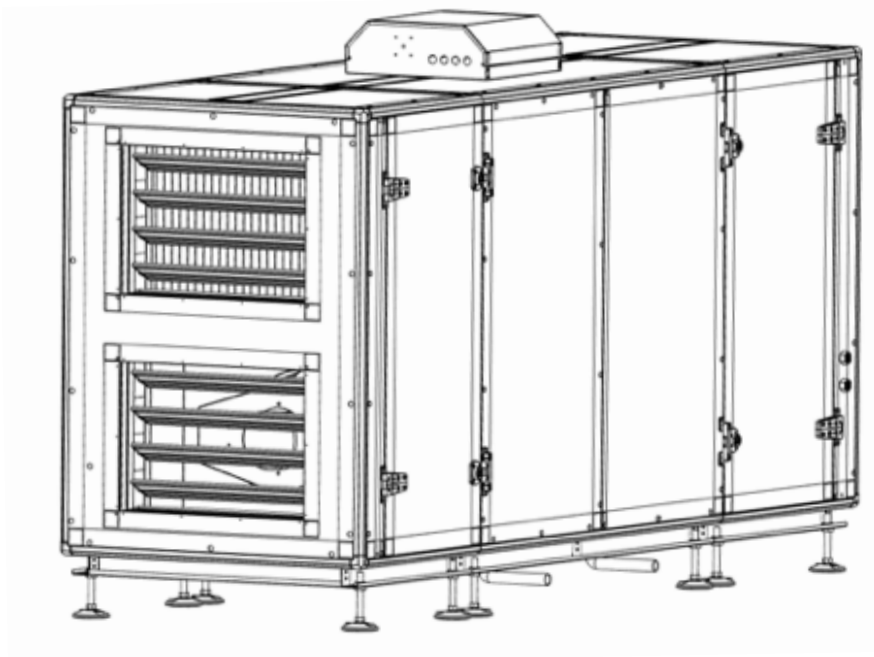


User's
Manual

EVO-C

COMPACT AIR HANDLING
UNIT WITH COUNTERFLOW
HEAT EXCHANGER



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GENERAL INSTALLATION AND OPERATING INSTRUCTIONS

1.0 Important information

To ensure safety and correct operation please read and observe the following instructions carefully before proceeding. Important information is specified in the maintenance section on filter changes and necessary cleaning and maintenance activities. The user usually carries out maintenance work. The chapter "Installation" with important installation tips and basic unit adjustments is intended for the specialized installer.

▲ The electrical connection must be fully isolated from the supply up to the final assembly!

▲ This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance. The planning office provides the planning documents necessary for system calculations. Additional information can be requested ex works. Keep the installation and operating instructions as a reference at the device. After the final assembly, the document must be handed out to the operator (tenant/owner).

1.1 Warning and safety instructions

▲ The adjacent symbol is a safety-relevant prominent warning symbol. All safety regulations and/or symbols must be absolutely adhered to, so that any dangerous situation is avoided.

1.2 Warranty claims – Exclusion of liability

This device is designed to operate efficiently and safely in the event that they are installed in accordance with the instructions in the operating instructions, and the operating and maintenance requirements are fully. All maintenance procedures required for the device must be carried out by experts and authorized persons.

Warranty Conditions

- The devices are warranted against defects in material and workmanship for two (2) years.
- During the warranty period of the device, due to material and manufacturing mistakes in the event of a malfunction, the following conditions will not be charged;
 - a. Labor costs
 - b. Change value of the parts

CHAPTER 1

- The user should report within 8 days of production defects or defects, in terms of the validity of the warranty, immediately upon the detection of defects, device will be stopped
- As explained in the instruction for use and maintenance, the warranty is valid as long as the devices are periodically maintained.
- Consumables that are periodically changed during the warranty period must be originally supplied from AERA.
- Warranty does not apply to consumables, eg filters.

Issues to be Considered by Customers Related to Warranty

The AERA service personnel or the services authorized by AERA should intervene for the devices covered by the warranty. Damage caused by installation mistakes or by unauthorized persons is not covered by the warranty.

The following conditions are not covered by warranty:

- Damage due to transportation and improper placement.
- Damage caused by operating the device outside the operating conditions.
- Damage caused by the use of spare parts not approved by the manufacturer.
- Damage due to improper electrical connections, connection other than that specified on the electrical diagram label.
- Damage and failures due to factors such as impact, breaking, scratching and freezing.
- Faults that may arise from irregularities in the electrical supply where the device is installed.
- Damage caused by failure to make drainage pipe and to be corrosion inside the device.
- Damage that may be caused by the corrosive and acidic effect of the environment in which the device will operate.
- Damages caused by foreign materials forgotten in the device or fan motor.
- Damage caused by not using flexible connection in channel connections.
- Damages caused by failure to observe the points specified in this user manual.

AERA heat recovery devices do not have any parts replacement or repair work to be performed by the user other than cleaning and eye inspection. Users should contact the AERA company for faults detected during operation or maintenance.

1.3 Regulations – Guidelines

If the product is installed correctly and used to its intended purpose, it conforms to all applicable CE standards at its date of manufacture. The AERA EVO-C ventilation units in this series are compliant with Eco-Design 2018.

1.4 Receipt

The delivery contains one of the following unit types:

Unit
EVO-10C
EVO-15C
EVO-25C
EVO-35C
EVO-45C
EVO-55C
EVO-70C
EVO-85C

The scope of delivery also includes:

4x Condensation pipe (2x long and 2x short)

Please check delivery immediately on receipt for accuracy and damage. If damaged, please notify carrier immediately. In case of delayed notification, any possible claim may be void.

1.5 Storage

When storing for a prolonged time the following steps are to be taken to avoid damaging influences:

Protection by dry, air- dustproof packing (plastic bags with drying agent and moisture indicators). The storage place must be water-protected, vibration-free and free of temperature variations. (Ambient temperature limit, min/max, 0°C/ +40°C)
Damages due to improper transportation, storage or putting into operation are not covered by warranty.

CHAPTER 1

1.6 Transport

The transport of the devices must be done with care. All manufactured devices are shipped from the factory after all tests and controls have been made before shipment.

The transport must be carried out by trained and experienced personnel and the necessary safety precautions should be taken to prevent overturning and slipping of the device. During transport of the devices it should be ensured that the weight is evenly distributed over the four corners.

⚠ Danger due to overhead loads – risk of grave injuries or death!

- Never stand beneath suspended loads, since there is always a risk that the lifting gear, tackle, ropes or slings are faulty or damaged.
- Make sure that equipment is firmly seated before lifting it.

⚠ Warning! Risk of personal injury and equipment damage!

Due to a high center of gravity, some equipment can tend to tip over and cause damage to persons and property.

- When transporting the unit, carefully observe its behavior and do not get near any possible hazardous areas.

1.7 Intended use

EVO-C devices are designed in 8 different models to correspond to the need of up to 8550 m³/h air flow. There is an ePM1 55% class filter on the outdoor air side and an ePM10 50% class filter on the exhaust side as standard. The units are produced according to European Union energy criteria and have the EcoDesign label.

EVO-C devices are designed with energy efficient, low sound pressure radiating and low power consumption plug fans. Plug fans with EC motors can be driven with 3 fixed speeds or steplessly with the help of an air quality sensor thanks to the built-in smart control system.

The EVO-C units are equipped with cross counter flow heat exchangers, in which the heat of the extracted air is recovered and transferred through the plates to the outdoor air, so both air flows remain separated. Through this procedure more than 80 % of the extracted air heat is transferred to the outdoor air. The supply air is led by the duct system to the primary (supply air needing) areas. The used air is extracted from the secondary areas (like e.g. social rooms, toilets, showers etc.). It flows back through the ducting to the ventilation unit, transfers the heat and is discharged by the exhaust air duct to the atmosphere.

CHAPTER 1

The heat recovery efficiency depends on several factors, which include, among other things, air humidity and the temperature variation of outside air and exhaust air. The fan performance can be adjusted by the controller in scope of delivery. Various sensors e.g. CO₂ or humidity sensors (accessory) are available on request, with which automatic fan control is possible

▲ If the device is used at $< + 5$ °C, it is necessary to use a heater in the device electronic box. (not included scope of delivery, optional)

▲ The standard equipment permits the installation and the application in frost-free rooms $> + 5$ °C.

▲ If the unit is to be used in outdoor, it is necessary to use a weather roof and outdoor spigot. (not included scope of delivery, optional)

If the unit is to be used in other applications where high humidity, excessive dust, temperature in excess of 40 °C or long periods at standstill (not running), please contact AERA sales representative. This also applies for special technical and electrical applications.

Electrical pre-heater (accessory) are used for preventing the cross counter flow heat exchanger from freezing at extremely cold outdoor temperatures. The summer bypass is the optimal solution for leading the colder outside air into the building in the warmer seasons. The installed filter optimally filters the air, which guarantees a hygienic unit and simultaneously ensures the service life of the compact unit.

Electrical after heater (accessory) used in EVO-C devices can be installed in the unit. The after heater is controlled by the desired supply air temperature. The temperature is chosen by the user.

Water after heater (accessory) are used for increasing the supply air temperature and for bringing the supply air to the desired temperature. Hot water coils can be driven by proportional control via 2 or 3-way valves. Frost protection mechanism is available as standard to prevent the temperature of the supply water from reaching freezing conditions in extreme cold climates.

Externally module water cooling coils and DX coils (accessory) are used for such purposes as lowering the blowing temperature and dehumidifying the air in the units. It can be driven either proportionally or by on / off method.

CHAPTER 1

1.8 Performance data

Mechanical connections must be made correctly in order to obtain maximum efficiency from the device. The device's thermal efficiency, sound level and electrical performance may vary depending on the ambient conditions the device is operating. These conditions may affect the measurement result on site and vary from the catalogue data.

1.9 Guideline series VDI 6022

The AERA EVO-R ventilation units in this series are produced compliant with VDI 6022. The guidelines range from operating regulations and material requirements through to construction regulations, which ensure high air quality. It must be ensured that only original AERA accessories are used for operation compliant with VDI 6022.

1.10 Heat systems

The relevant applicable regulations on the combined use of heat systems, domestic ventilation and extractor hoods (Federal Association of Chimney Sweeps (ZIV) information) must be observed!

General construction-law requirements

The EVO-C units with heat recovery must only be installed and operated in rooms with heat systems which depend on room air, if their flue gas venting is monitored by specific (on-site) safety devices, which shut down the EVO-C unit when activated. We recommend speaking with the competent chimney sweep to take account of possible wishes before procuring a negative pressure monitoring system for heat systems.

CHAPTER 1

1.11 Technical data

MODEL	EVO-C							
	10	15	25	35	45	55	70	85
Air flow (m ³ /h)	1100	1580	2600	3300	4520	5550	6900	8550
Rated current – ventilation (A)	1,39	2,17	3,39	2,28	3,80	3,65	5,47	5,32
Rated current – pre-heating (A)	3,8	5,6	9,5	13,9	18,6	25,5	30,3	31,8
Max. total rated current (A)	8,9x 8,9x8,1	13,5x 13,5x11,9	22,5x 22,5x19,7	32,3x 32,3x32,9	44,9x 44,9x45,5	58,4 x58,4x59	71,6 x71,6x72,2	74,2 x74,2x74,8
Power consumption – ventilation (kW)	0,32	0,5	0,78	1,5	2,5	2,4	3,6	3,5
Power consumption – pre heating (kW)	2,6	3,9	6,6	9,6	12,9	17,7	21	22
Max. power consumption (kW)	6	8,9	14,9	22,3	30,9	40,3	49,3	51,1
Voltage/Frequency	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz	3~400V 50Hz
Filter class (extract/ outdoor air)	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%	ePM10 50% / ePM1 55%
Weight (kg)	190	260	370	435	510	570	640	715
Sound pressure (dB)	56	54	57	53	58	60	59	61
Standby losses								
IP Class with weather roof	IP54	IP54	IP54	IP54	IP54	IP54	IP54	IP54
IP Class without weather roof	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Wiring diagram								

CHAPTER 1

EcoDesign Points								
	EVO-10C	EVO-15C	EVO-25C	EVO-35C	EVO-45C	EVO-55C	EVO-70C	EVO-85C
Declared typology	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Type of drive	Variable	Variable	Variable	Variable	Variable	Variable	Variable	Variable
Type of HRS	Re recuperative	Re recuperative	Re recuperative	Re recuperative	Re recuperative	Re recuperative	Re recuperative	Re recuperative
Nominal NRUV flow rate [m ³ /h]	850	1400	2200	3300	4300	5500	6500	8000
Thermal efficiency of heat recovery [%]	-	82	82	83	83	83	84	84
Static efficiency of fans [%]	-	58	60	56	64	64	63	64
Effective electric power input [kW]	-	0,47	0,73	1,16	2,41	2,31	3,34	3,34
Face velocity [m/s]	-	1,72	1,65	1,87	1,71	1,82	1,7	1,68
Normal external pressure [Pa]	-	250	200	200	350	350	350	350
Internal pressure drop of ventilation components [Pa]	-	316	311	319	309	344	303	291
SFPint [W/(m ³ /s)]	-	1114	1052	1167	995	1101	982	923
Declared maximum external leakage [%]	-	<1	<1	<1	<1	<1	<1	<1
Declared maximum internal leakage [%]	-	<3	<3	<3	<3	<3	<3	<3
Description of visual filter warning	Pressure controlled	Pressure controlled	Pressure controlled	Pressure controlled	Pressure controlled	Pressure controlled	Pressure controlled	Pressure controlled
Casing sound power level (Lwa) [dB(A)]								
ErP Compliance	2018	2018	2018	2018	2018	2018	2018	2018

INSTALLATION

2.0 Assembly

The central ventilation units EVO-C must be mounted in a vertical position. Ensure that there is a waste water connection in the installation area. Assembly should take place in such a way to enable preferably short ventilation ducts and their trouble-free connection to the unit. Tight bends can lead to increased pressure loss and flow noise. The unit can be turned 180° for optimal installation, so that the outdoor/exhaust air and extract/supply air inlets and outlets can be on the left or right side. There is no need for bends and long stretches of pipeline due to these features. They reduce losses and increase the degree of efficiency of the system.

Important notes:

1. The ventilation ducts must not become kinked.
2. Any kind of connections (valves, flanges etc.) which associated with fluids like that air or water, must be tight and leakproof.
3. If necessary, vibration isolators can be used between unit and floor.
4. In order to prevent sound transmission, appropriate acoustic decoupling must be provided on site depending on the building material.

ATTENTION ⚠

⚠ The outdoor spigot should be placed on the exhaust air side in case of no duct connection.

ATTENTION ⚠

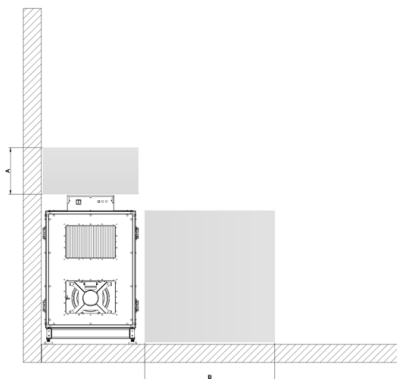
⚠ Make sure that the device is placed on a flat surface before any assembly work.

Assembly area

Observe the following criteria during installation to ensure that the device service is comfortable. (Fig. 1)

A is the minimum distance for servicing the terminal box.

B is the minimum distance for opening service cover.



MODEL	A (mm)	B (mm)
EVO-10C	600	1235
EVO-15C	600	1245
EVO-25C	600	1465
EVO-35C	600	-
EVO-45C	600	-
EVO-55C	600	1830
EVO-70C	600	2130
EVO-85C	600	-


CHAPTER 2

2.1 Unit insulation

The outside and exhaust air ductwork should be insulated sufficiently. Frost-proof condensate drainage must be installed, perhaps with a heater. If the unit is to be used in outdoor, make sure that the necessary equipment is installed. (weather roof and outdoor spigot, optional)

2.2 Installation

EVO-C has easily adjustable stays. (Fig. 2) First of all, make sure that there is enough space for the device servicing. Therefore, the device must be assembled after the dimensions have been identified.

ATTENTION  **Make sure that the device is placed on a flat surface before any assembly work.**



(Fig. 2)

2.3 Condensation outlet

Condensation water can occur during the heating and cooling period. The condensation water pan is made of stainless steel. The suitable length of the condensation pipe (long or short pipe) must be used for the service direction.

⚠ Condensation outlet pipes should be insulated against freezing.



(Fig. 3)

CHAPTER 2

2. Fit the elbow pipe to the pipe under the condensation pan. Make sure it is water tight by turning connection part on the pipe (Fig. 4)

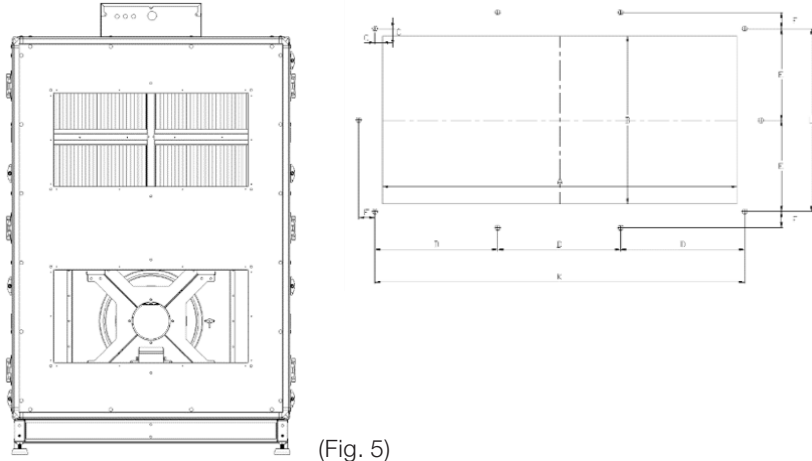


(Fig. 4)

CHAPTER 2

2.4 Flange connection / adapter pieces

EVO-C flange connection diameters are shown below (Fig.5)



(Fig. 5)

Model	Dimensions (mm)									
	A	B	C	n	D	m	E	F	K	L
EVO-10C	315	210	14,14	0	-	0	-	-	343,28	238,28
EVO-15C	350	310	14,14	0	-	0	-	-	378,28	338,28
EVO-25C	470	310	14,14	0	-	0	-	-	498,28	338,28
EVO-35C	580	410	14,14	1	304,1	0	-	30	608,28	438,28
EVO-45C	580	410	14,14	1	304,1	0	-	30	608,28	438,28
EVO-55C	855	410	14,14	1	441,6	0	-	30	883,28	438,28
EVO-70C	1055	410	14,14	2	361,1	0	-	30	1083,28	438,28
EVO-85C	1200	410	14,14	2	409,4	0	-	30	1228,28	438,28
n : number of drill hole (horizontal) (Except corner holes)										
m : number of drill hole (vertical) (Except corner holes)										
Hole/Bolt dimension : M8X20										

Adapter pieces for ducts are available from AERA.

2.5 Air ducting, Ventilation circuit

When designing the ductwork, use the shortest possible runs. Airtight connections and changeovers must be ensured for the best possible heat recovery. To avoid pressure losses, dirt build-up and noise, use smooth ducts (plastic or rigid ducting). If supply and extract air ductworks run through unheated rooms, insulation must be provided to reduce heat losses. Fresh air should be supplied to living and bedrooms and extraction should take place in bathrooms, toilets and kitchens. The installation of extractor hoods to the system is not permitted (reasons: dirt, fire danger, hygiene).

ATTENTION



All fire and building regulations must be observed!

2.6 Electrical Connection

WARNING



The unit must be fully isolated from the mains power supply before any maintenance and installation work or before opening the enclosure! The electrical connection must only be carried out by an authorised qualified electrician in accordance with the following wiring diagrams. The electrical connection must be fully isolated from the mains power supply until the assembly is complete!

The unit is equipped with a main switch and an isolator which can be secured against unauthorized switching with a U-lock. The relevant standards, safety regulations (e.g. DIN VDE 0100) and the technical connection conditions of the local electricity supply companies must be observed. An all-pole mains switch / isolator, with a contact opening of at least 3 mm (VDE 0700 T1 7.12.2 / EN 60335-1) must be provided. The main switch and/or isolator can be secured against unauthorized switching with a U-lock.

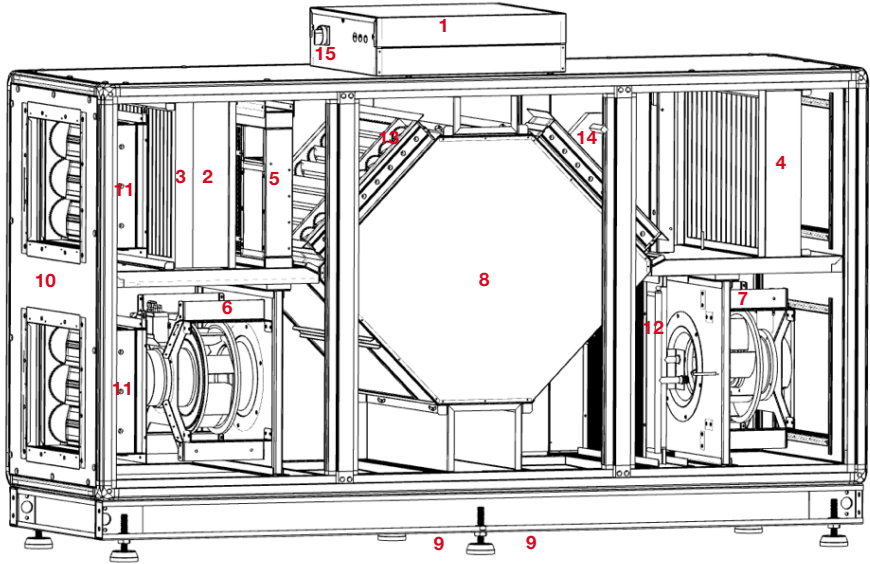
The surface-mounted controller with touchscreen is connected to the unit by means of a 5 m connecting cable (also available in 10 or 20 m length). The electrical connection of the EVO-C takes place directly in the terminal box. If any electronic accessory is added the unit, the electrical connections must be made in the terminal box.

CHAPTER 3

FUNCTIONAL DESCRIPTION

3.0 Unit overview

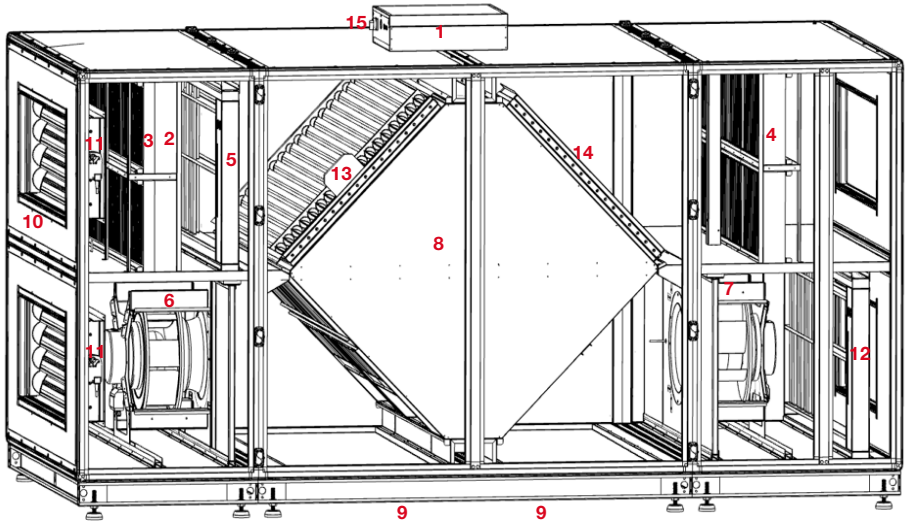
-Non-dividable unit (EVO-10C, EVO-15C, EVO-25C, EVO-35C) (Fig. 6)



- | | |
|--|---|
| 1. Terminal box | 10. Casing |
| 2. Outdoor air main filter (ePM1 55%) | 11. Outdoor damper (optional) |
| 3. Outdoor air pre-filter (ePM10 50%) (optional) | 12. Water heater coil or electrical after heater (optional) |
| 4. Extract air filter (ePM10 50%) | 13. Bypass damper |
| 5. Electrical pre-heater (optional) | 14. Recirculation damper (optional) |
| 6. Exhaust air fan | 15. Main switch |
| 7. Supply air fan | |
| 8. Counter flow heat exchanger | |
| 9. Condensation outlet pipe | |

FUNCTIONAL DESCRIPTION

-Dividable unit (EVO-45C, EVO-55C, EVO-70C, EVO-85C) (Fig. 7)



- | | |
|--|---|
| 1. Terminal box | 10. Casing |
| 2. Outdoor air main filter (ePM1 55%) | 11. Outdoor damper (optional) |
| 3. Outdoor air pre-filter (ePM10 50%) (optional) | 12. Water heater coil or electrical after heater (optional) |
| 4. Extract air filter (ePM10 50%) | 13. Bypass damper |
| 5. Electrical pre-heater (optional) | 14. Recirculation damper (optional) |
| 6. Exhaust air fan | 15. Main switch |
| 7. Supply air fan | |
| 8. Counter flow heat exchanger | |
| 9. Condensation outlet pipe | |

CHAPTER 4

DIMENSIONS PERFORMANCE CURVE

-Non-dividable units (EVO-10C, EVO-15C, EVO-25C, EVO-35C) (Fig. 8)

MODEL	A	B	C	D	E	F	K	L	M	X	Y
	Dimensions (mm) (Fig. 1)										
EVO-10C	1160	855	155	2005	635	785	613	629	613	315	210
EVO-15C	1350	1050	155	2090	645	795	613	711	613	350	310
EVO-25C	1435	1130	155	2345	865	1015	613	971	613	470	310

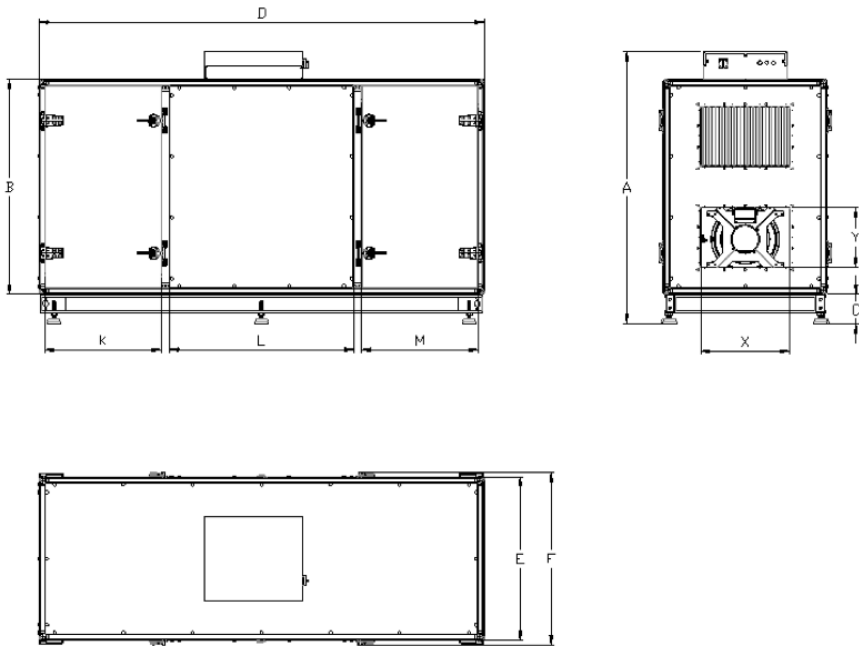


Fig.8

CHAPTER 4

MODEL	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL	XX
	Dimensions (mm) (Fig. 9)											
EVO-10C	150	90	775	518	716,5	568	472	81,5	318	424	215	32
EVO-15C	150	90	781	567	759,5	568	472	85,5	323	518	266	32
EVO-25C	150	90	858	637	846,5	568	472	195,5	433	532	300	32

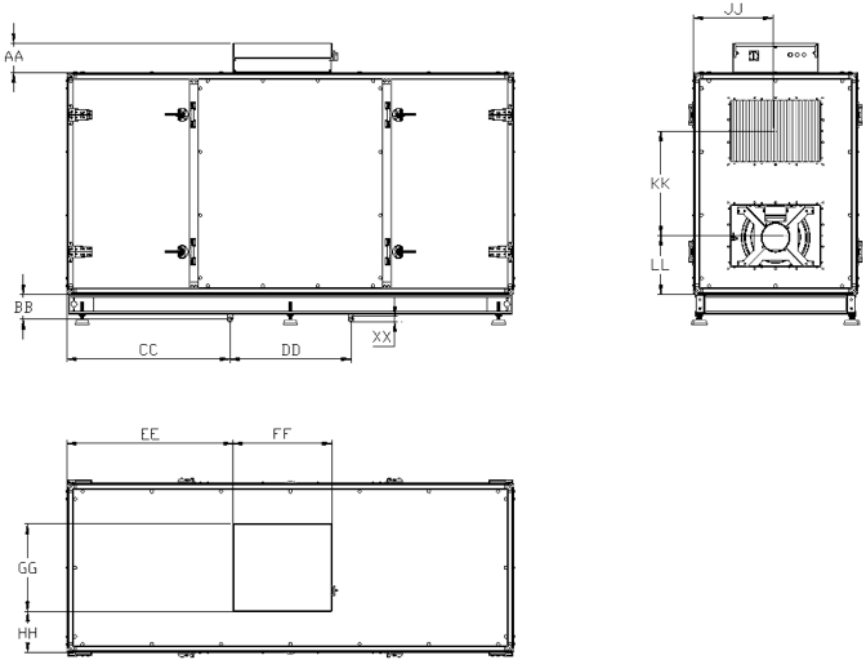
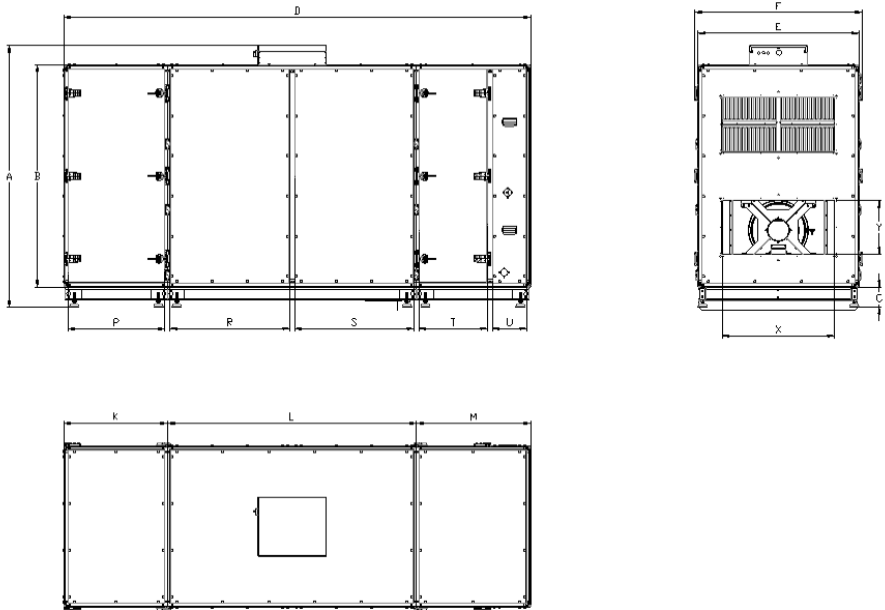


Fig.9

CHAPTER 4

-Dividable units (EVO-45C, EVO-55C, EVO-70C, EVO-85C) (Fig. 10)

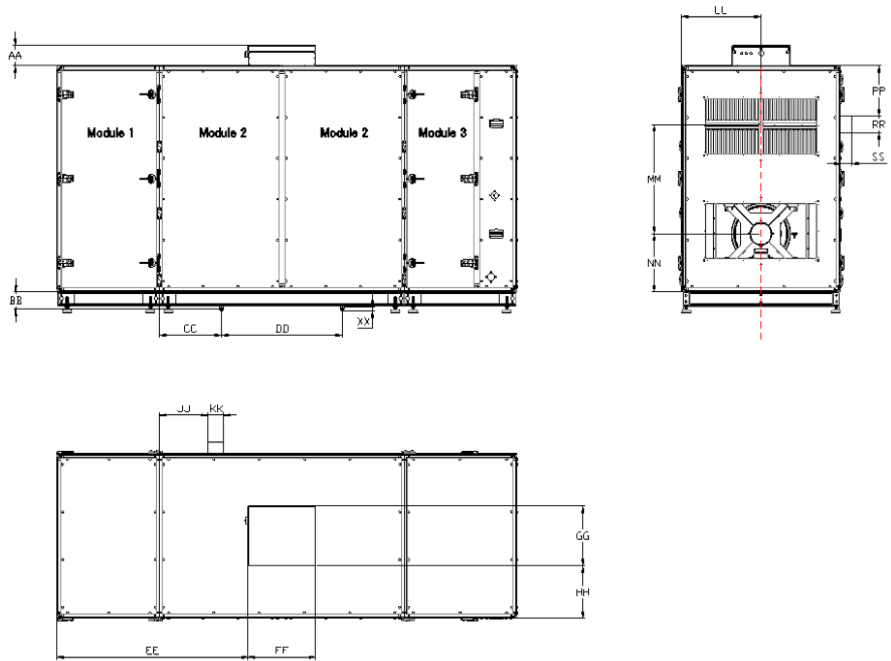
MODEL	A	B	C	D	E	F	K	L	M	P	R	S	T	U	X	Y
	Dimensions (mm) (Fig. 18)															
EVO-35C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EVO-45C	1990	1690	155	3515	1020	1170	790	1895	830	733	904	904	439	292	580	410
EVO-55C	1990	1690	155	3555	1230	1380	790	1895	870	733	904	904	515	259	855	410
EVO-70C	1990	1690	155	3605	1530	1680	790	1895	920	733	904	904	529	292	1055	410
EVO-85C	1990	1690	155	3655	1880	2030	790	1895	970	733	904	904	579	292	1200	410



(Fig. 10)

CHAPTER 4

MODEL	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL	MM	NN	PP	RR	SS	SS	XX
	Dimensions (mm) (Fig. 11) Dividable units																	
EVO-35C	150	90	369	734	1167	568	472	248	-	-	484	602	334	-	-	-	-	32
EVO-45C	150	90	474	947	1452	568	472	273	452	144	510	814	437	250	190	131	131	32
EVO-55C	150	90	474	947	1452	568	472	378	452	144	615	779	454	250	190	131	131	32
EVO-70C	150	90	474	947	1452	568	472	528	452	144	765	834	431	250	190	131	131	32
EVO-85C	150	90	474	947	1452	568	472	704	452	144	940	834	431	250	190	131	131	32

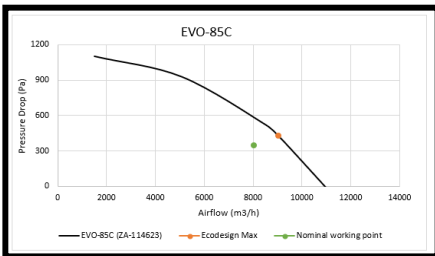
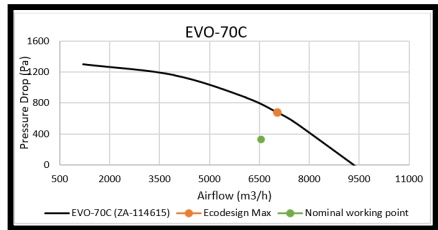
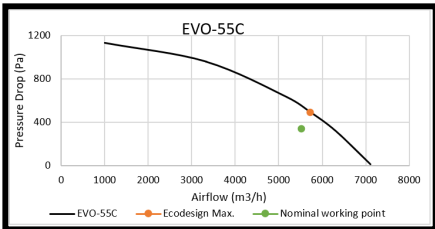
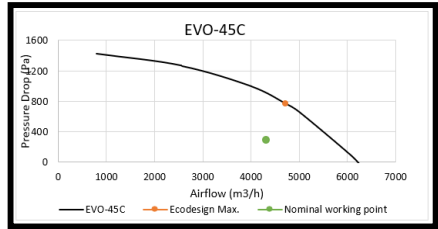
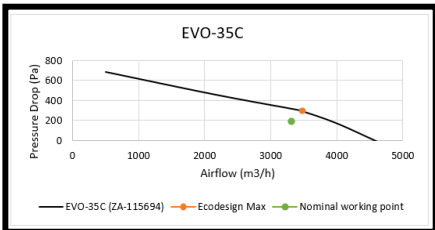
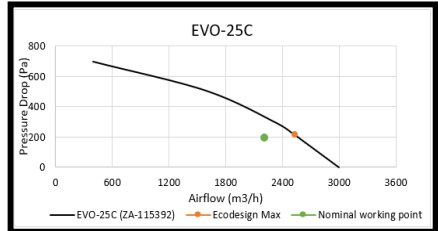
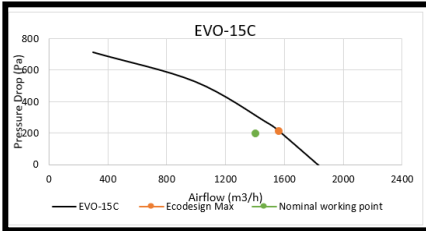


(Fig. 11)

CHAPTER 4

4.1 Performance curve

Maximum Ecodesign point



SERVICE AND MAINTENANCE

5.0 Service and maintenance

The filter change is usually carried out by the user. Additional cleaning and maintenance work must only be carried out by qualified electricians.

The EVO-C unit must be fully isolated from the power supply and secured against reactivation with the main isolator switch located on top of the unit before any cleaning and maintenance work.

Danger of electric shock, moving parts (fan) and hot surfaces.

5.1 Service and maintenance of cross counter flow heat exchanger

▲ Make sure that the power connection is disconnected before doing any work on the device. Danger of electric shock; moving parts (fan) and hot surfaces.

▲ Heat exchanger are very heavy and can contain condensation water!

▲ RISK OF INJURY! High weight! Two people are required for dismantling!
(EVO-10C, EVO-15C, EVO-25C)

Unit	Counter-flow heat exchanger weight (kg)
EVO-10C	17,6
EVO-15C	22,4
EVO-25C	38,3
EVO-35C	64,5
EVO-45C	90,4
EVO-55C	107
EVO-70C	147,5
EVO-85C	180,7

CHAPTER 5

1. Loosen the screws of the device service panel and remove. (Fig. 12)



CHAPTER 5

2.Remove the plug connection above the heat exchanger. (Fig. 13)



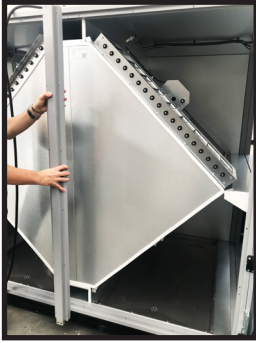
3.Remove the support panel for the heat exchanger service.
-Remove the plug and loosen the screw (Fig. 14)



(Fig. 14)

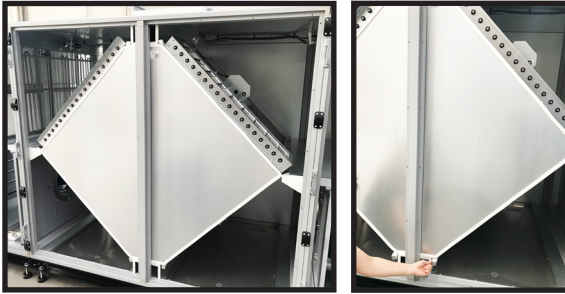
CHAPTER 5

-Carefully remove the profile (Fig. 15)



(Fig. 15)

4. Loosen the heat exchanger locks. In this respect, pull the lock-bars forward. (Fig. 16)



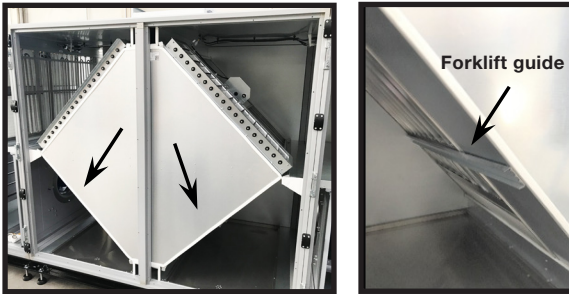
(Fig. 16)

5. Carefully pull cross counter flow heat exchanger from the unit and set down safely (EVO-10C, EVO-15C, EVO-25C) (Fig. 17)



(Fig. 17)

▲ Use forklift to remove the heat exchanger on the EVO-35C, EVO-45C, EVO-55C, EVO-70C, EVO-85C models (Fig. 18)



(Fig. 19)

Cleaning

The counter-flow heat exchanger must be inspected regularly for dirt and dust deposits. If there are dirt and dust deposits on the heat exchanger, these can be easily removed, using one of the following methods;

Cleaning pressure: up to 5 bar

Temperature: 70°C

- Aluminium counter-flow heat exchanger can be wet cleaned and up to a pressure of 5 bar working pressure.
- The cleaning can be made with cold or warm (up to max. 70°C) water. Household cleaners are allowed.
- Clean heat exchanger on both sides!
- Do not bend the fins!
- Recuperators are corrosion and weather resistant.
- When cleaning take care that the exchanger is not damaged, neither mechanically nor chemically.

▲ Allow heat exchanger to dry before installation!

CHAPTER 5

5.2 Filter change

▲ Make sure that the power connection is disconnected before doing any work on the device.

Danger of electric shock; moving parts (fan) and hot surfaces.

1. Unlock the lock and turn the handles counter clock-wise direction for opening doors. (Fig. 20)



(Fig. 20)

2. Pull lock-bars for unlock filters. (Fig. 21)



(Fig. 21)

3. Remove filter from slides (Fig. 22)



(Fig. 22)

CHAPTER 5

The EVO-C compact unit is equipped with ePM1 55% class filter on the outdoor air side and ePM10 50% class filter on the extract air side as standard.

Outside/extract air:

Filter Name	Filter Type
EVO-10C Extract air filter	ELF-EVO-10C/ePM10 50% - M5/96
EVO-10C Outdoor air filter	ELF-EVO-10C/ePM1 55% - F7/96
EVO-15C Extract air filter	ELF-EVO-15C/ePM10 50% - M5/96
EVO-15C Outdoor air filter	ELF-EVO-15C/ePM1 55% - F7/96
EVO-25C Extract air filter	ELF-EVO-25C/ePM10 50% - M5/96
EVO-25C Outdoor air filter	ELF-EVO-25C/ePM1 55% - F7/96
EVO-35C Extract air filter	ELF-EVO-35C/ePM10 50% - M5/96
EVO-35C Outdoor air filter	ELF-EVO-35C/ePM1 55% - F7/96
EVO-45C Extract air filter	ELF-EVO-45C/ePM10 50% - M5/96
EVO-45C Outdoor air filter	ELF-EVO-45C/ePM1 55% - F7/96
EVO-55C Extract air filter	ELF-EVO-55C/ePM10 50 - M5%/96
EVO-55C Outdoor air filter	ELF-EVO-55C/ePM1 55% - F7/96
EVO-70C Extract air filter	ELF-EVO-70C/ePM10 50 - M5%/96
EVO-70C Outdoor air filter	ELF-EVO-70C/ePM1 55% - F7/96
EVO-85C Extract air filter	ELF-EVO-85C/ePM10 50 - M5%/96
EVO-85C Outdoor air filter	ELF-EVO-85C/ePM1 55% - F7/96

The filters must be regularly checked (see controller display factory setting every 6 months) for degree of soiling (danger of mould formation). They must be exchanged for hygiene reasons through one-off extraction or after one year of operation at the latest. If the filters are damp or mouldy, they must be exchanged immediately.

CHAPTER 5

5.3 Service and maintenance of pre-electrical heater

WARNING ⚠

RISK OF INJURY! Make sure that the power connection is disconnected, and fan is not moving before doing any work on the device.

1. Unlock the lock and turn the handles counter clock-wise direction for opening doors. (Fig. 23)



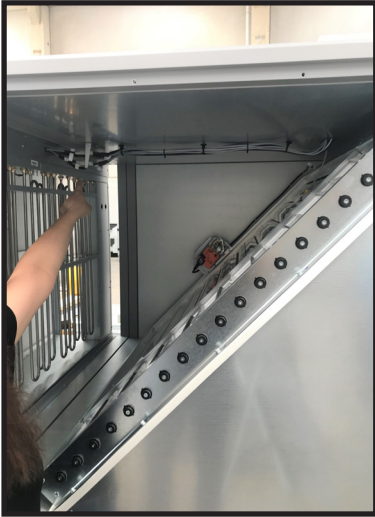
(Fig. 23)

2. Unplug the electrical connections on the pre electrical heater (Fig. 24)



(Fig. 24)

3. Remove the pre-electrical heater slowly and carefully (Fig. 25)



(Fig. 25)

4. Be careful to electrical connections when installing the pre electrical heater back into

5.4 Reset function

WARNING  **RISK OF INJURY! Make sure that the power connection is disconnected, and fan is not moving before doing any work on the device.**

 Danger of electric shock; moving parts (fan) and hot surface.

The manual RESET takes place by pressing the reset lever, which is located directly on the electrical pre-heater.

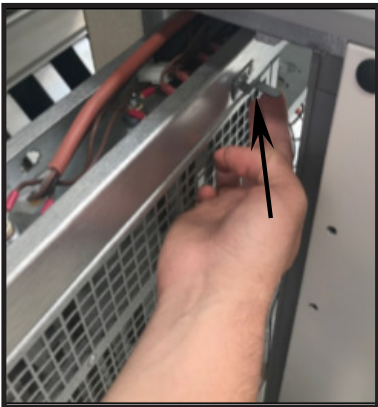
CHAPTER 5

1. Unlock the lock and turn the handles counter clock-wise direction for opening doors. (Fig. 26)



(Fig. 26)

2. For a manual RESET, push the reset lever upward. (Fig. 27)



(Fig. 27)

⚠ Manual reset: 90oC
Automatically reset: 70

5.5 Service and maintenance of the fan

WARNING ⚠

RISK OF INJURY! Make sure that the power connection is disconnected, and fan is not moving before doing any work on the device

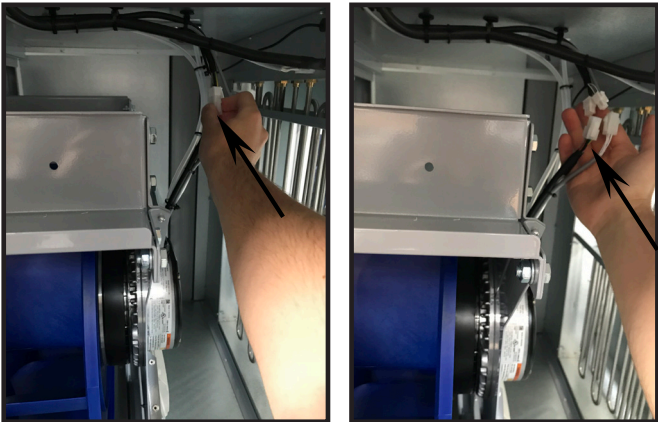
- ⚠ Danger of electric shock; moving parts (fan) and hot surface.
- ⚠ Be careful during service and maintenance as the fans are heavy.

1. Unlock the lock and turn the handles counter clock-wise direction for opening doors. (Fig. 28)



(Fig. 28)

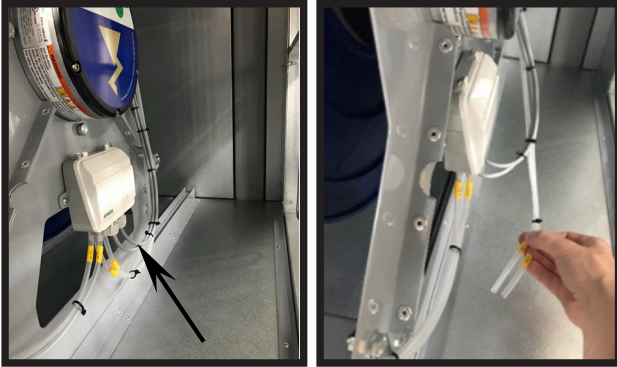
1. Unplug the power connector on the fan (Fig. 29)



(Fig. 29)

CHAPTER 5

3. Remove the fan pressure hoses from pressure transmitter. (Fig. 30)

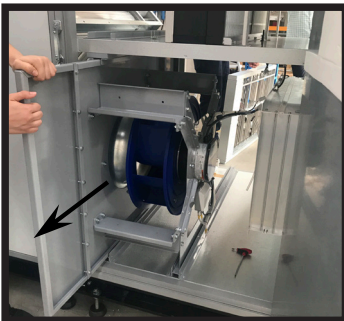


(Fig. 30)



(Fig. 30)

4. Remove the fan slowly and carefully (Fig. 31)



(Fig. 31)

▲ Be careful to electrical connections when installing the fans back into

5.6 Condensate tray Cleaning

WARNING ⚠

RISK OF INJURY! Make sure that the power connection is disconnected, and fan is not moving before doing any work on the device

⚠ Danger of electric shock; moving parts (fan) and hot surface

1. Loosen the screws of the device service panel and remove. (Fig. 32)



(Fig. 32)

CHAPTER 5

2. Clean condensate tray with a cloth (Fig. 33)

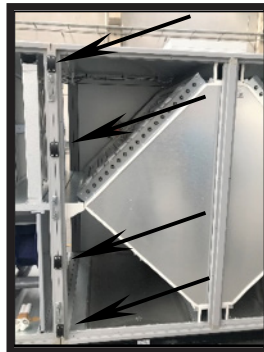
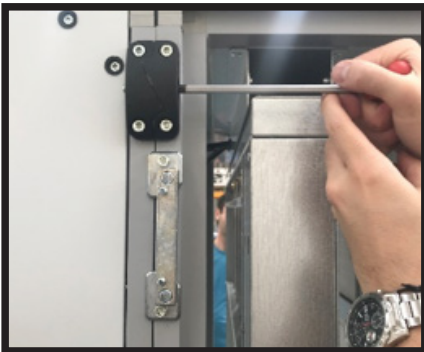


(Fig. 33)

5.7 Module assembly

WARNING  **RISK OF INJURY!** Make sure that the power connection is disconnected, and fan is not moving before doing any work on the device

1. Bring modules closer together and tighten the bolt (Fig. 34)



(Fig. 34)

2.Plug the electrical connections (Fig. 35)



(Fig. 35)

5.8 Terminal box with isolator/main switch

The terminal box is connected to the top of the casing ensures free access to the electronic component.

CHAPTER 6

Installation, service and maintenance of accessories

6.1 Accessory list

Accessories
Outdoor Air Filter ePM10 50% / M5 (48)
Outdoor Air Filter ePM1 80% / F9 (96)
Electrical Pre-Heater
Electrical After-Heater
Water After Heater Coil (Left-Right)
Water Cooling Coil (Left)
Water Cooling Coil (Right)
Cooling DX (Left)
Cooling DX (Right)
Outdoor Damper
Recirculation Damper
Duct Adapter
Sound Attenuator
Weather Roof
Outdoor Roof Cooling CW (Left)
Outdoor Roof Cooling CW (Right)
Outdoor Roof Cooling DX (Left)
Outdoor Roof Cooling DX (Right)
Outdoor Air Spigot (Outdoor)
Exhaust Air Spigot (Outdoor)
Condensate Pump
Siphon
Vibration Damper Pad
E3-DSP Display
ED-T7 Display
Presigo CAP-Modus
Heater E-Box for Outside Installation
Heater Siphon for Outside Installation
Signal Converter
Hydraulic Kit (WHSB)
HMI Connection Cable (10m or 20m)
Flexible Connection
Thermostat - STB 70 (Pre- / Afterheater)
Thermostat - STB 90 (Pre- / Afterheater)

6.2 Installation of accessories

6.2.1 Installation of water after heater

Make sure that the power connection is disconnected before doing any work on the device.

Make sure there is no hot water connection before doing any work on the device.

WARNING ⚠

⚠ Danger of electric shock; moving parts (fan) and hot surfaces.

⚠ **Refer to the electrical diagrams for hot water coil signal connections.**

⚠ **It is recommended to lift the device up to make coil pipe connections easy.**

⚠ **Hot water coil inlet - outlet pipes should be insulated.**

- **EVO-10C, EVO-15C, EVO-25C, EVO-35C**

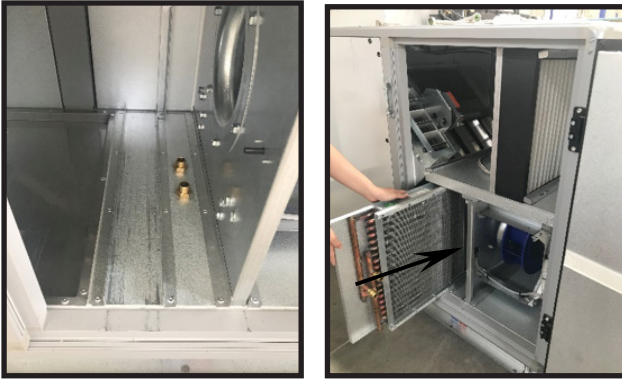
1. Unlock the lock and turn the handles counter clock-wise direction for opening doors. (Fig. 36)



(Fig. 36)

CHAPTER 6

2.Place the hot water coil (Fig. 37)



(Fig. 37)

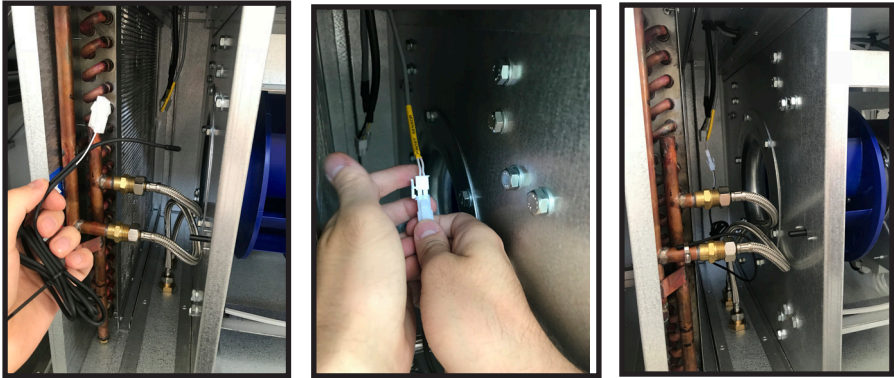
3.Install the hot water coil pipe connection (Fig. 38)



(Fig. 38)

CHAPTER 6

4. Place the temperature sensor on the water outlet pipe with the metal cable tie and plug the sensor connection (metal cable tie and sensor are included in scope of hot water coil delivery) (Fig. 39)



(Fig. 39)

- EVO-45C, EVO-55C, EVO-70C, EVO-85C,

1. Remove the service panel (Fig. 40)



(Fig. 40)

CHAPTER 6

2. Remove the sheet metal and rock wool on the service panel. (Fig. 41)



(Fig. 41)

3. Place the hot water coil
4. Place the temperature sensor on the water outlet pipe with the metal cable tie and plug the sensor connection (metal cable tie and sensor are included in scope of water after heater delivery)
5. Place the gasket on the coil pipes and install the panel.
6. After placed the panel, install the gasket on the coil pipes.

6.2.2 Installation of electrical after heater

- 1. Remove the service panel (Fig. 46)



(Fig. 46)

- 2. Place the electrical after heater (Fig. 47)



(Fig. 47)

CHAPTER 6

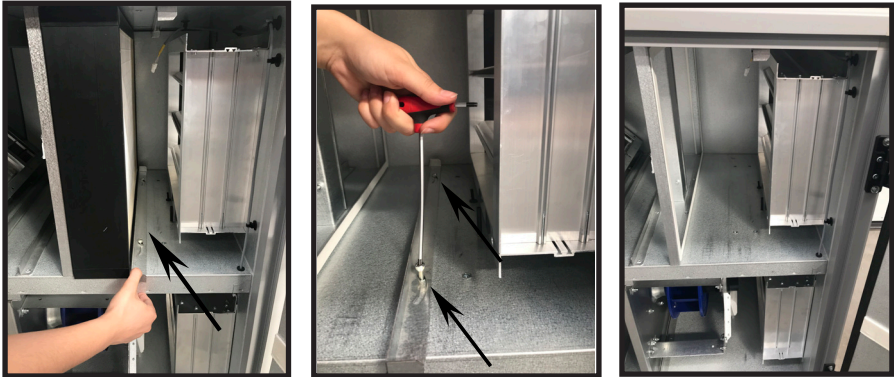
3. Plug the electrical connections on the electrical heater (Fig. 48)



(Fig. 48)

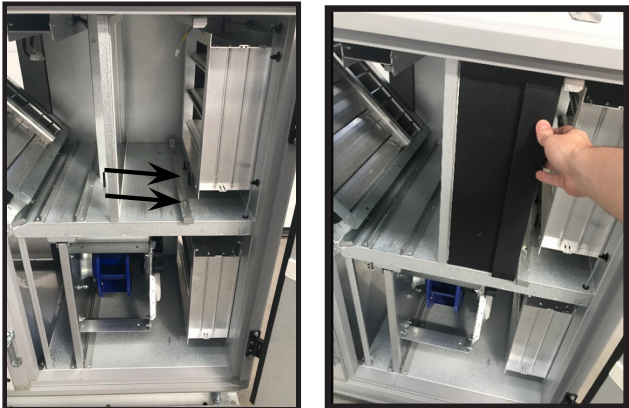
6.2.3 Installation of outdoor air filter ePM10 50%

1.Remove the filter lock. (Fig. 49)



(Fig. 49)

2. Place the filter lock as shown below (Fig. 50)



(Fig. 50)

CHAPTER 6

6.2.4 Installation of recirculation damper

WARNING ⚠️ **Make sure that the power connection is disconnected before doing any work on the device.**

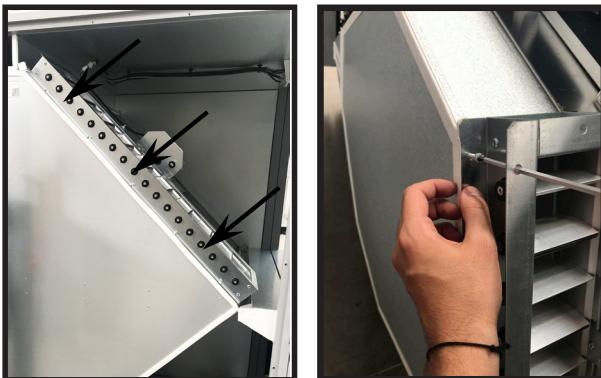
⚠️ **It is recommended to remove the heat exchanger to install the recirculation damper easily**

1. Loosen the screws of the device service panel and remove. (Fig. 51)



(Fig. 51)

2. Remove the sheet metal in the recirculation damper clearance.
3. Place the recirculation damper and tighten the bolt (Fig. 53)



(Fig. 53)

4. Plug the electrical connections on the damper actuator (Fig. 54)



(Fig. 54)

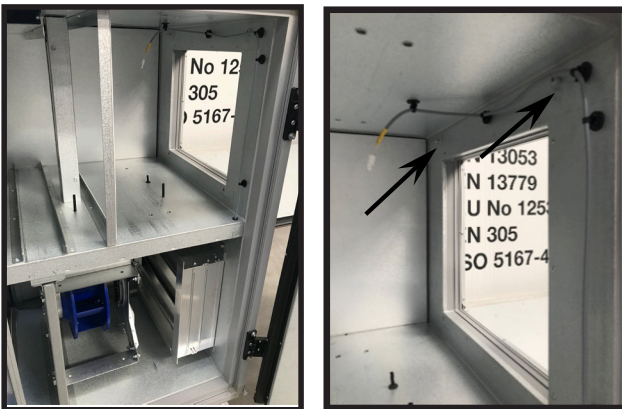
6.2.5 Installation of outdoor damper

WARNING ⚠

⚠ **Make sure that the power connection is disconnected before doing any work on the device.**

⚠ **Before the damper installation, remove the filter and fan.**

1. Loosen the screw (Fig. 55)



(Fig. 55)

CHAPTER 6

2. Placed the damper from the ears to the bolts and tighten the bolts at the top and bottom of the damper. (Fig. 56)



(Fig. 56)



(Fig. 56)

7.. Plug the electrical connections on the damper actuator (Fig. 57)



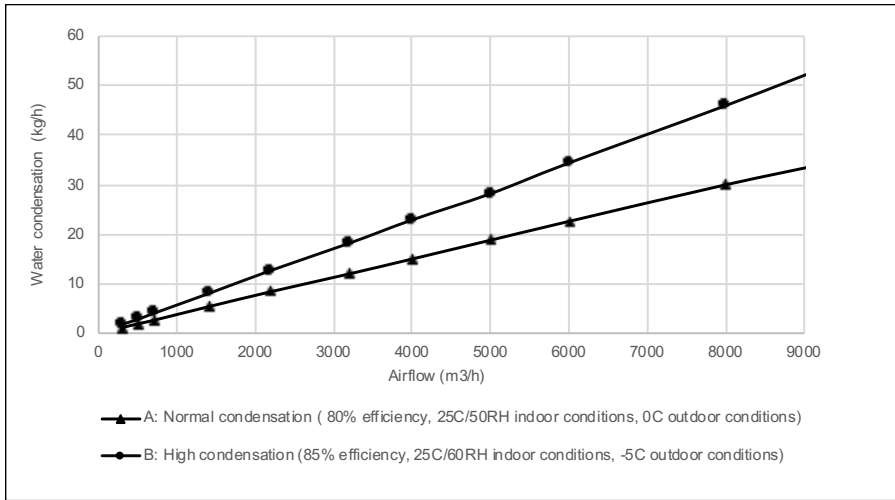
(Fig. 57)

CHAPTER 6

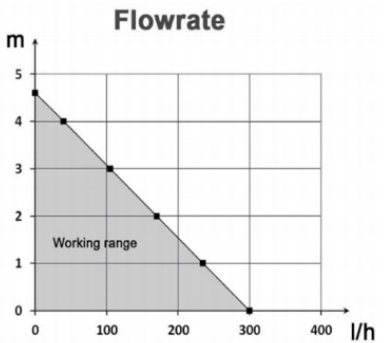
6.2.6 Installation of condensate pump

Condensate water can be easily removed from the condensate tray. If the water needs to be raised to a certain height, a suitable pump should be used.

1. See figure 65 to determine the amount of condensate water in each EVO-C models (Fig. 58)
2. See figure 66 to check the pump working range. (Fig. 59)



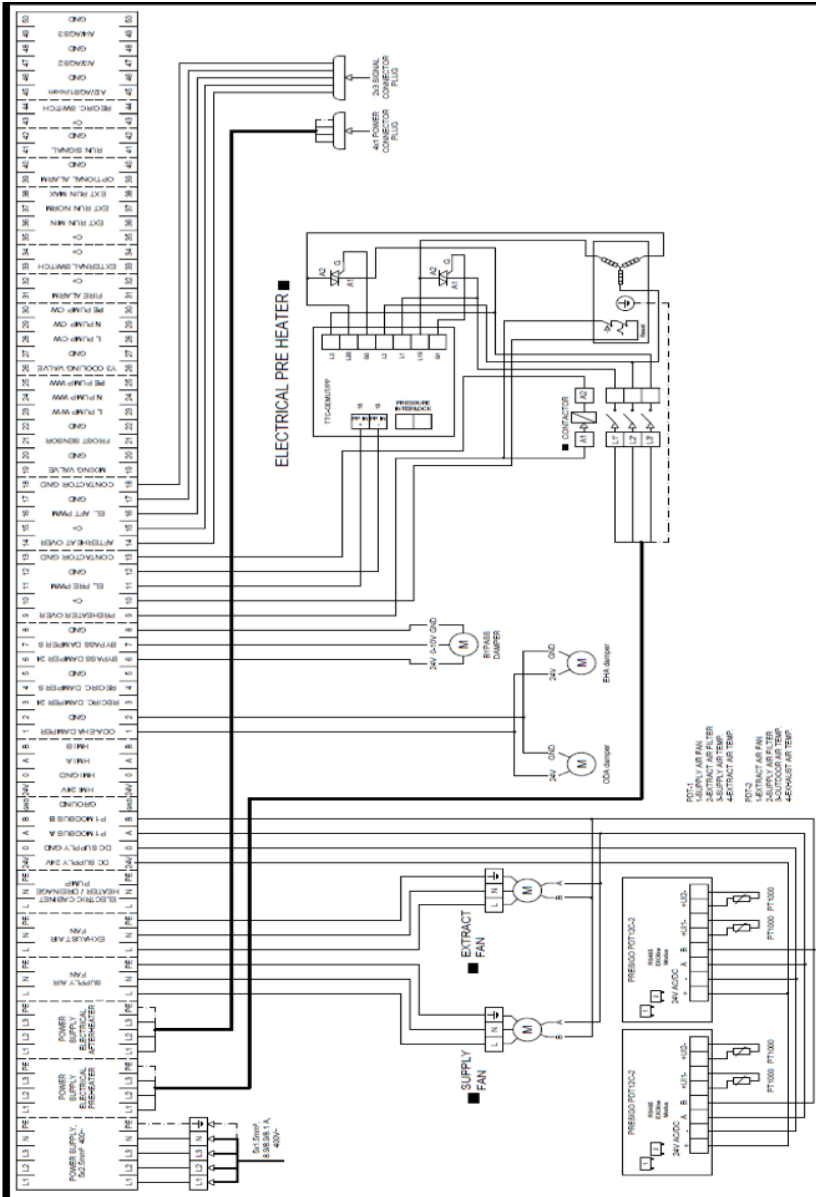
(Fig. 58)



(Fig. 59)

WIRING DIAGRAM OVERVIEW

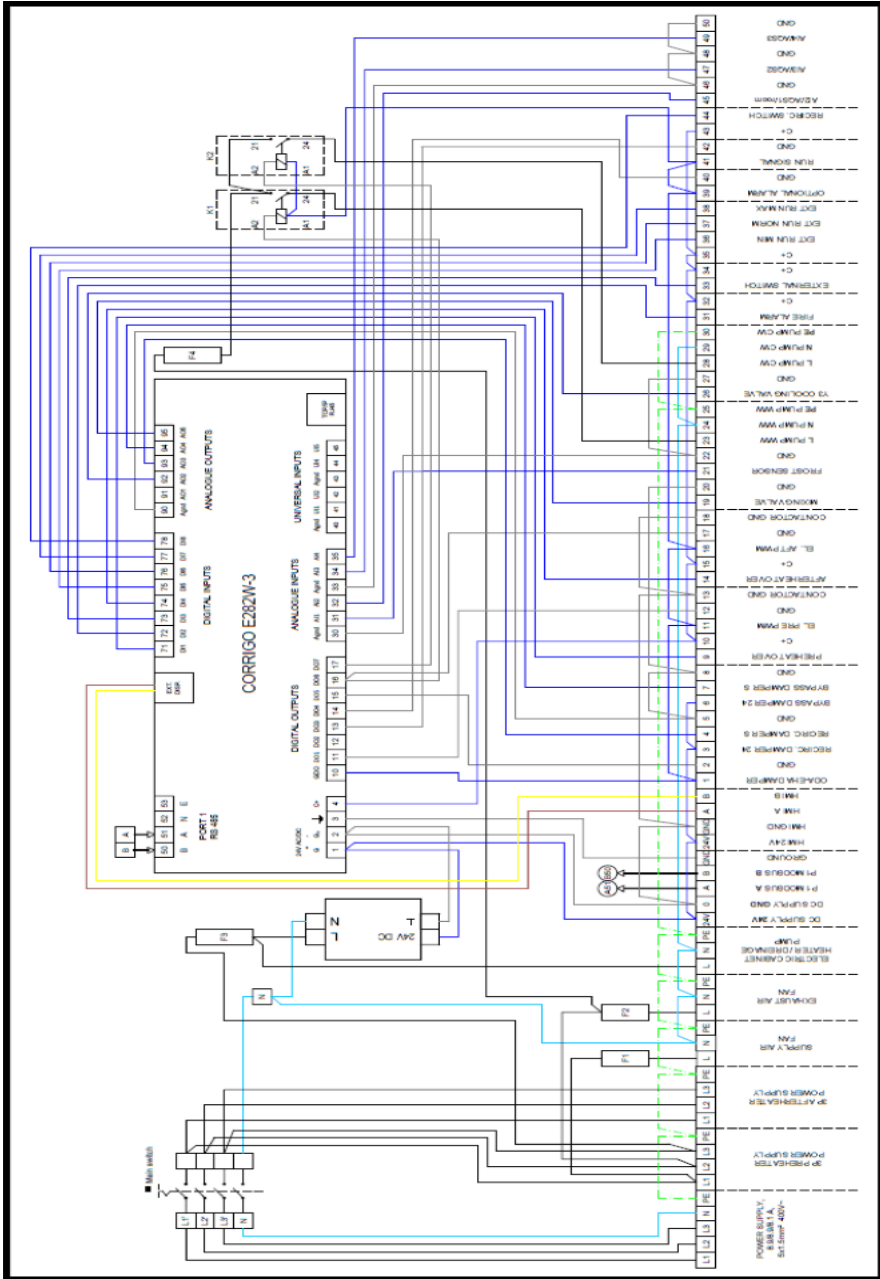
7.1 EVO-10C Wiring Diagrams



EVO-10C STANDART UNIT WIRING DIAGRAM

(Fig. 60)

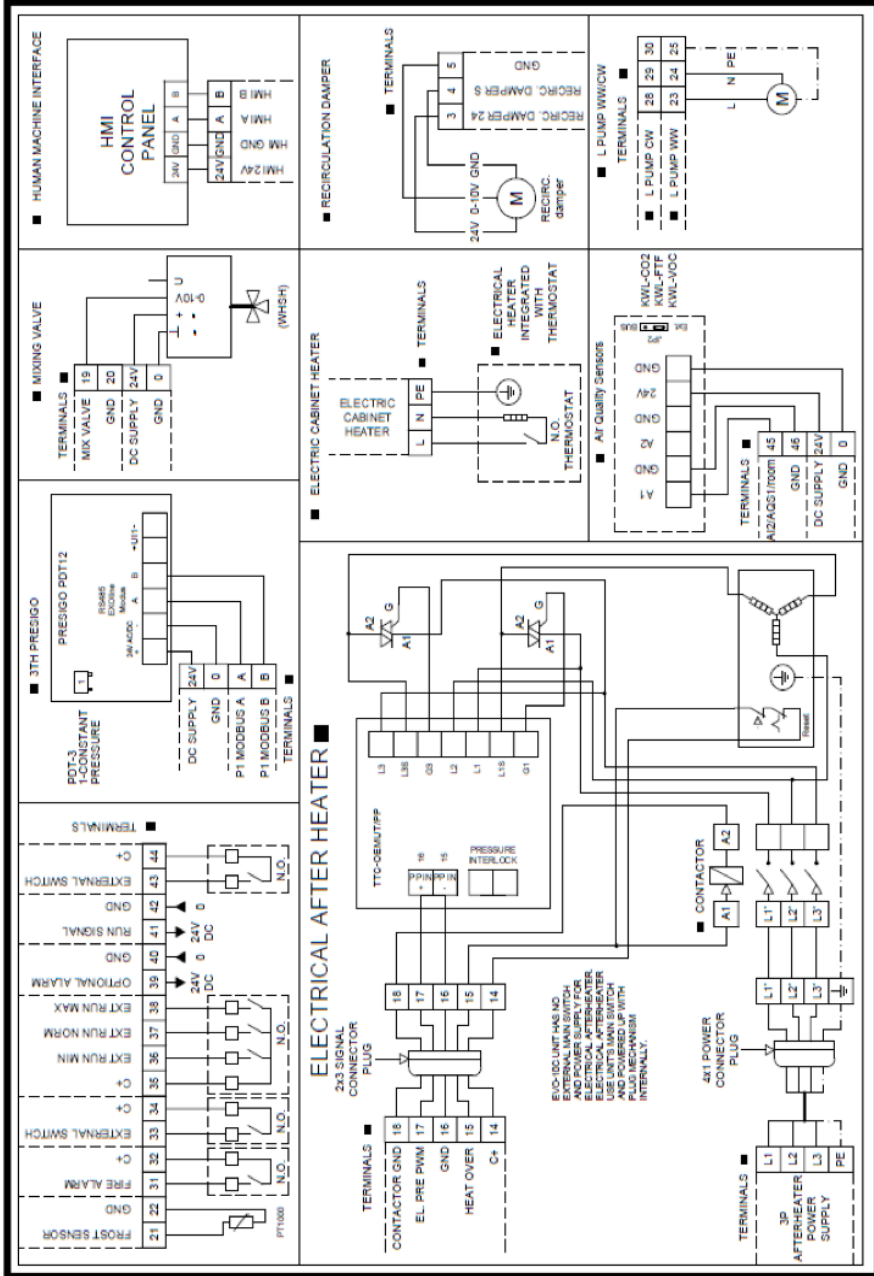
CHAPTER 7



EVO-10C CONTROL PANEL DIAGRAM

(Fig. 61)

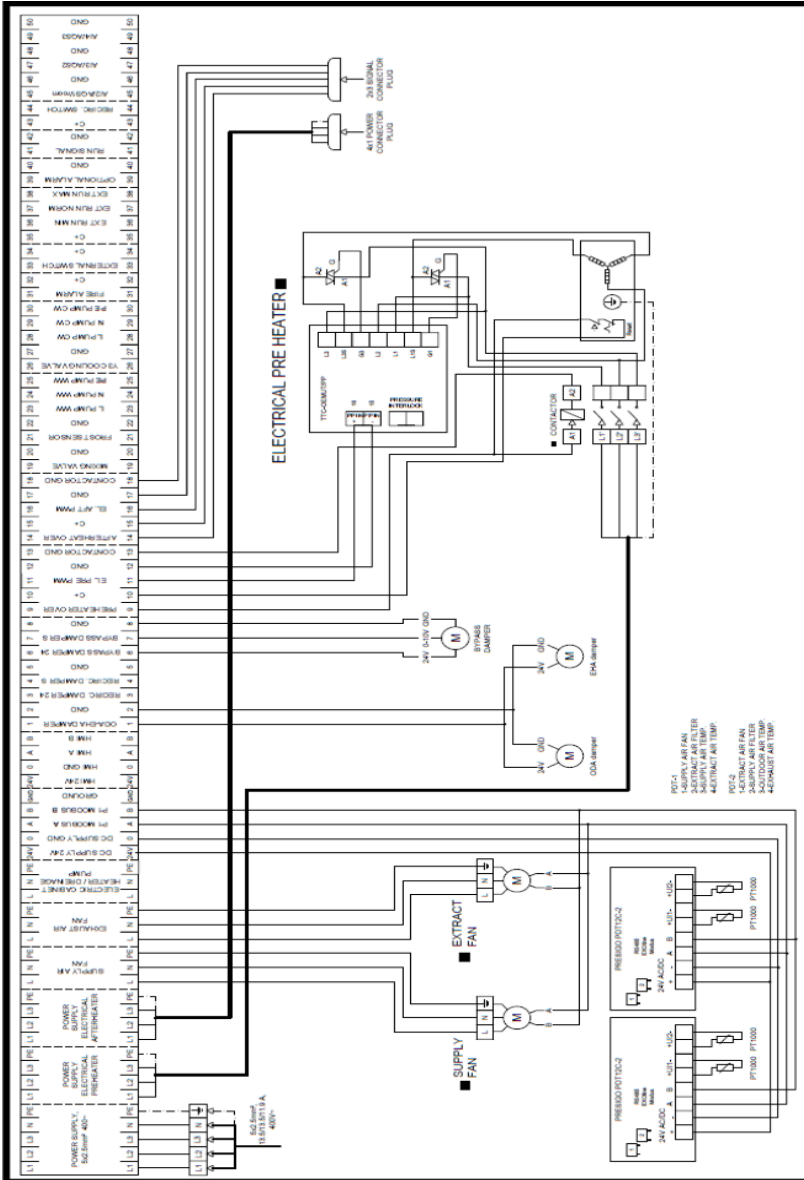
CHAPTER 7



EVO-10C ACCESSORIES DIAGRAM
(Fig. 62)

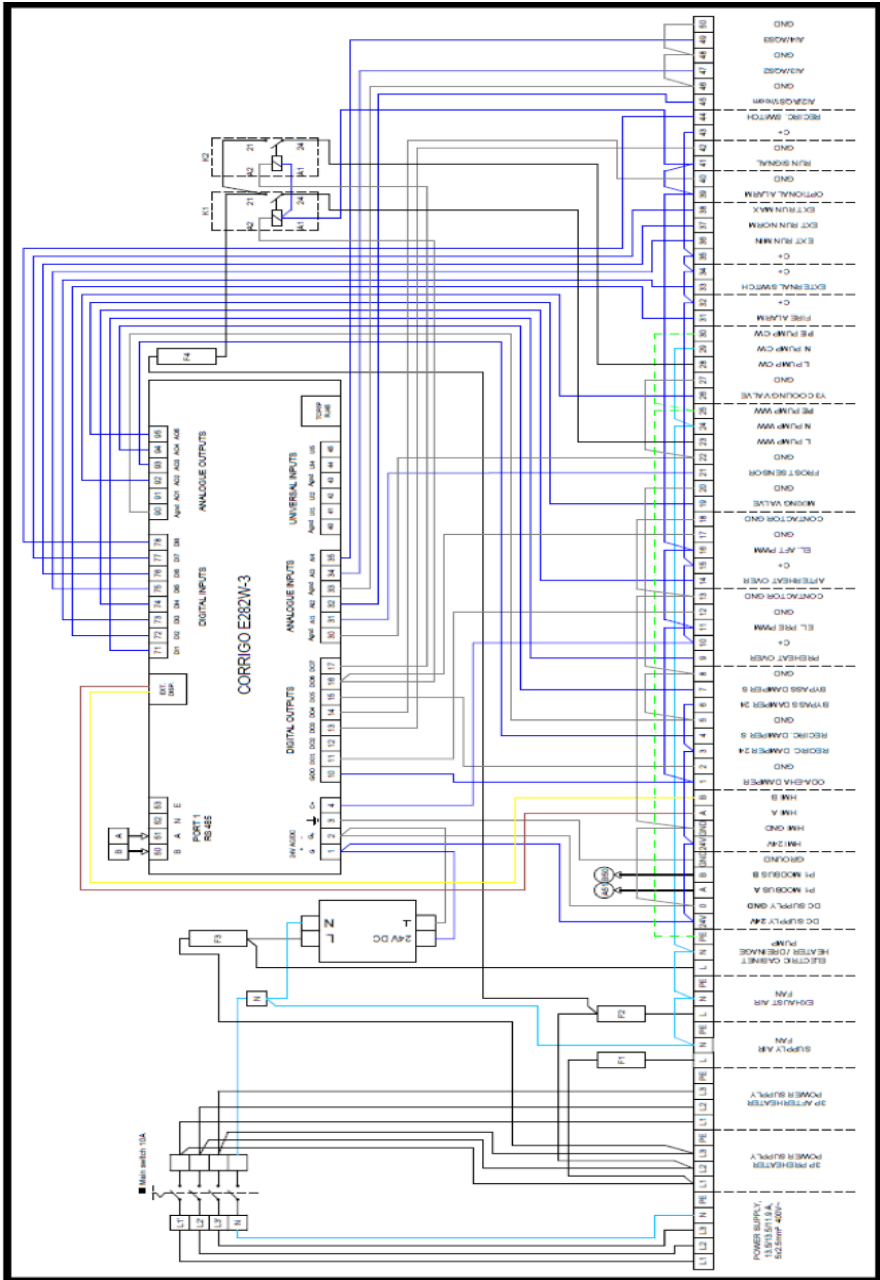
CHAPTER 7

7.2 EVO-15C Wiring Diagrams



EVO-15C STANDART UNIT WIRING DIAGRAM
(Fig. 63)

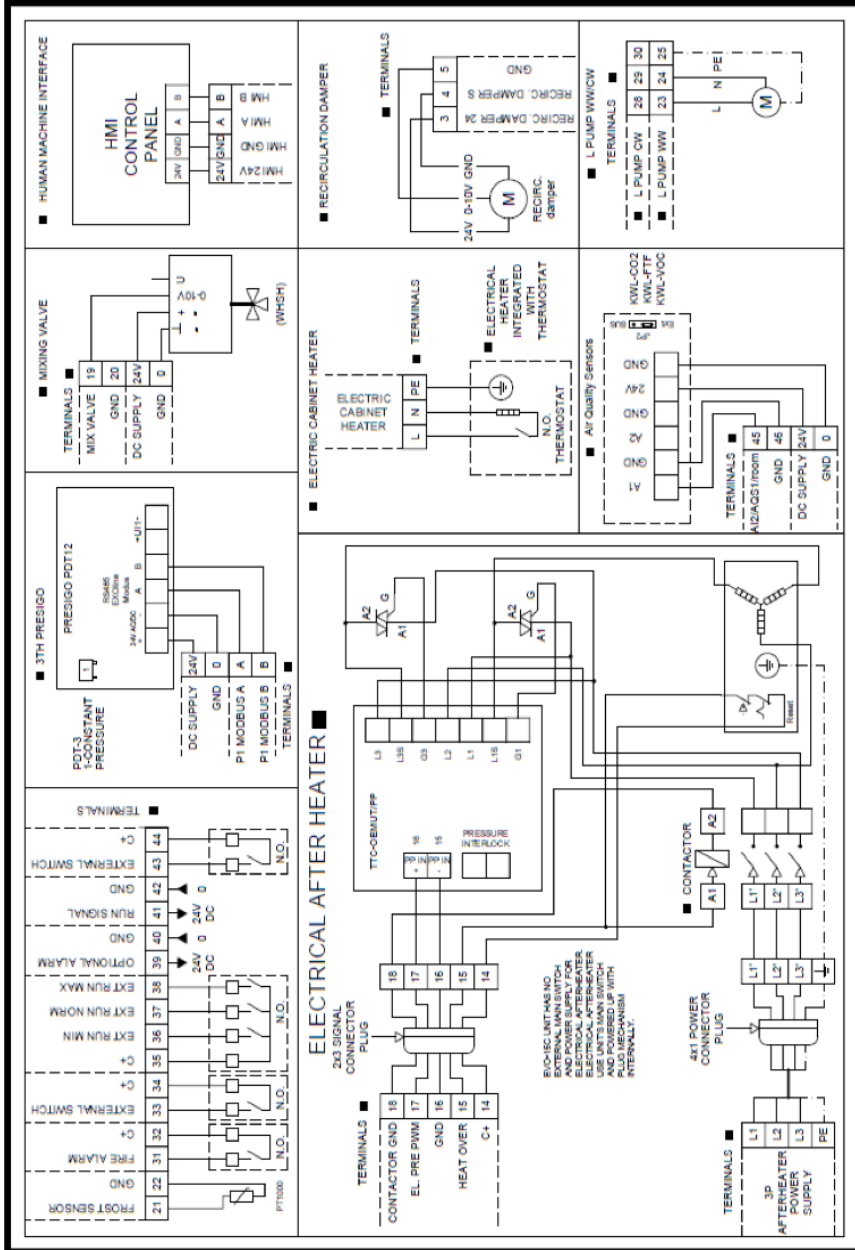
CHAPTER 7



EVO-15C CONTROL PANEL WIRING DIAGRAM

(Fig. 64)

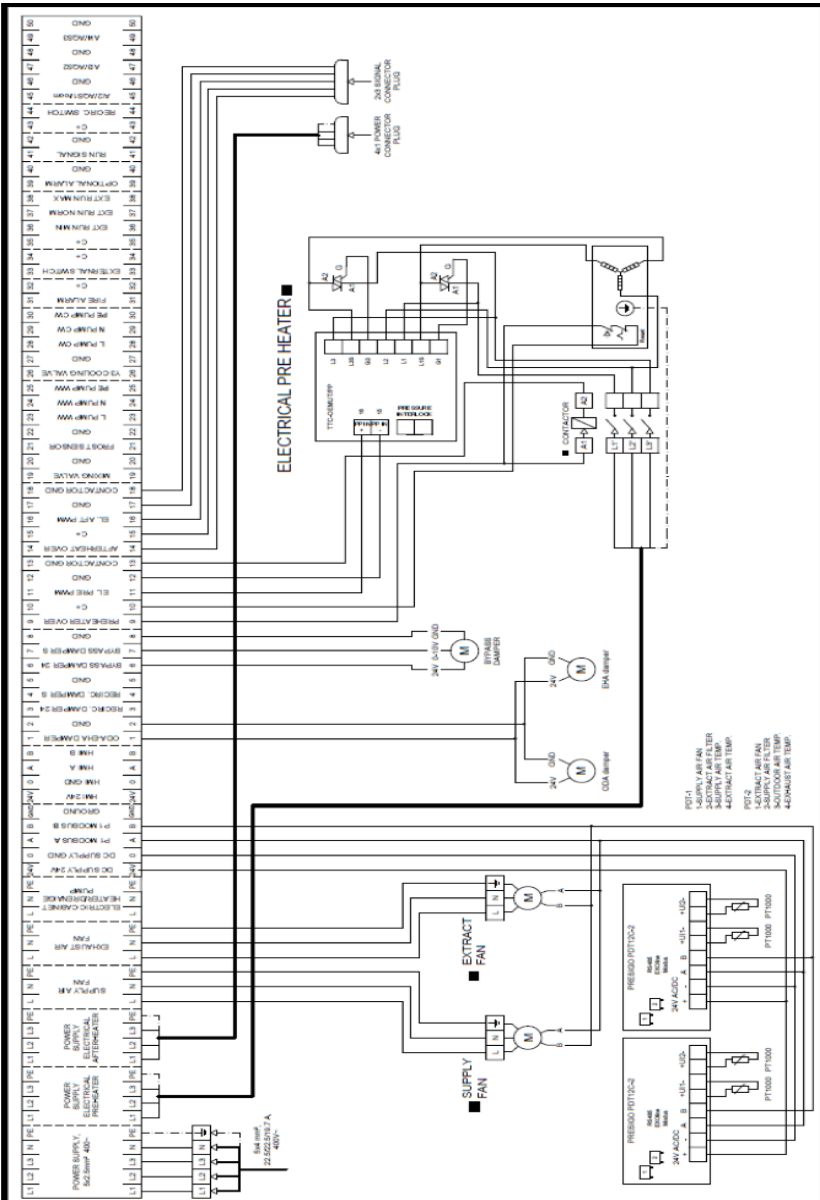
CHAPTER 7



EVO-15C ACCESSORIES DIAGRAM

(Fig. 65)

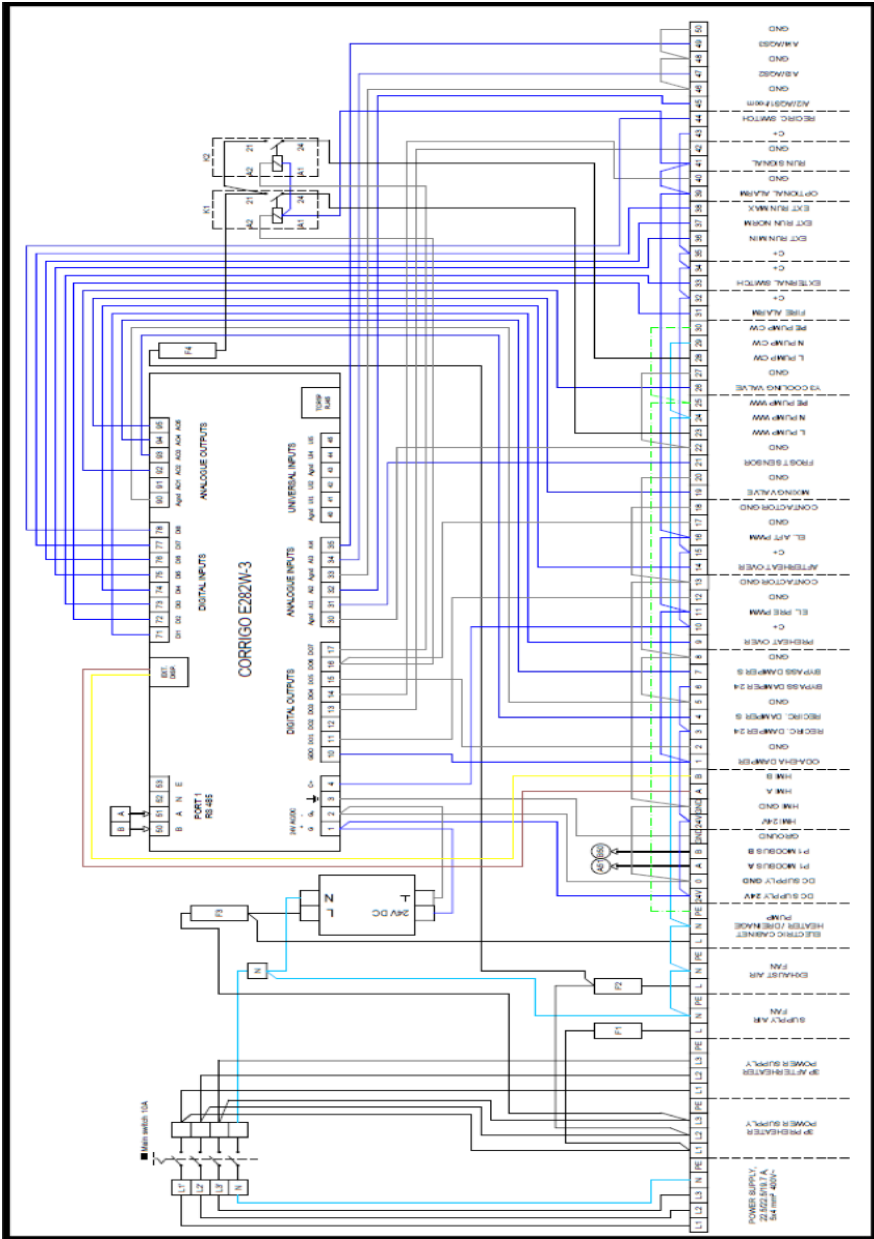
7.3 EVO-25C Wiring Diagrams.



EVO-25C STANDART UNIT WIRING DIAGRAM

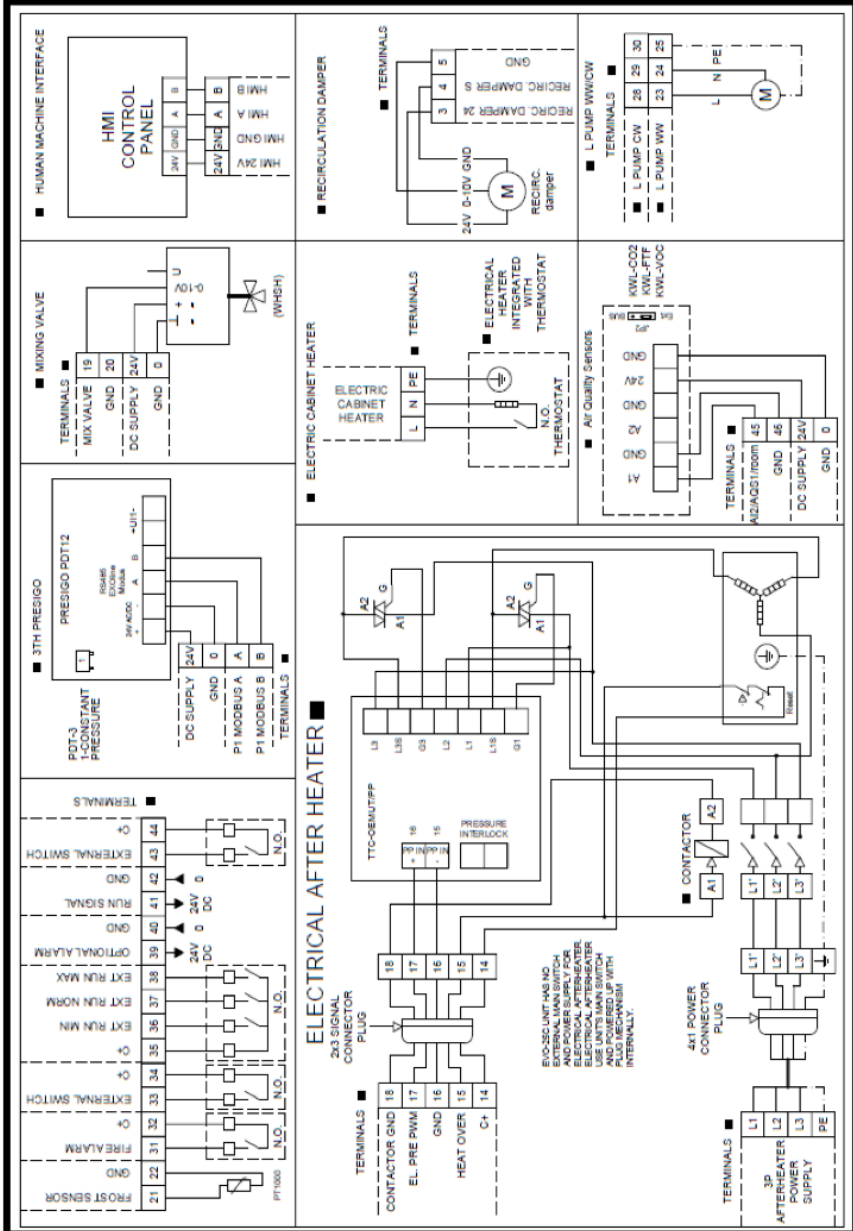
(Fig. 66)

CHAPTER 7



EVO-25C CONTROL PANEL WIRING DIAGRAM

(Fig. 67)

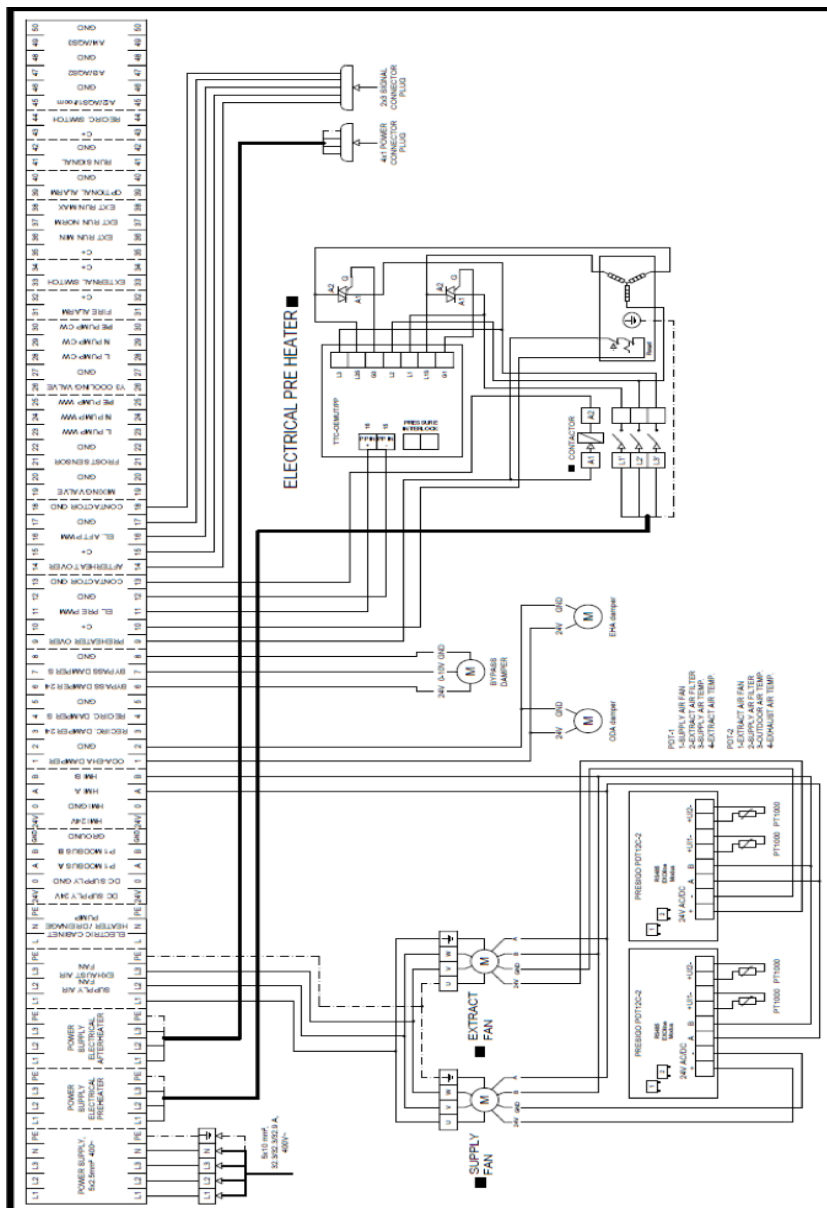


EVO-25C ACCESSORIES DIAGRAM

(Fig. 68)

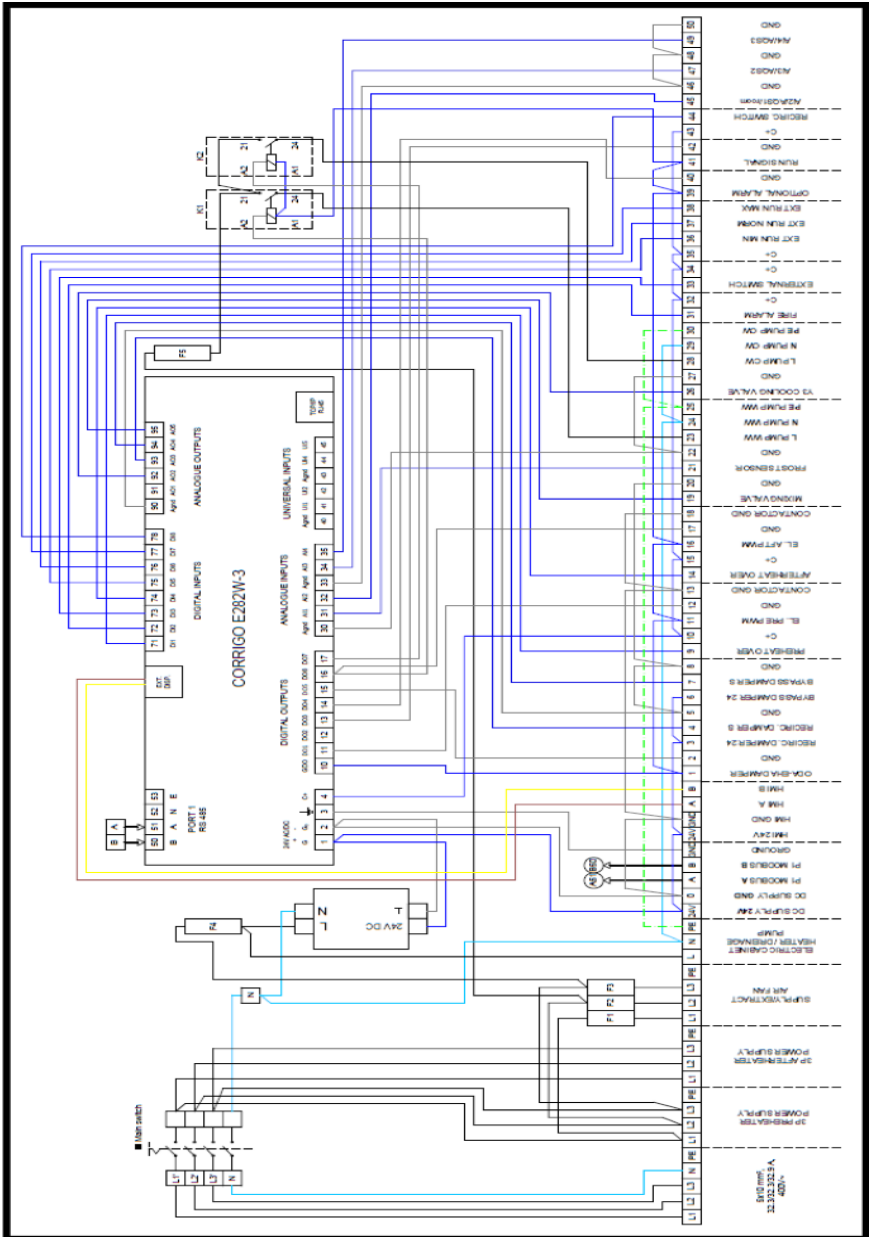
CHAPTER 7

7.4 EVO-35C Wiring Diagrams



EVO-35C STANDART UNIT WIRING DIAGRAM

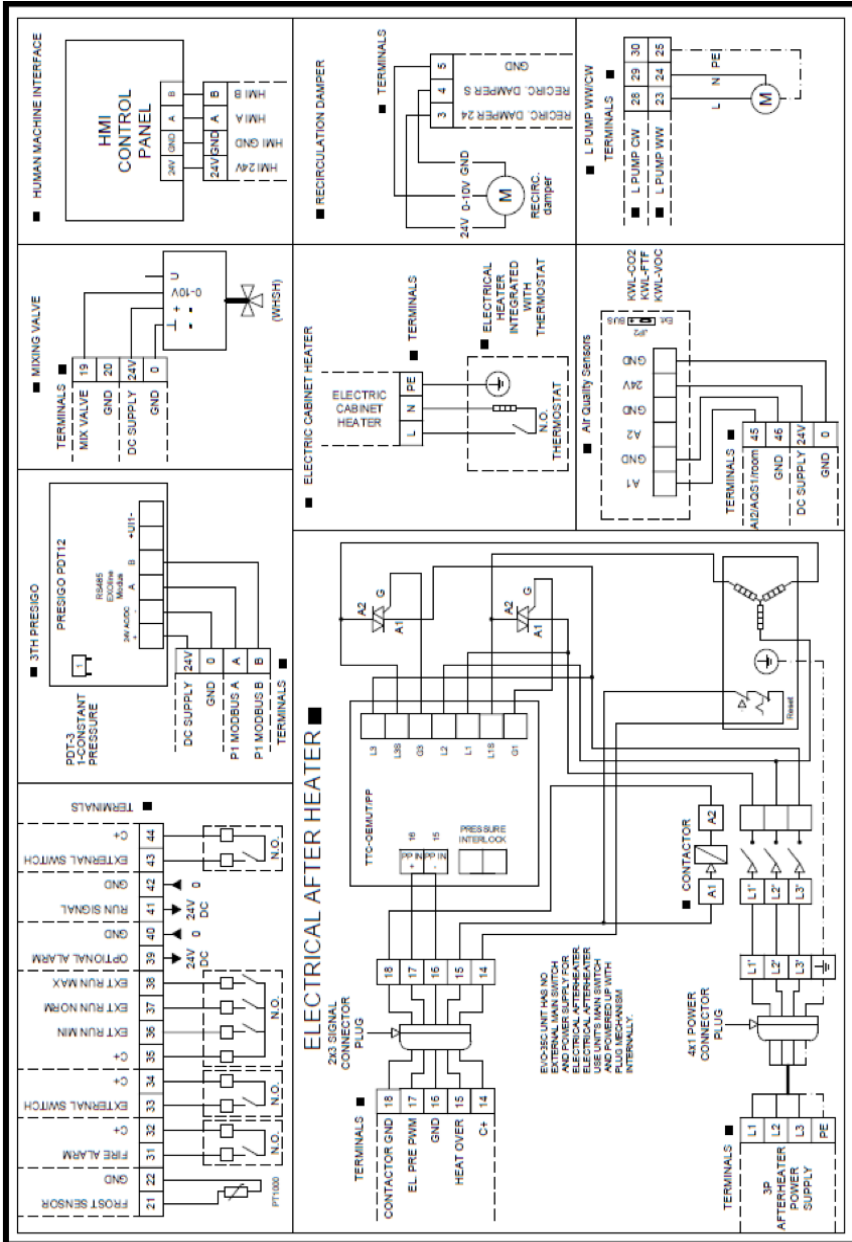
(Fig. 69)



EVO-35C CONTROL PANEL DIAGRAM

(Fig. 70)

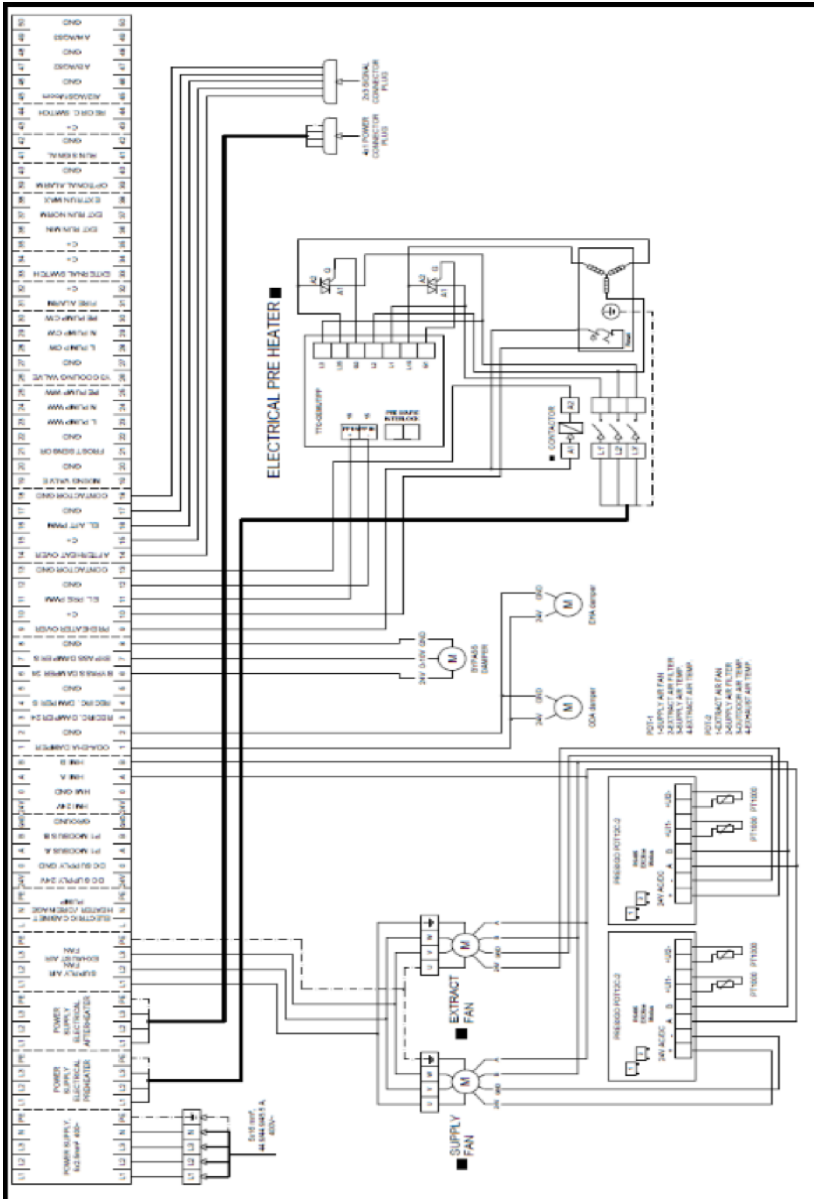
CHAPTER 7



EVO-35C ACCESSORIES DIAGRAM

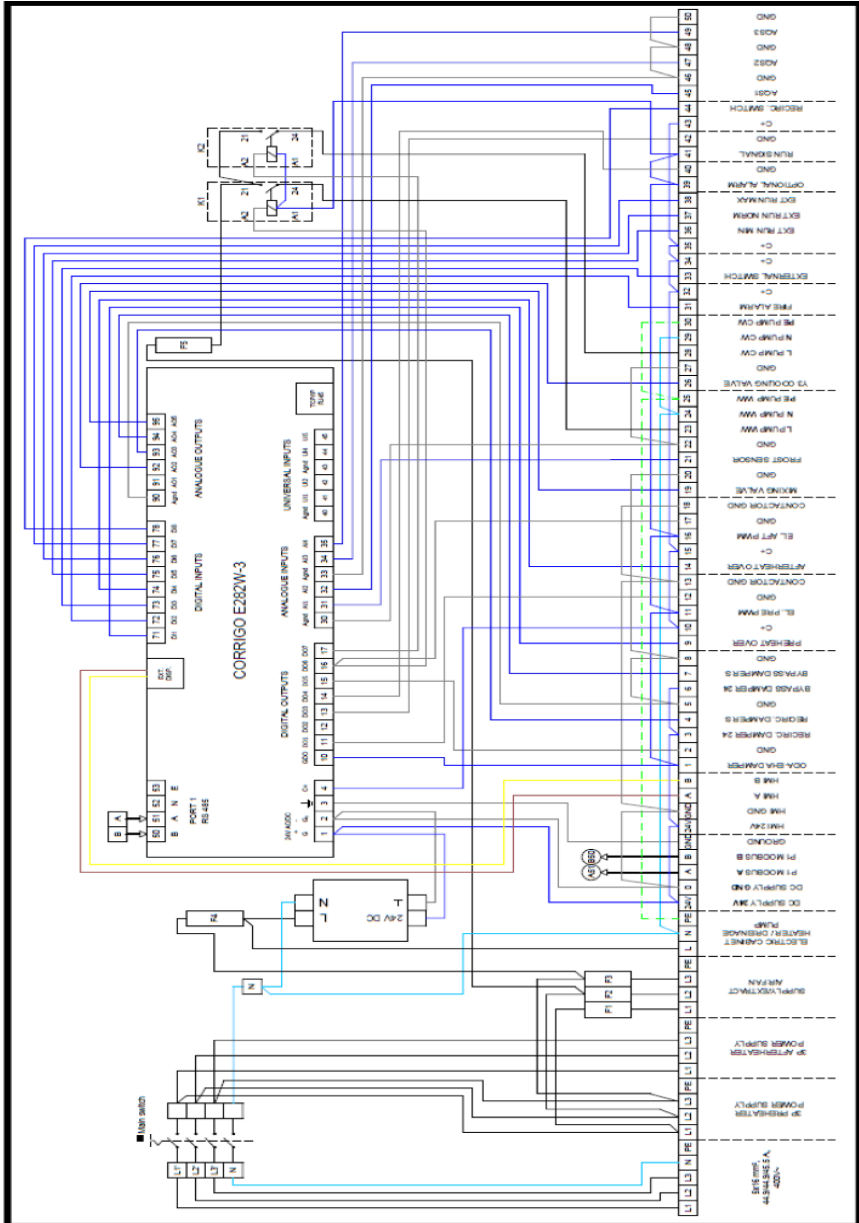
(Fig. 7.1)

7.5 EVO-45C Wiring Diagrams



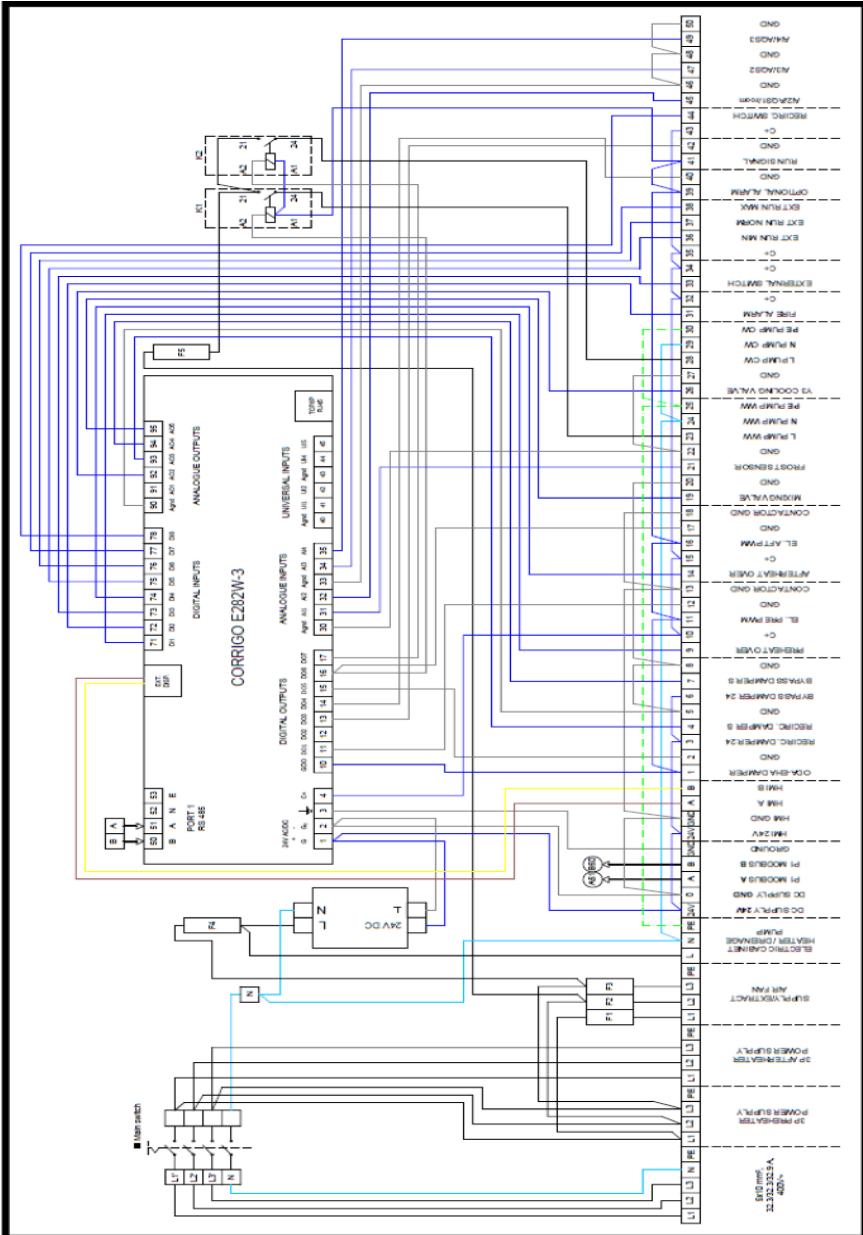
EV-45C STANDART UNIT WIRING DIAGRAM
(Fig. 72)

CHAPTER 7



EVO-45C CONTROL PANEL DIAGRAM

(Fig. 73)

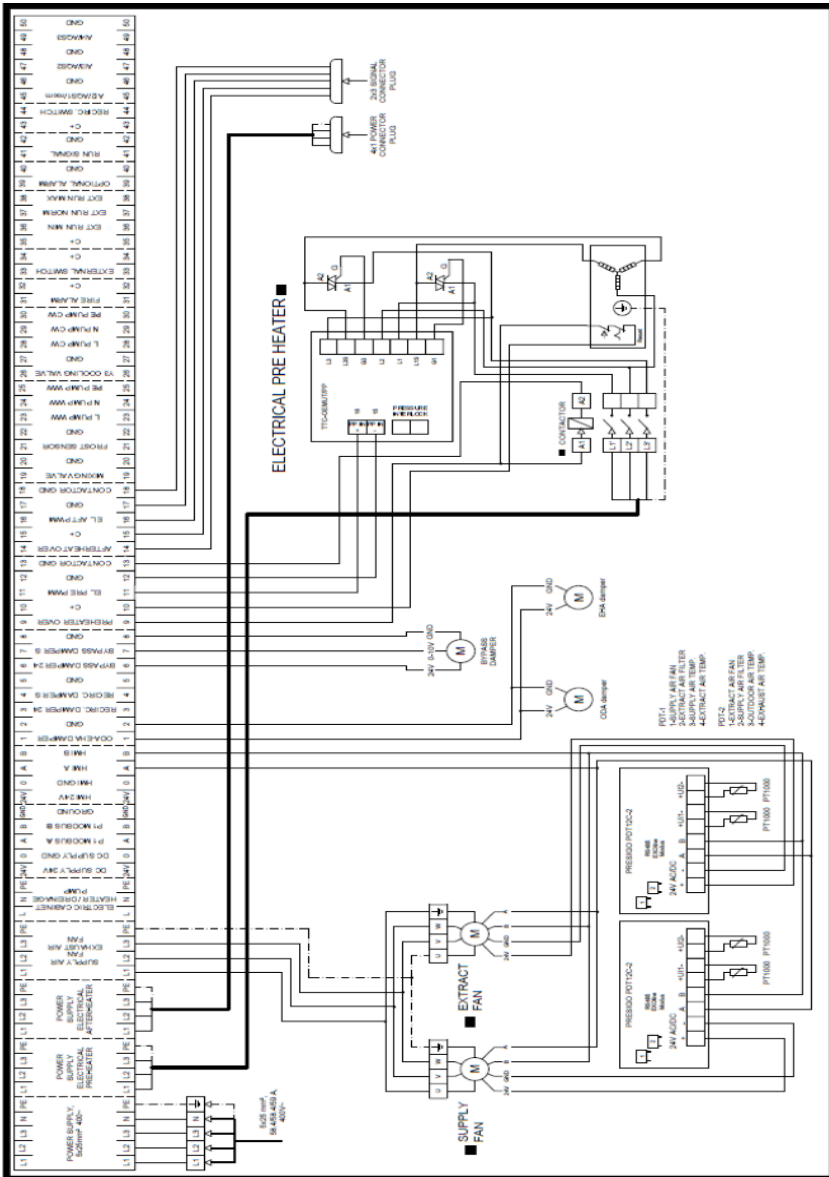


EVO-45C ACCESSORIES DIAGRAM

(Fig. 74)

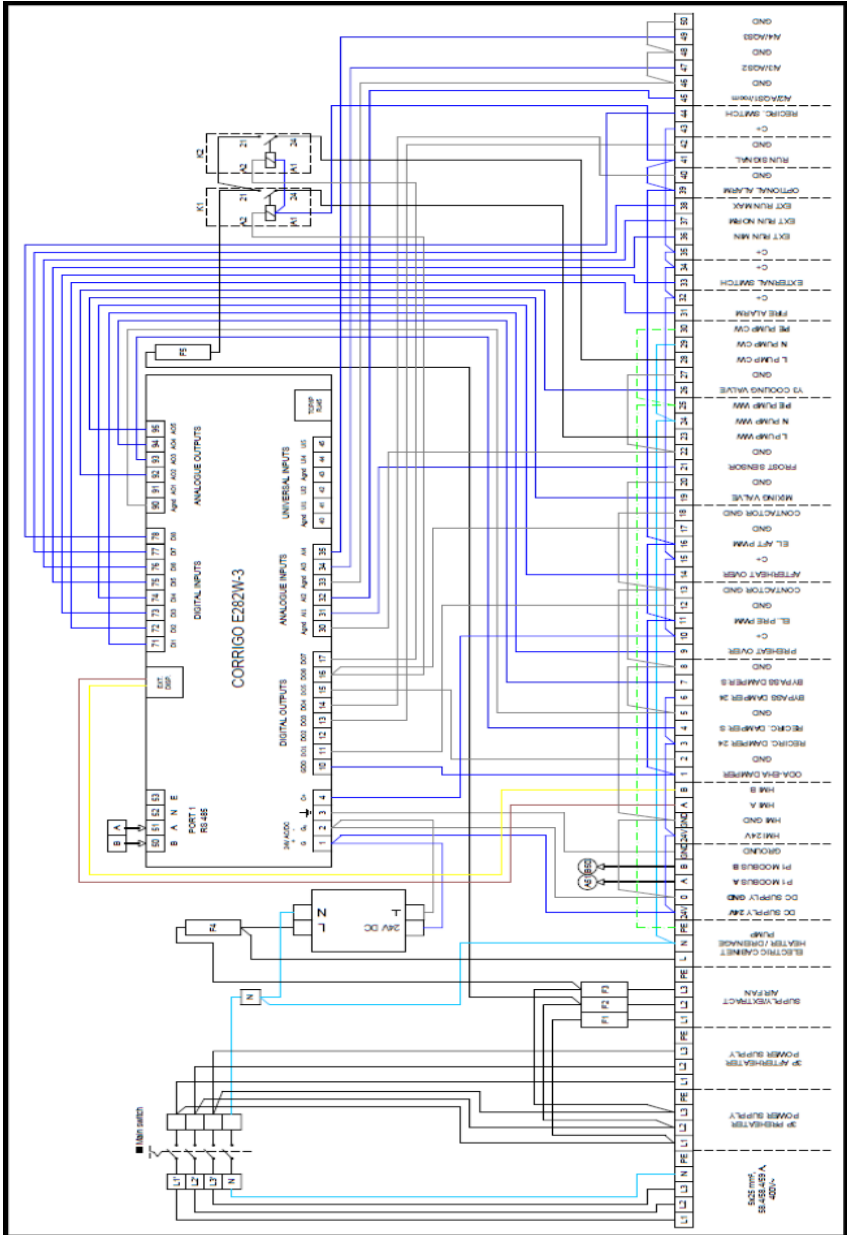
CHAPTER 7

7.6 EVO-55C Wiring Diagrams



EVO-55C STANDART UNIT WIRING DIAGRAM

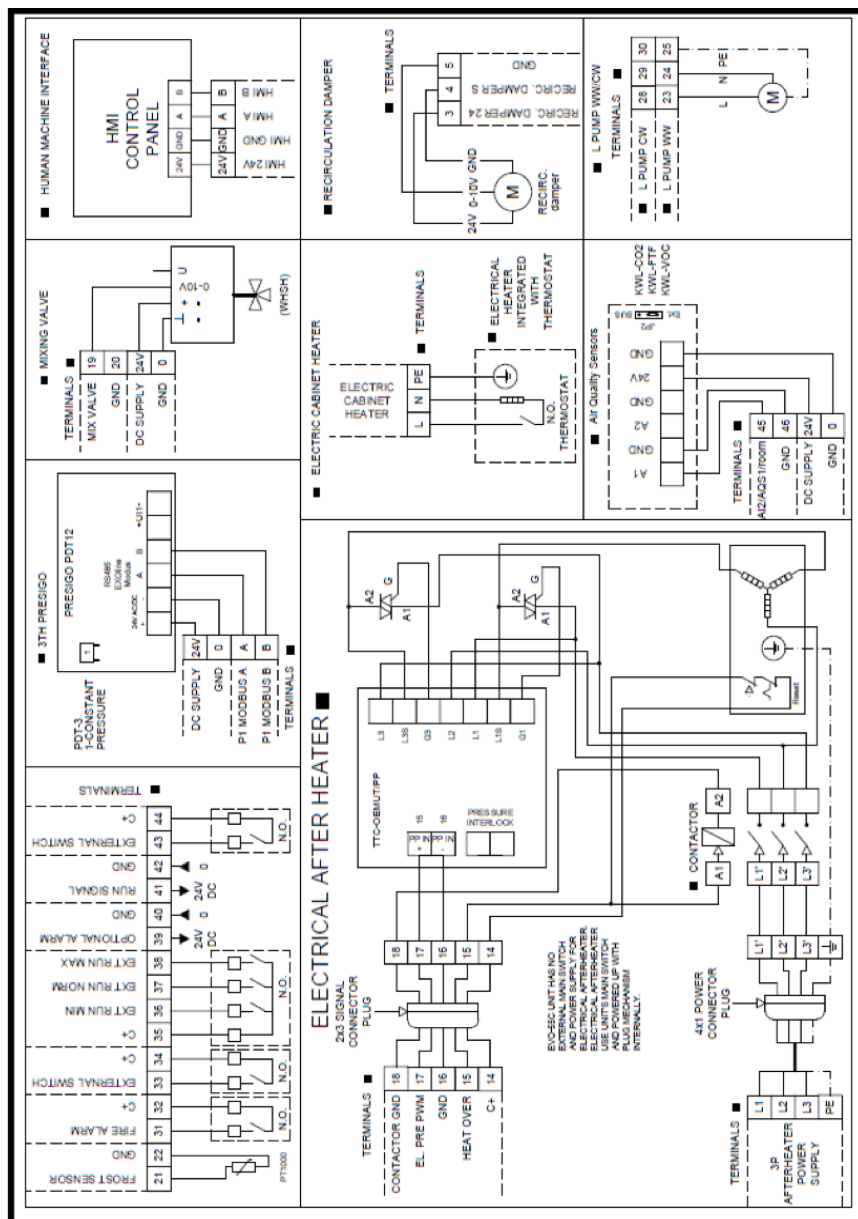
(Fig. 7.5)



EVO-55C CONTROL PANEL WIRING DIAGRAM

(Fig. 76)

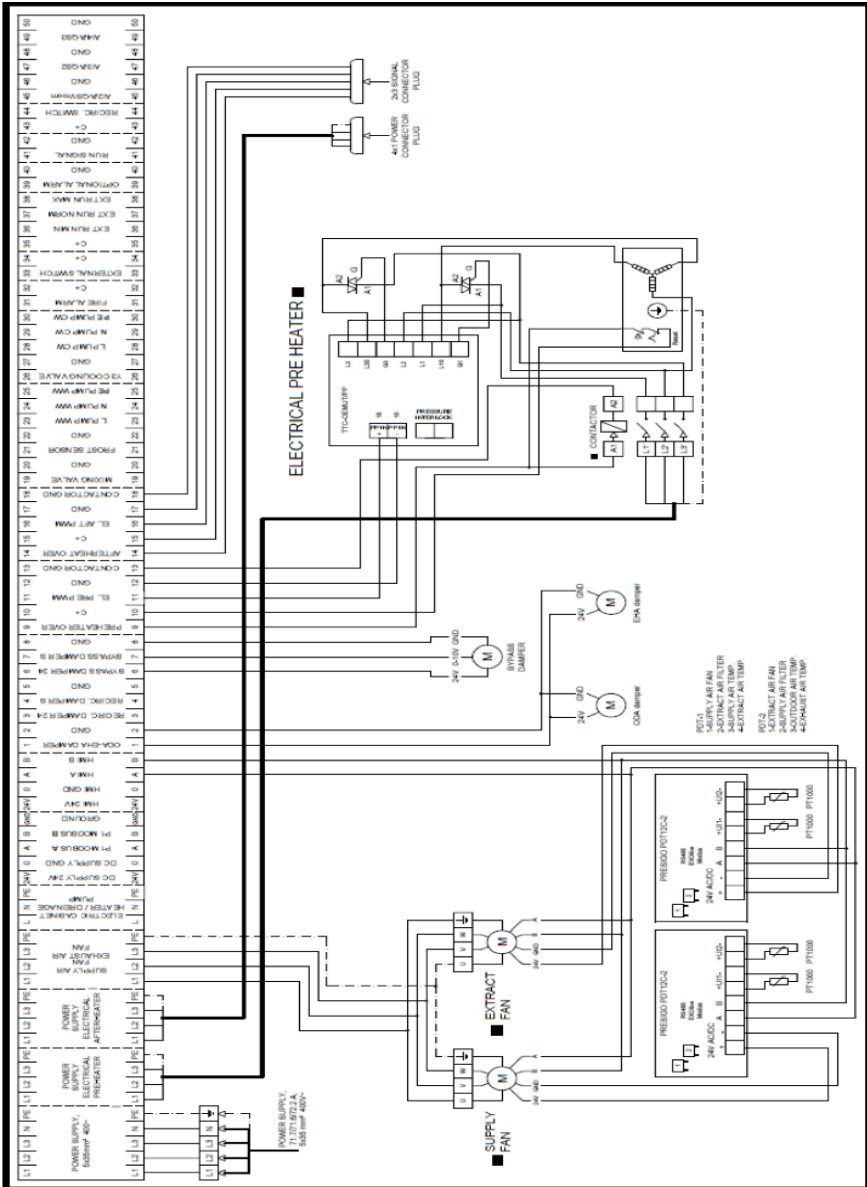
CHAPTER 7



EVO-45C CONTROL PANEL DIAGRAM

(Fig. 77)

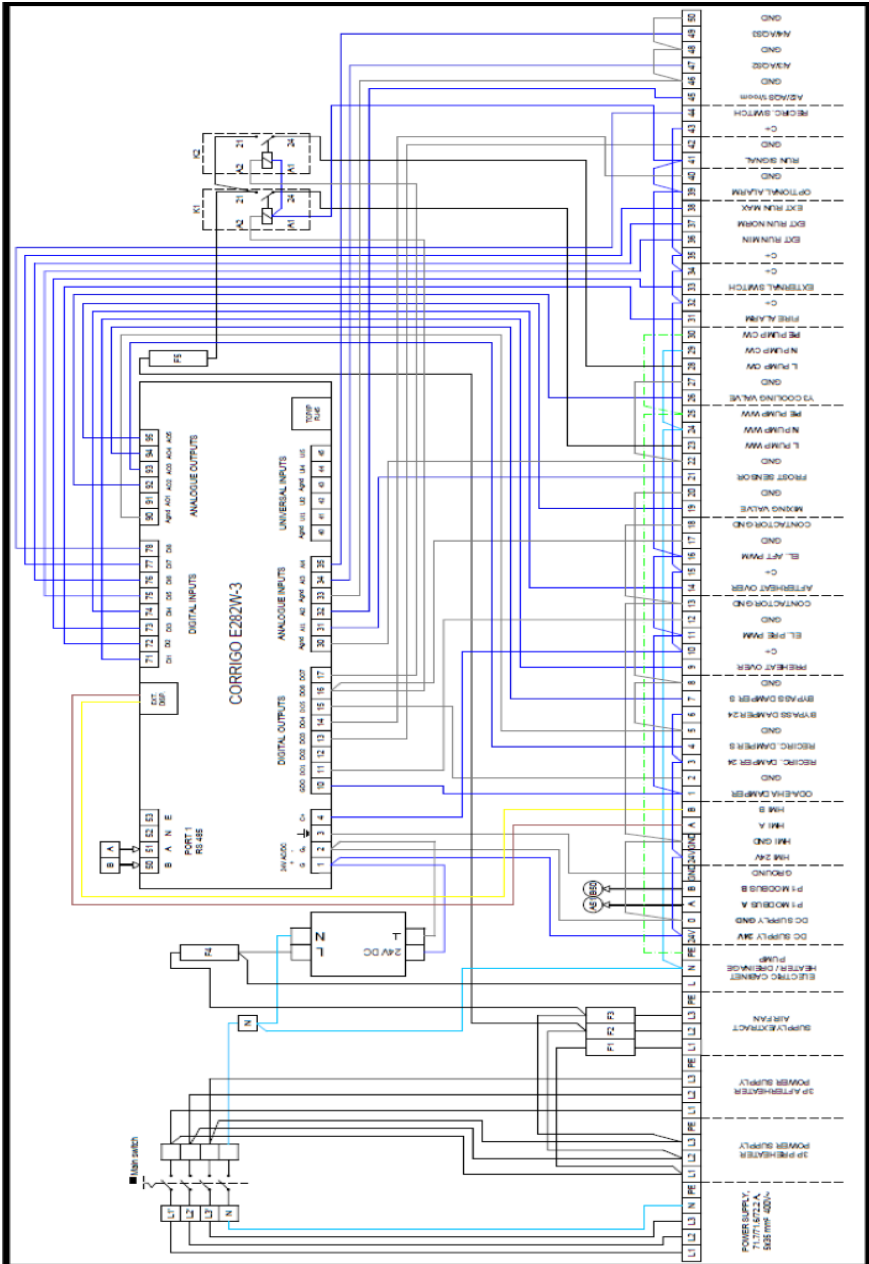
7.7 EVO-70C Wiring Diagrams



EVO-70C STANDART UNIT WIRING DIAGRAM

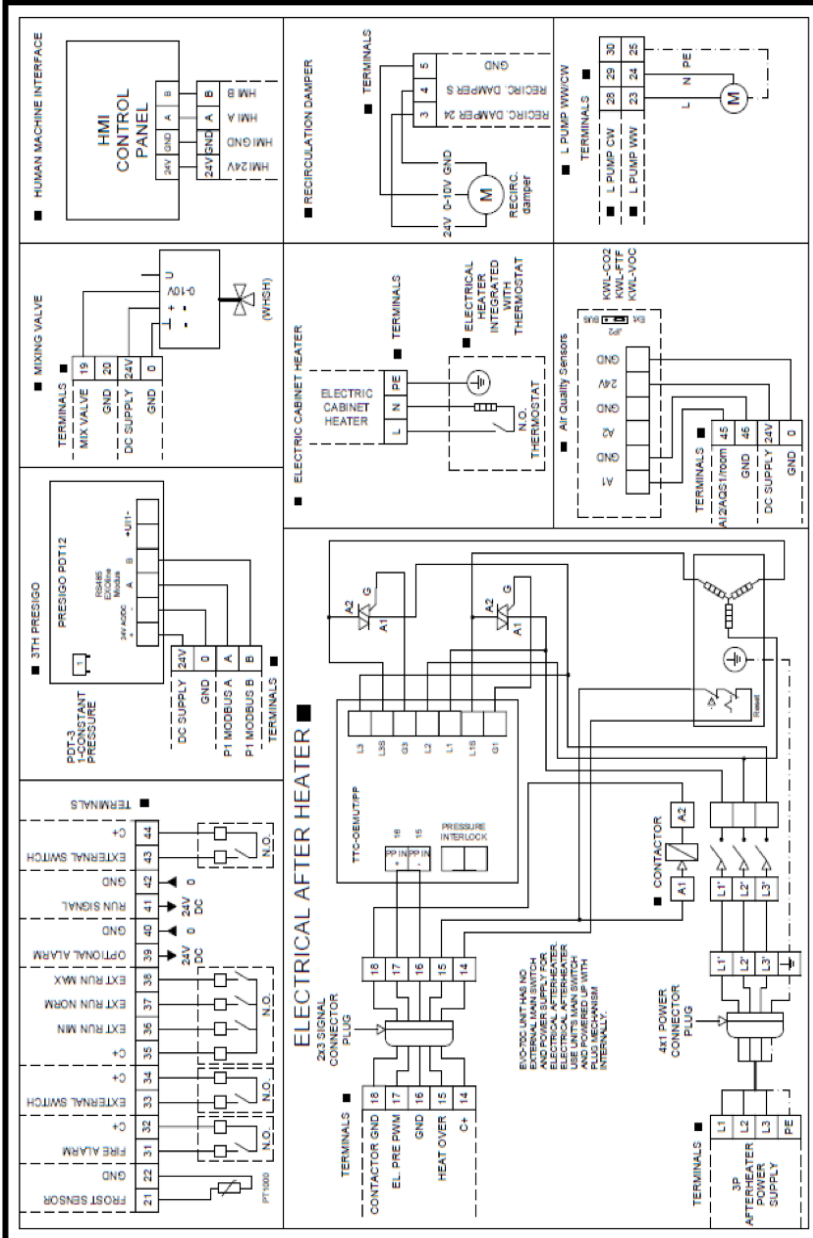
(Fig. 78)

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EVO-70C STANDART UNIT WIRING DIAGRAM

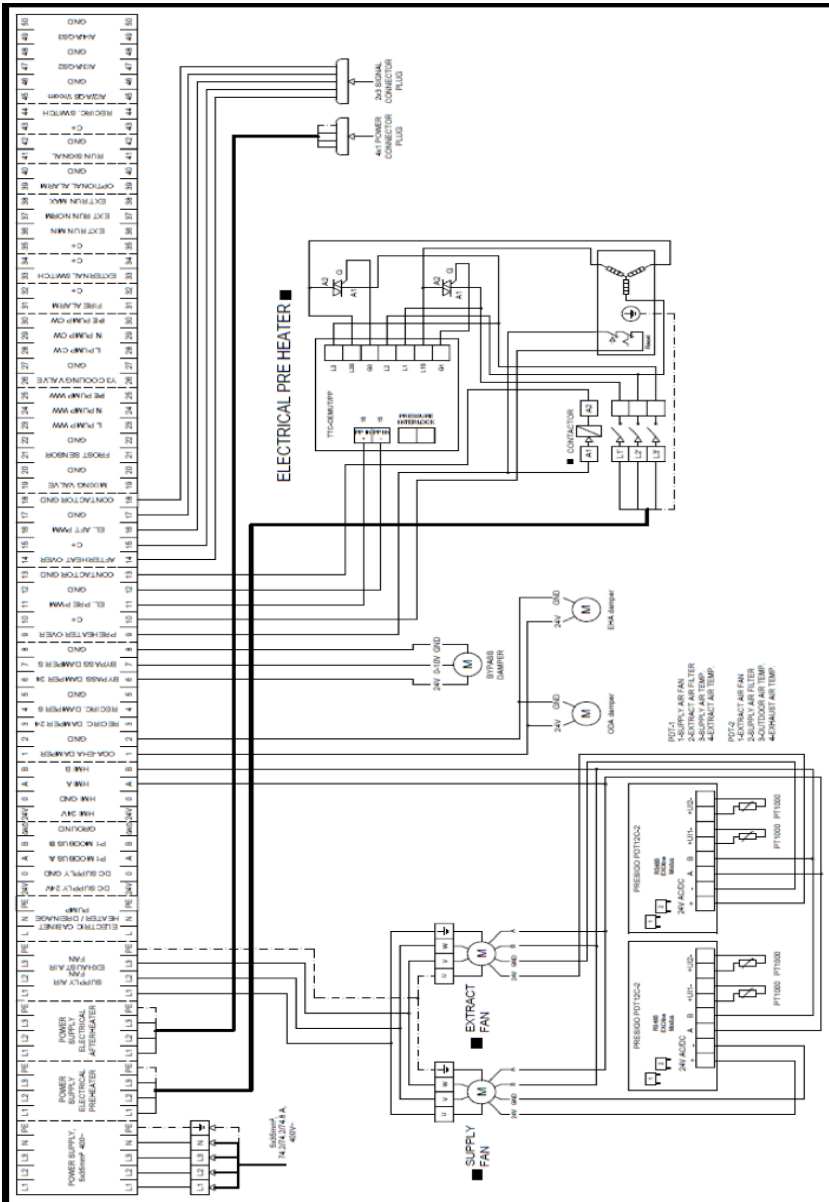
(Fig. 79)



EVO-70C CONTROL PANEL WIRING DIAGRAM (Fig. 80)

CHAPTER 7

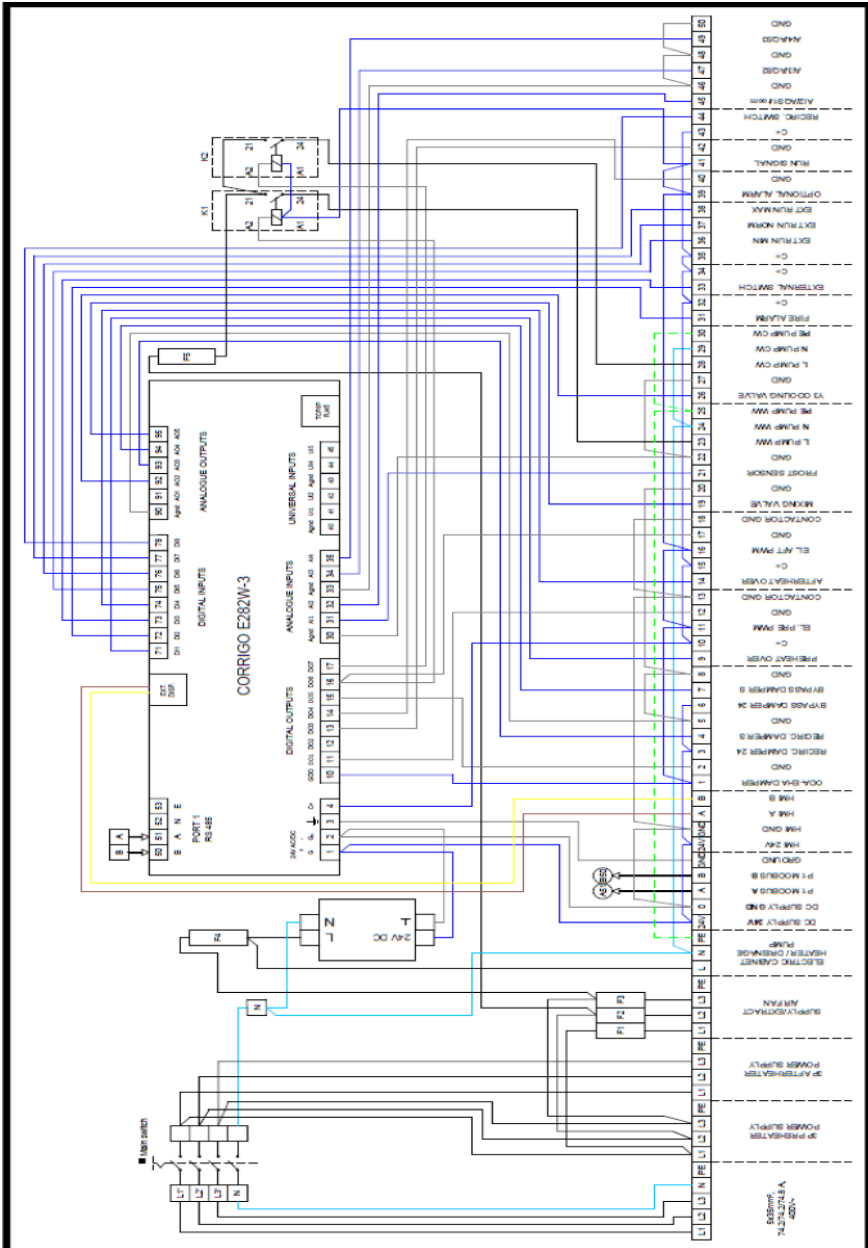
7.8 EVO-85C Wiring Diagrams



EVO-85C STANDARD UNIT WIRING DIAGRAM

(Fig. 81)

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EVO-85C CONTROL PANEL WIRING DIAGRAM

(Fig. 82)

SPARE PART

8.1 Spare part list

You may use only original EVO-C spare parts are allowed, since EVO-C is not liable if any third party spare components are used.any third party spare components are used.

Spare part
Exhaust Air Fan Assembly
Fresh Air Fan Assembly
Heat Exchanger
Main PCB
Presigo PCB
Main Transformer
Fuse
Fuse holder
Main switch
Terminal box (Cover)
Terminal box (mainpart w/ top hat rail)
HMI Connection Cable (5m)
Contactora
TTC Triac + Controller
Relais (Bypass-motor / WW/CW pump)
Bypass flap
Bypass-Actuator
Air Temperature Sensor (PT1000)
Door handle
Service Panel hinge
Service Panel Lock
Unit Foot
Condensate Pipe (Short)
Condensate Pipe (Long)
Siphon
PVC Foam Gasket 5x15 (10m)

After Sales Service

AERA heat recovery devices do not have any parts replacement or repair work to be performed by the user other than cleaning and eye inspection. Users should contact the AERA company for faults detected during operation or maintenance. If you have problems and need to get a service, please contact the following address.



FACTORY

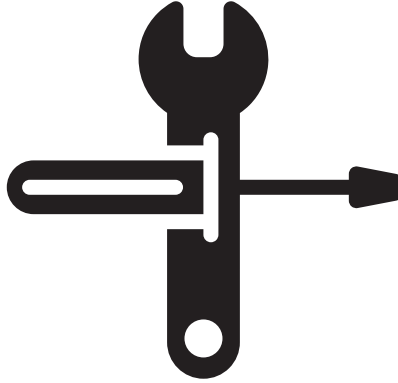
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User's
Manual

EVO-C

COMPACT AIR HANDLING UNIT WITH COUNTERFLOW HEAT EXCHANGER



AERA AIR CONDITIONING & VENTILATION TECH.

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