EVENT (300 / 500 / 700)

Residential Type Heat Recovery Unit

Assembly & Maintenance Guide

CE

EN

INDEX

INTRODUCTION

Installation&Operation Manual has been prepared and given to customer as a guide for easy installation&operation units manufactured by ENEKO A.Ş. The manual contains description of the unit, components and basic informations and recommendations for proper and fail free operation. Please read the instructions and warnings given in this manual before starting installation, operation and maintenance works and keep this manual near the unit, within easy reach of service personnel.

Any damage, failure or hazard occurred because of use except this purpose is beyond the responsibility of manufacturer.

For technical service and questions, please contact with following information.

+90 232 328 20 80 / 103-152
+90 536 713 10 00
www.eneko.com.tr
servis@eneko.com.tr

PROHIBITED

- This unit has to be used under proper conditions according to its technical specification and design purpose. (Otherwise responsibility belongs to practitioner)
- Unauthorized personnel must not interfere in unit and/or must not use unoriginal spare parts. (Otherwise responsibility of failure that may occur belongs to practitioner)
- Do not install this product in a refrigerated warehouse, heated swimming pool or other location where temperature and humidity are significantly different. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product where it will be directly exposed to rain. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product in a location where acid, alkali or organic solvent vapors, paints or other toxic gases, gases containing corrosive components or high concentrations of oily smoke are present (Failure to heed this warning may result not only in malfunctioning but also fire, power leakage and electrical shock.)
- Do not use this product outside the range of its rated voltage and control capacity.

ATTENTION

- Install this product in an environment where the temperature ranges from -10 °C to +40 °C and the relative humidity is less than 60%. If condensation is expected to form, heat up the fresh outside air by a duct heater etc.
- Select an adequately sturdy position for installing the product and install it properly and securely.
- Use the designated electrical wires for the terminal board connections and connect the wires securely so that they will not be disconnected. (Failure to ensure proper connections may result in fire.)
- When passing metal ducts through wooden buildings clad with metal laths, wire laths or metal, these ducts must be installed in such a way that they will not make electrical contact with metal laths, wire laths or metal sheets. (Power leakage can cause ignition.)
- The outside ducts must be tilted at a gradient (1/30 or more) downwards toward the outdoor area from the main unit, and properly insulated. (The entry of rain water may cause power leaks, fire or damage to household property.)
- Gloves should be worn while installation. (Failure to heed this warning may result in injury.)
- A dedicated circuit breaker must be installed at the origin of mains power supply. This circuit breaker must be provided with a means for locking (lock and key).
- The body of the unit, room control panel and cables keep away the unit 3 m. distance.

- This product must not be disassembled under any circumstances. Only authorized repair technicans are qualified to conduct disassembly and repairs.
  (Failure to heed this warning may result in fire, electrical shock or injury.)

- Connect the product properly to the ground. (Malfunctioning or power leaks can cause electrical shock.)

- An isolator switch having minimum contact gap of 3 mm in all poles must be provided as a means of disconnecting the power supply.

NOTE: The installations, which is not available for installation and operation manual, is out of guarantee.

CHECK LIST

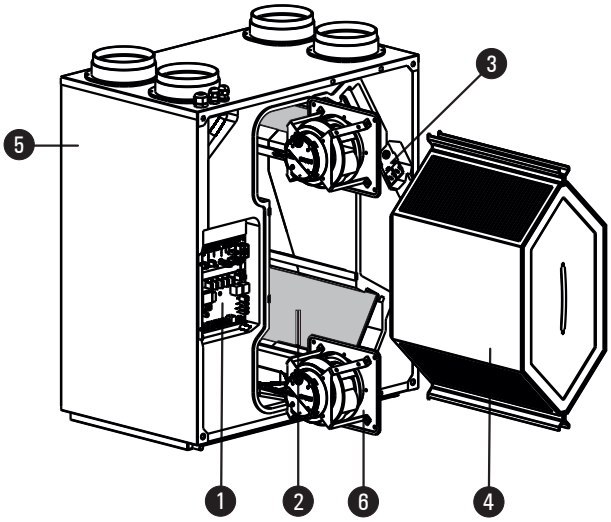
In the event of unit failure and pre-commissioning checks to be made are determined as follows; after checking this information, please contact our company in case failure continues.

Controls	√
Make sure that the unit receives power and electrical grounding is made!	
Make sure that the electricity cables are drawn from in the correct cross section! (Please check whether there is heating on cables or not.)	
Please check whether the cables in unit control panel are shielded (shielded magnetic field) or not; make sure shielding is grounded. If not, please change them!	
Make sure that fresh air and exhaust air filters are clean and they do not block the flow of air!	
Make sure there is the connection of drainage on the unit, check any possible clogging in drainage line and clean if necessary!	
Please check whether the diameter of the air duct connection of the unit and the diameter of the spigot are the same. If the duct connection is smaller, change it with the correct one.	
Make sure the electrical connections of the unit are made as suggested on the unit and in this guide, check if there is incorrect connection.	
Make sure during the installation of the unit there is enough space for the service and if there is not enough space, re-install again.	
In extremely cold climate applications, frost may occur on the exchanger, apply electric heater in fresh air intake section of the unit to get the temperature to -5 °C and above.	
After installing the unit, make sure that it does not create an abnormal sound or vibration, if there is, make sure that rubber pads are used.	

EVENT 300

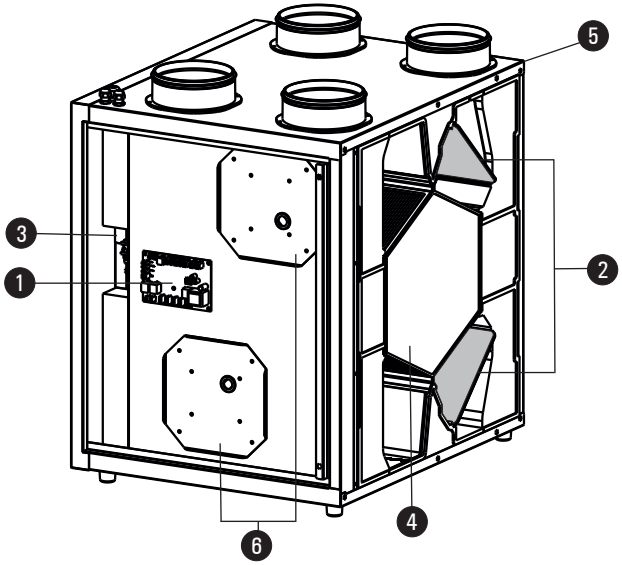
EVENT 300 units are designed for recovering part of the energy of the exhausted air in a ventilation system. The recovered energy is directly transferred to the supplied fresh air, that reduces the necessary load on the air conditioning system.

1. Control Unit
2. Filters
3. Actuator
4. Heat Recovery Exchanger
5. Main Frame
6. Fans



EVENT 500 / 700

EVENT 500/700 units are designed for recovering part of the energy of the exhausted air in a ventilation system. The recovered energy is directly transferred to the supplied fresh air, that reduces the necessary load on the air conditioning system.



1. Control Unit
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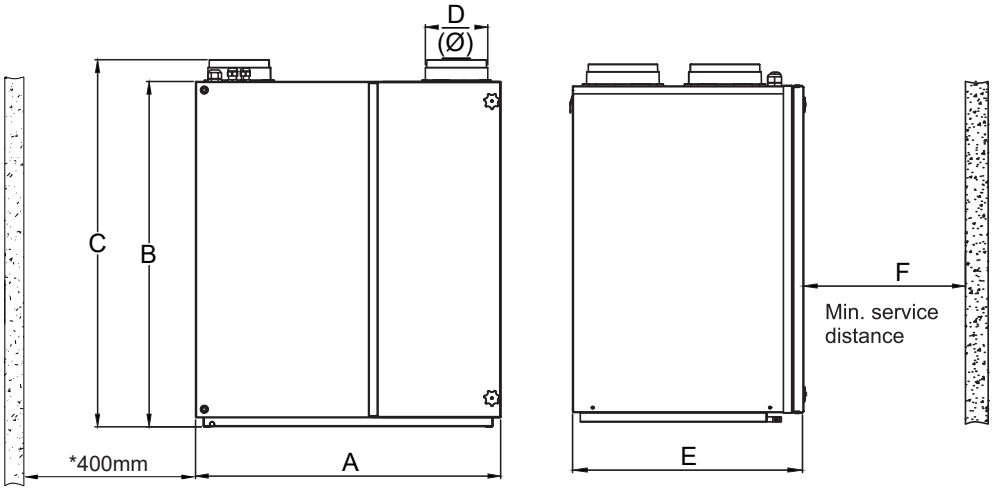


		EVENT 300	EVENT 500	EVENT 700
Dimensions(mm)	A	600	700	700
	B	680	725	725
	C	720	785	785
	D	∅ 125	∅ 160	∅ 200
	E	390	620	620
	F	400	600	600
Filter Class / Type		According to EN 779 G Class Synthetic Filter (F class as optinal)		
Weight (kg)		24	41	41

*For Event 500 and 700.

		EVENT 300		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC [1]	Average	-32.68	-33.75	-35.82
	Warm	-8.71	-9.65	-11.48
	Cold	-69.93	-71.21	-73.71
SEC class		B	B	A
Typology		Bidirectional		
Type of drive		Multi-speed[4]		
Heat recovery system		Recuperative		
Thermal efficiency	%	86.1		
Maximum flow rate (@100Pa)	m^3/h	220		
Electrical power input at maximum flow	W	112		
Sound power level at reference flow rate	L_{wa}	57.4		
Reference flow rate	m^3/s	0.043		
Reference pressure difference	Pa	50		
SPI	$W(m^3/h)$	0.366		
MISC		1.1		
CTRL		1	0.95	0.85
Declared leakage rates	Internal	<%3		
	External	<%3		
Mixing rate	%	0		
Position and description of filter warning		www.eneko.com.tr		
Instruction of grilles		www.eneko.com.tr		
Internet address		www.eneko.com.tr		
AEC [2]	Average	5.1	4.7	4.0
	Warm	4.6	4.2	3.6
	Cold	10.4	10.1	9.4
AHS [3]	Average	44.9	45.2	45.6
	Warm	20.4	20.4	20.6
	Cold	88.0	88.4	89.2

[1] Specific Energy Consumption [kWh/(m^2.a)]

[2] Annual Electricity Consumption [kWh/a electric per year]

[3] Annual Heating Saved [kWh fuel gross calorific value per year]

[4] If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

		EVENT 500		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC [1]	Average	-36.23	-37.07	-38.69
	Warm	-11.49	-12.24	-13.71
	Cold	-74.82	-75.81	-77.72
SEC class		A	A	A
Typology		Bidirectional		
Type of drive		Multi-speed[4]		
Heat recovery system		Recuperative		
Thermal efficiency	%	90.5		
Maximum flow rate (@100Pa)	m^3/h	370		
Electrical power input at maximum flow	W	169		
Sound power level at reference flow rate	L_{wa}	57.3		
Reference flow rate	m^3/s	0.072		
Reference pressure difference	Pa	50		
SPI	$W(m^3/h)$	0.297		
MISC		1.1		
CTRL		1	0.95	0.85
Declared leakage rates	Internal	<%3		
	External	<%3		
Mixing rate	%	0		
Position and description of filter warning		www.eneko.com.tr		
Instruction of grilles		www.eneko.com.tr		
Internet address		www.eneko.com.tr		
AEC [2]	Average	4.2	3.9	3.4
	Warm	3.7	3.4	2.9
	Cold	9.5	9.3	8.7
AHS [3]	Average	46.3	46.4	46.7
	Warm	20.9	21.0	21.1
	Cold	90.5	90.8	91.3

[1] Specific Energy Consumption [kWh/(m^2.a)]

[2] Annual Electricity Consumption [kWh/a electric per year]

[3] Annual Heating Saved [kWh fuel gross calorific value per year]

[4] If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

		EVENT 700		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC [1]	Average	-31.15	-32.34	-34.65
	Warm	-6.99	-8.07	-10.15
	Cold	-68.75	-70.13	-72.83
SEC class		B	B	A
Typology		Bidirectional		
Type of drive		Multi-speed[4]		
Heat recovery system		Recuperative		
Thermal efficiency	%	87.2		
Maximum flow rate (@100Pa)	m³/h	570		
Electrical power input at maximum flow	W	333		
Sound power level at reference flow rate	Lwa	57.0		
Reference flow rate	m³/s	0.111		
Reference pressure difference	Pa	50		
SPI	W(m³/h)	0.425		
MISC		1.1		
CTRL		1	0.95	0.85
Declared leakage rates	Internal	<%3		
	External	<%3		
Mixing rate	%	0		
Position and description of filter warning		www.eneko.com.tr		
Instruction of grilles		www.eneko.com.tr		
Internet address		www.eneko.com.tr		
AEC [2]	Average	5.8	5.4	4.6
	Warm	5.3	4.9	4.2
	Cold	11.1	10.8	10.1
AHS [3]	Average	45.3	45.5	45.9
	Warm	20.5	20.6	20.7
	Cold	88.6	89.1	89.7

[1] Specific Energy Consumption [kWh/(m².a)]

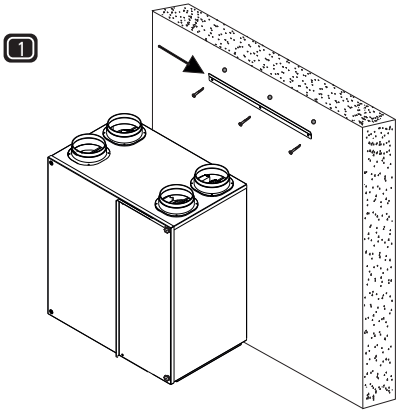
[2] Annual Electricity Consumption [kWh/a electric per year]

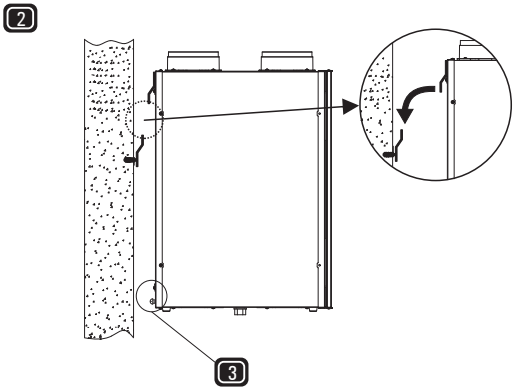
[3] Annual Heating Saved [kWh fuel gross calorific value per year]

[4] If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

Wall Montage

1. Mount the wall bracket with screw. (3 piece of Ø5X40 screw and fixing plug.)
2. Make sure that the unit is properly fit on the bracket.
3. For set the level of unit use screw on figure 3.

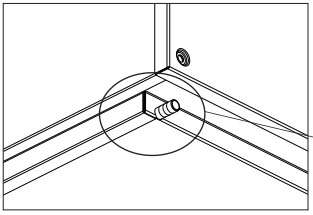




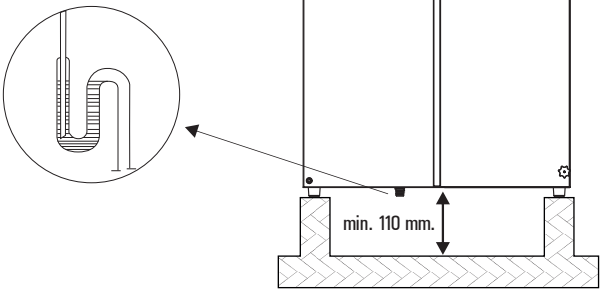
Floor Montage

The EVENT 300 device can be placed directly on level ground. For EVENT 500 and EVENT 700 to easy montage of the drain, give a gap at least 110mm between floor and unit.

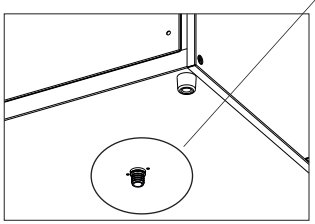
Event 300



Drain connection size is 10 mm.



Event 500-700

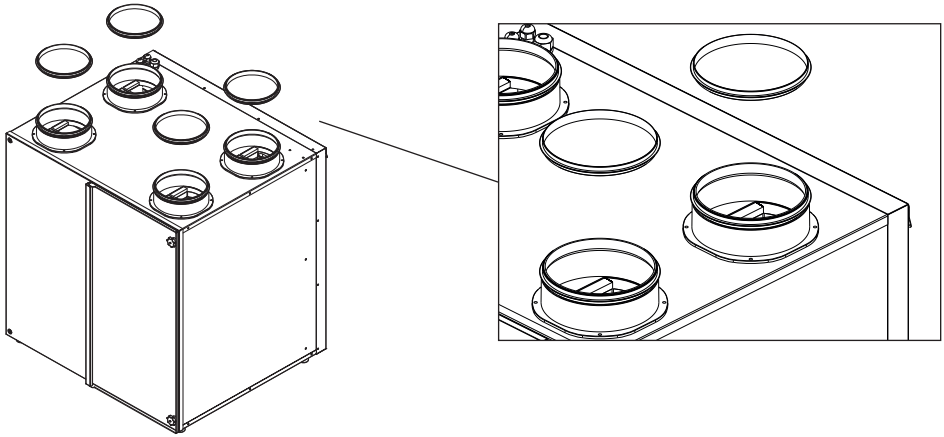


Drain connection size is 20 mm.

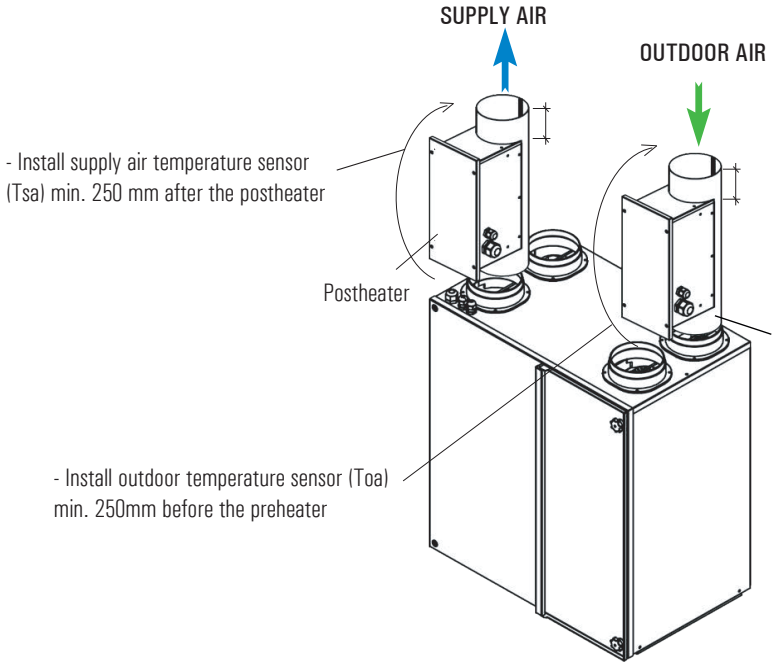
- For safety of components, condensing water needs to be drain from unit.
- For easy cleaning use connector or pipe clip on drain connection.
- Use bigger size of connection hose then drain size.
- Use spyhon after the drain connection.

Gasket Installation

Gasket is used to ensure tightness. It can be easily installed or removed without needing a tool as shown below.(Gaskets will be attached on the unit).



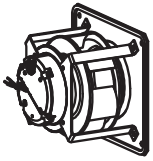
Preheater Installation



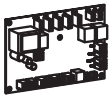
NOTE: For preheater or postheater option the standart 3 meter sensor cable comes with unit.

EVENT 300

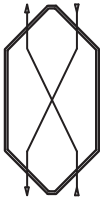
FAN



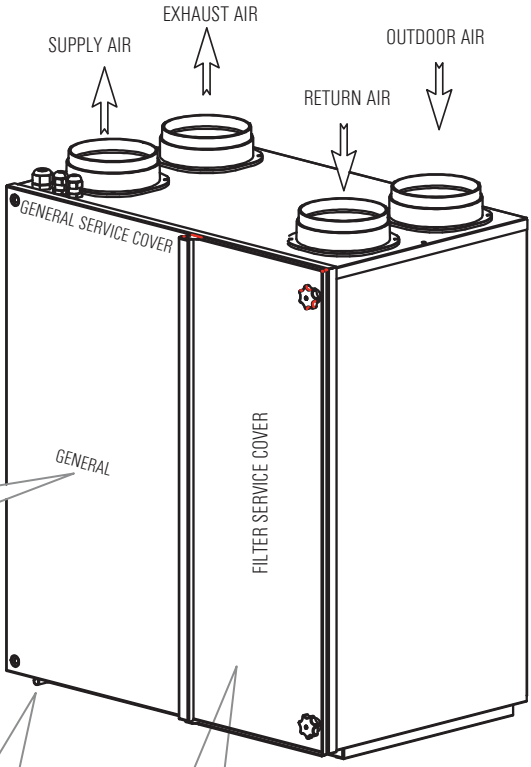
CONTROLLER

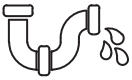


HEAT EXCHANGER



DAMPER ACTUATOR



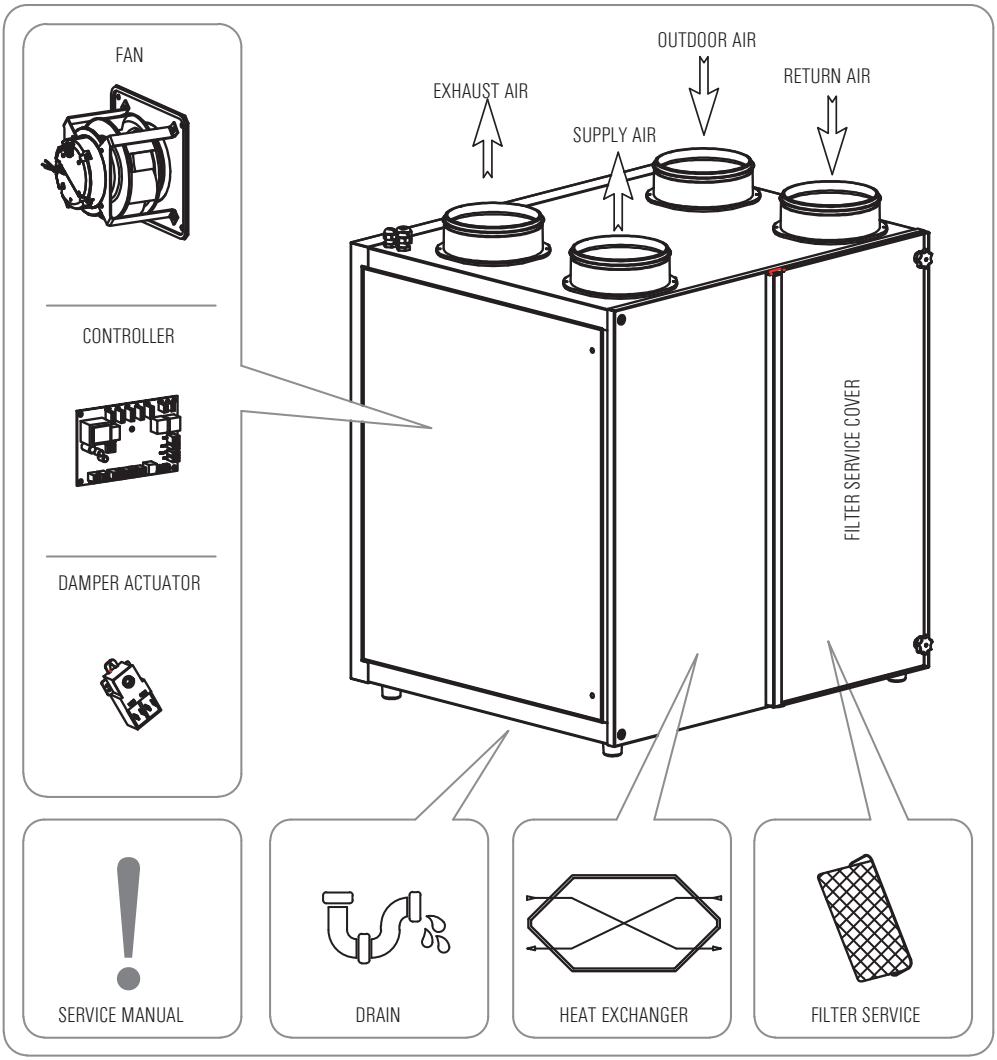


DRAIN

FILTER SERVICE

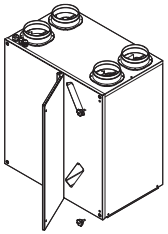
SEE SERVICE MANUEL
FOR OTHER DETAILS

EVENT 500 / 700

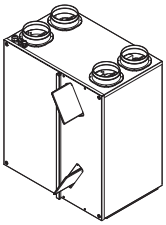


- Before the maintenance close main power swicth.
- Do not run the unit without filters, it will be cause of harm other components.
- Clean the filters every month, change in a 6 month period. (Depending on working conditions.)
- Clean heat exchanger every 2 year.

Filter Cleaning

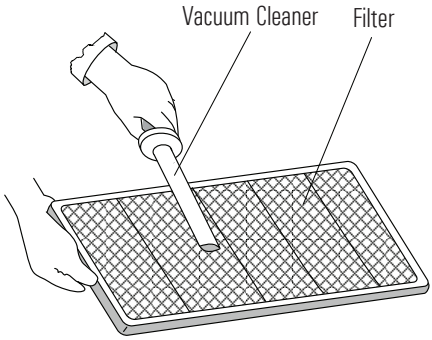


Open the service door.



Take out the filters.

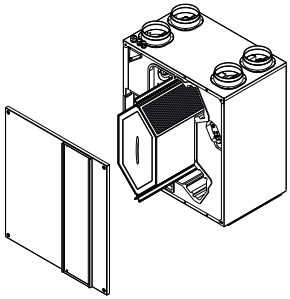
1.Step: Unscrew the service door, and take out filters.



2. Step: Clean the filters by vacuum cleaner. For deep clean use natural soap and water mixture, bathe the filter in that mixture. Dont push and scrub the filter while cleaning. Let the filter dry before use on unit.

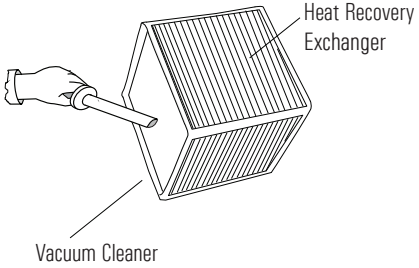
Note: For F Class filter do not clean filter.Only change it.

Heat Recovery Exchanger Cleaning

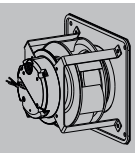


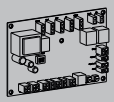
1. Step: Unscrew the filter service door then take out main door. Take out heat exchanger by hand gently.

Note: Heat exchanger max.weight is 5.5kg.



2. Step: Only clean with vacuum cleaner (Not use water or chemical material).





** For fan, control unit and actuator service points see previous pages.

Unit Model EVENT	Unit Voltage (V)	Unit Power Input (kW)	Current (A)	Fuse (A)	Cable Cross-Section (mm²) for 50M and PF=0.8
300	230	0.11	1	1	1.5
500	230	0.17	1.68	2	1.5
700	230	0.35	2.88	3.15	1.5

The data in the table shows the maximum power/current values. Please check unit label for updated values.

Cable Cross-Section Formulas

1

$I_{current} = \frac{P}{U.Cos\Omega}$

$I_{cable} > I_{current}$

2

$\%e = \frac{100.P.L}{k.S.U^2}$, $S = \frac{100.P.L}{k.\%e.U^2}$

$\%e = \%3$

3

$I_{cable} > I_{fuse} \geq I_{current}$

Cable Cross-Section S=Max (S1, S2, S3, 1.5mm²)

P : Power
I : Current
U : Voltage
S : Conductor cross section
k : Conductor coefficient
L : Conductor length
%e : The voltage drop

Example of Cable Cross-Section Calculation

P : 0,169 kW **L** : 50m
U : 230V **%e** : %3
PF : **CosΩ**: 0,8 **k** : 56m / Ω

1

$I_{current} = \frac{166\ W}{230.0,8} = 0.9\ A$

The cable will be used, is selected from the cable cross-section table so that the equivalent ampere value in the table should be higher than calculated "$I_{current}$" value.

S1 = 0.5 mm²

2

%e=%3

$S = \frac{100.166.50}{56.3.230^2} = 0.09\ mm^2$

S2 ≥ 0.09 mm² ≥ 0.5 mm²

S2 = 0.5 mm²

3

$I_{cable} > I_{fuse} \geq I_{current}$

$I_{cable} > 0.5A \geq 0.09A$

"I_{fuse}"which will be higher than "$I_{current}$", is selected.

The cable will be used, is selected from the cable cross-section table so that the equivalent ampere value in the table should be higher than selected "I_{fuse}" value.

I_{cable} = 12A
S3 = 0.5 mm²
Cable cross-section S=Max (S1, S2, S3, 1.5 mm²)
S=Max (0.5, 0.5, 0.5, 1.5)
S=1.5 mm²

NOTES

NOTES

NOTES

Warranty Certificate

* If the unit is used according to the instructions given in user manual and interfered in only authorized technical service that we authorize about any maintenance and repair reasons, all spare parts will be under warranty for 2 years against material, labor and production faults except motor components.
* Identifying of parts replaced and determining troubleshooting technical procedure applied, will belong to our company.
* After ex-works of goods, all faults during loading, unloading and shipment will be out of guarantee. If a falsify has been made on documents or any falsify and changing have been made on serial number, goods will be out of guarantee.

Terms of Guarantee

1. Guarantee period is 2 years as from the time of delivery.
2. All spare parts except motor components are under warranty.
3. If the goods break down during guarantee period, the time spent for maintenance will be added to guarantee period. Maintenance period is 30 days at most. 30 days begin with the notice to a service station. If there is no service station, 30 days begin with the notice to the seller, dealer, agency, agent, importer or manufacturer of the goods.
4. If production fault occurs during guarantee period; the cost of new spare part and labor will not be claimed from the customer.
5. If a fault occurs because of not using or assembling according to the instructions given in user manual, goods will be out of guarantee.

UNIT TYPE

SERIAL NO

ENEKO Havalandirma ve Isi Ekonomisi
Sistem Teknolojileri Makina San. ve Tic. A.S.
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Tel: 0.232.328 20 80
Web Address: www.eneko.com.tr

SIGNATURE:

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