 24 months from the invoice date.
2. If equipment is found to have been damaged during transportation, a claim should be made against carrier, as we assume no responsibility for such damage.
3. This warranty does not apply:
  - 3.1. when transportation, storage, installation and maintenance instructions of the unit are violated;
  - 3.2. when the equipment is improperly maintained, mounted - inadequate maintenance;
  - 3.3. when the equipment without our knowledge and permission has been upgraded or unskilled repairs were made;
  - 3.4. when the unit was used not for its original purpose.
  - 3.5. Company SALDA UAB is not responsible for potential loss of property or personal injury in cases where AHU is manufactured without a control system and the control system will be installed by the client or third parties. The manufacturer's warranty does not cover devices that will be damaged by installing the control system.
4. This warranty does not apply at these malfunction cases:
  - 4.1. mechanical damage;
  - 4.2. damage caused by entering outside objects, materials, liquids;
  - 4.3. damage caused by natural disaster, accident (voltage change in the electricity network, lightning, etc..).
5. The company assumes no liability for its products either directly or indirectly damaged, if the damage is caused by failure to comply with installation and mounting regulations, deliberate or careless users or third-party behavior.

These conditions are readily discernable when the equipment is returned to our factory for inspection. If the direct client determines that equipment is found to be faulty, or a breakdown occurred, he should inform the manufacturer within five working days and deliver the equipment to manufacturer. Delivery costs should be covered by customer.



**Manufacturer reserves the right to change this technical passport any time without prior notice, if some typographic errors or inaccurate information is found, as well as after improving the apps and/or the devices. Such changes will be included in the new issues of the technical passport. All illustrations are just for information and thus may differ from the original device.**

**12.1. LIMITED WARRANTY COUPON**

*Warranty term*

**24-month warranty\***

I received complete package and technical manual of the product ready for usage. I have read warranty terms and conditions and agree with them:

.....  
Customer's signature

\*refer to WARRANTY CONDITIONS

*Dear User, we appreciate your choice and do hereby guarantee that all ventilation equipment manufactured by our Company is inspected and thoroughly tested. An operational and high-quality product is sold to the direct buyer and shipped from the territory of the factory. It is provided with a 24-month warranty since invoice issue date.*

*Your opinion is important to us, thus we always look forward to hearing your comments, feedback, or suggestions regarding technical and operational characteristics of the Products.*

*In order to avoid any misunderstandings, please read the instructions for installation and operation of the product as well as other technical documents of the product carefully. The number of the Limited Warranty Coupon and serial number of the product specified on the silver identification sticker attached to the housing must match.*

*The Limited Warranty Coupon shall be valid provided that the seller's stamps and records are clear. It is prohibited to change, delete, or rewrite the data specified on it in any manner – such a coupon shall be invalid.*

*With this Limited Warranty Coupon the manufacturer confirms one's obligations to implement the imperative requirements established by effective laws on protection of consumer rights in the event of identification of any defects of the products.*

*The manufacturer reserves the right to refuse provision of free warranty servicing in cases when the warranty conditions listed below are disregarded.*



## UNIT'S MAINTENANCE TABLE

Product name*		
LOT number*		
Instalation	Interval	Date
Fan cleaning	Once a year**	_____
Heat exchanger cleaning	Once a year**	_____
		_____
		_____
		_____
Filter replacement	Every 3-4 months**	_____
		_____
		_____
		_____
		_____

\* - Look at the product label.

\*\* - At least.

**NOTE.** The purchaser is required to fill in the "Product maintenance table".



MAN000201

