

# EVENT

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## Residential Type Heat Recovery Unit

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## Index

### EVENT

#### Residential Type Heat Recovery Unit

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The technical specifications and the performance data declared with this logo have been developed by the tests performed in Eneko Energy Laboratory which is established with the development Project support of Tübitak by regarding relevant standards.

### Supply and Exhaust Air Fans

The fans in heat recovery units are equipped with innovative Electronically Commutated EC motor technology. EC motors have higher efficiency and simple speed control than AC motors and connect the AC mains. Fan blades have high aerodynamic efficient backward curved design. Using the EC motors reduce the energy consumption and increase the energy efficiency of the unit. With EC Fans it is also possible to reduce maintenance costs as the fans are direct drive; free of belt and pulley.

### Casing

High corrosion resistive 200 gr/m<sup>2</sup> galvanize coated steel is used for the casing. The case of unit is painted by electrostatic powdered point. Non-flammable EPS modules are used for directing the air flow homogeneously. Density of EPS is 40 kg/m<sup>3</sup>.

### Control System



ENECON PLUS control unit is developed for controlling of heat recovery units' equipments, meeting the demands coming from the customers and is user-friendly designed. ENECON PLUS is capable of commanding the equipments in standard unit and optional accessories. ENECON PLUS Control unit can be performed the basic functions without any control panel, with Standard Panel can be also used more functional. Besides, the control unit can control the all functions via ModBus and switch on/off via BMS as optional. Alternatives different from ENECON PLUS controller are listed in "Control System" part.

### Supply and Exhaust Air Filter

To increase indoor air quality and to protect the equipments used in unit, ISO Coarse %45 (G) class filters (according to ISO 16890 standard) are used for both exhaust and supply air streams. ISO ePM 1 >50% (F7) class filters can be also used optionally in the unit. ISO ePM 1 >50% (F7) class filters reduce the available static pressure of the unit for the nominal air flow rate.

### By-Pass

Event 300 units have by-pass ventilation as standard. During by-pass ventilation, no heat transfer occurs between exhaust and fresh air stream. In transition periods and at nights in summer, by-pass module helps to cool down (free-cooling) and heat up (free-heating) the building without any energy expense.

### Heat Recovery Exchanger

EVENT 300 heat recovery ventilation units have plastic counterflow, high efficient plate heat recovery exchangers. Plate heat recovery exchangers have plates that are produced improved surface areas to provide high efficiency and leakage free design. With the optimisation of exchanger heat transfer is increased and pressure drop is decreased.



**Control System** Plug&Play

ENECON PLUS control unit is developed for controlling of heat recovery units' equipments, meeting the demands coming from the customers and is user-friendly designed. ENECON PLUS is capable of commanding the equipments in standard unit and optional accessories. ENECON PLUS Control unit can be performed the basic functions without any control panel, with Standard Panel can be also used more functional. Besides, the control unit can control the all functions via ModBus and switch on/off via BMS as optional. Alternatives different from ENECON PLUS controller are listed in "Control System" part.

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**Casing**

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**Supply and Exhaust Air Fans**

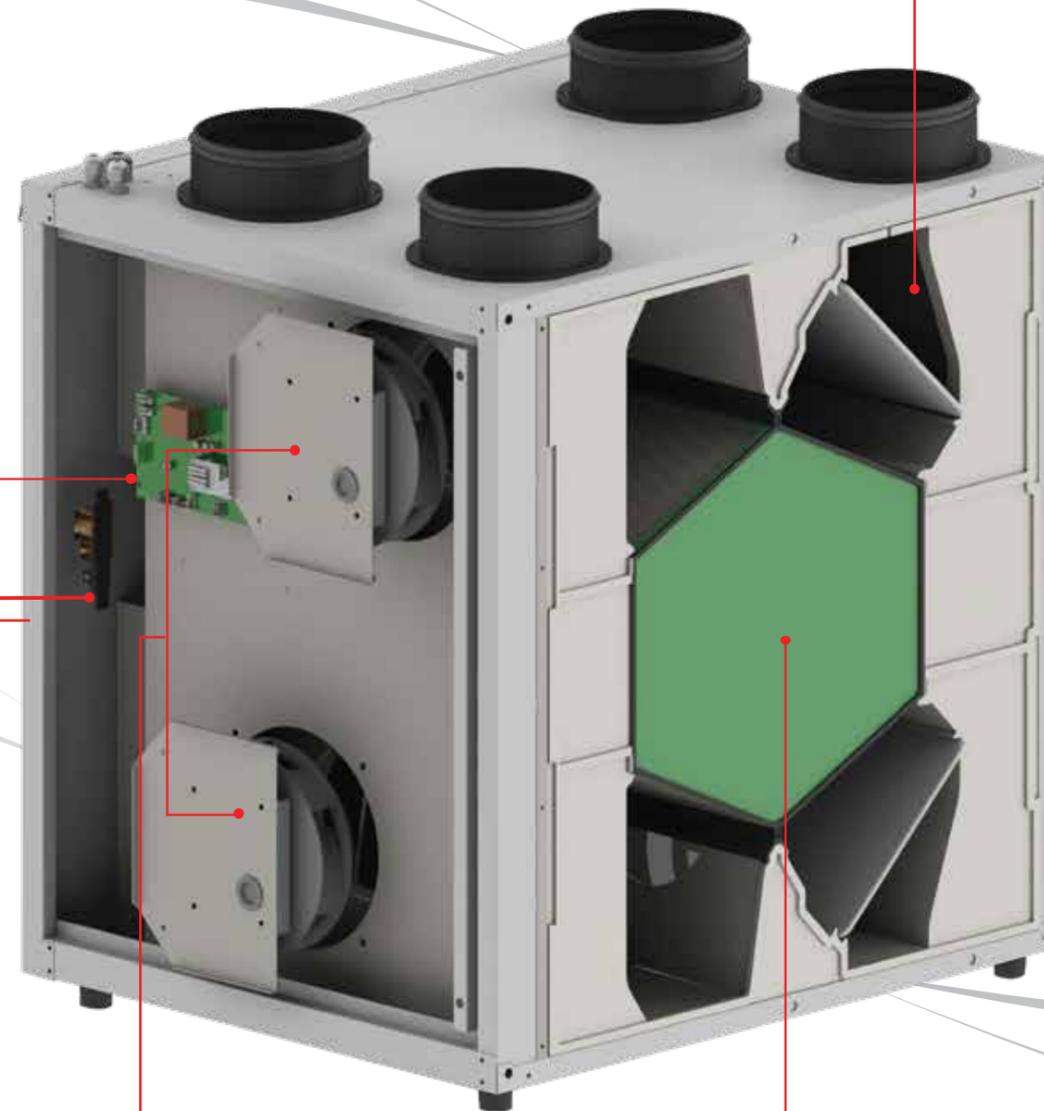
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**Supply and Exhaust Air Filters**

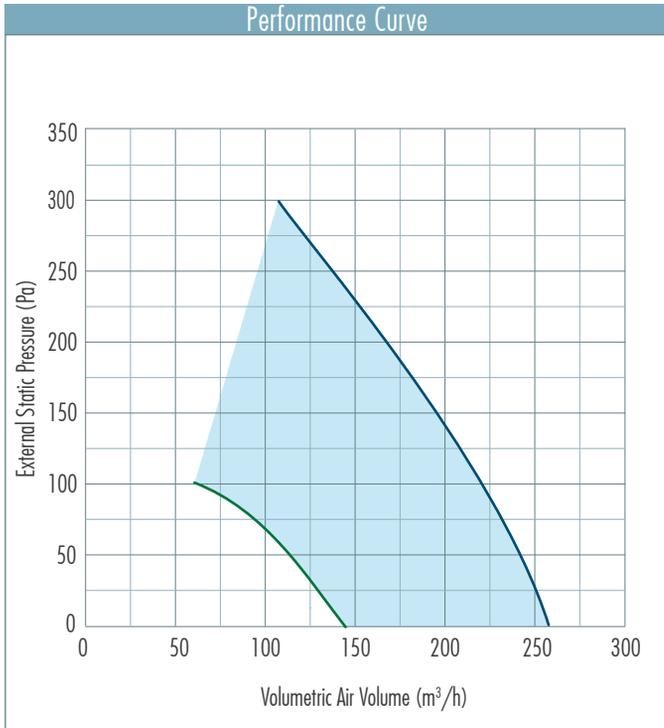
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**Heat Recovery Exchanger**

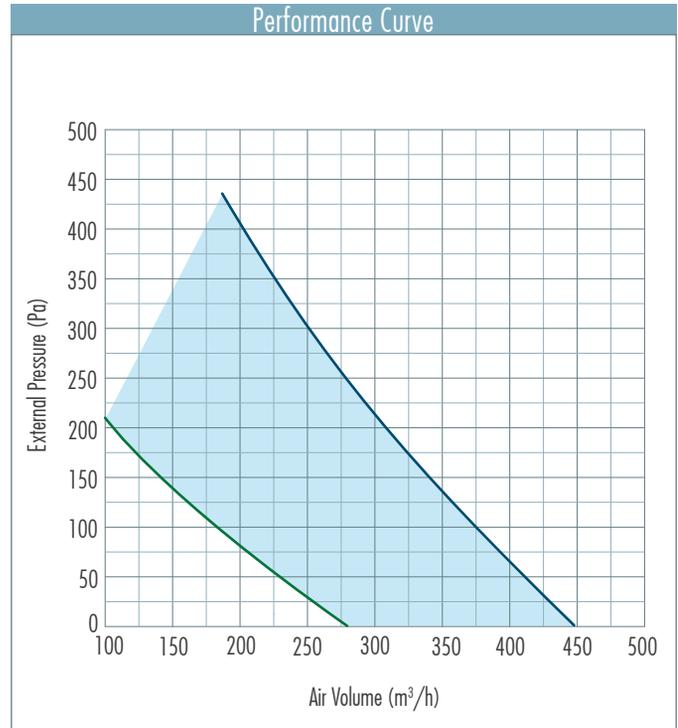
EVENT 500/700 heat recovery ventilation units have plastic counterflow, high efficient plate heat recovery exchangers. Plate heat recovery exchangers have plates that are produced improved surface areas to provide high efficiency and leakage free design. With the optimisation of exchanger heat transfer is increased and pressure drop is decreased.



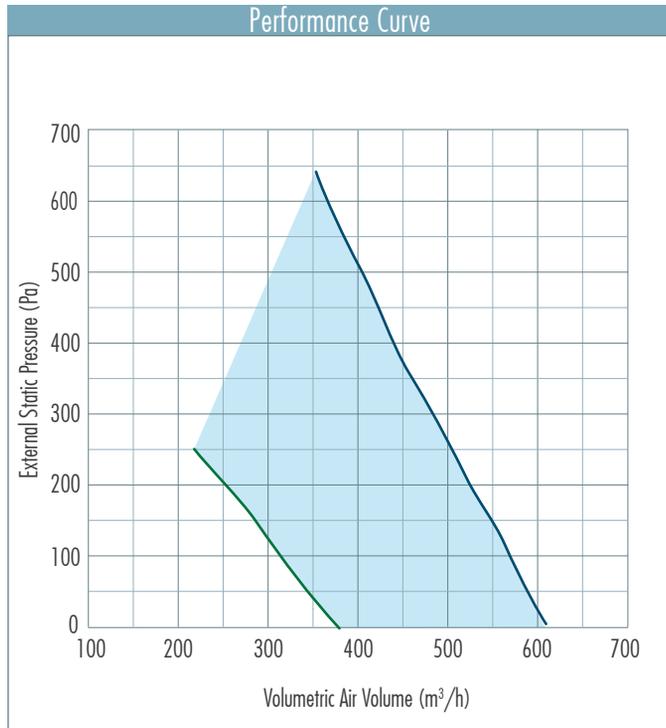
## EVENT 300



## EVENT 500



## EVENT 700



		EVENT 300		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC <sup>1</sup>	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 <sup>4</sup>		
Heat recovery system		Recuperative		
Thermal efficiency	%	86.1		
Maximum flow rate (@100Pa)	m <sup>3</sup> /h	220		
Electrical power input at maximum flow	W	112		
Reference flow rate	m <sup>3</sup> /s	0.043		
Reference pressure difference	Pa	50		
SPI	W(m <sup>3</sup> /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 <sup>2</sup>	Average	5.1	4.7	4.0
	Warm	4.6	4.2	3.6
	Cold	10.4	10.1	9.4
AHS <sup>3</sup>	Average	44.9	45.2	45.6
	Warm	20.4	20.4	20.6
	Cold	88.0	88.4	89.2

<sup>1</sup> Specific Energy Consumption [kWh/(m<sup>2</sup>.a)]

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

<sup>3</sup> Annual Heating Saved [kWh fuel gross calorific value per year]

<sup>4</sup> If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

## ■ Sound Performance Data

Unit Type	30% (dBA)	50 % (dBA)	70% (dBA)
EVENT 300	40,44	45,02	49,77

\*Sound Pressure Levels (1,5 m)(dBA)

Unit Type	30% (dBA)	50 % (dBA)	
EVENT 300	34,42	38,99	43,75

\*Sound Pressure Levels (3 m)(dBA)

		EVENT 500		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC <sup>1</sup>	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 <sup>4</sup>		
Heat recovery system		Recuperative		
Thermal efficiency	%	90.5		
Maximum flow rate (@100Pa)	m <sup>3</sup> /h	370		
Electrical power input at maximum flow	W	169		
Reference flow rate	m <sup>3</sup> /s	0.072		
Reference pressure difference	Pa	50		
SPI	W(m <sup>3</sup> /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		<a href="http://www.eneko.com.tr">www.eneko.com.tr</a>		
Instruction of grilles		<a href="http://www.eneko.com.tr">www.eneko.com.tr</a>		
Internet address		<a href="http://www.eneko.com.tr">www.eneko.com.tr</a>		
AEC <sup>2</sup>	Average	4.2	3.9	3.4
	Warm	3.7	3.4	2.9
	Cold	9.5	9.3	8.7
AHS <sup>3</sup>	Average	46.3	46.4	46.7
	Warm	20.9	21.0	21.1
	Cold	90.5	90.8	91.3

<sup>1</sup> Specific Energy Consumption [kWh/(m<sup>2</sup>.a)]

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

<sup>3</sup> Annual Heating Saved [kWh fuel gross calorific value per year]

<sup>4</sup> If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

## ■ Sound Performance Data

Unit Type	30% (dBA)	50 % (dBA)	70% (dBA)
EVENT 500	38,49	43,68	48,87

\*Sound Pressure Levels (1,5 m)(dBA)

Unit Type	30% (dBA)	50 % (dBA)	70% (dBA)
EVENT 500	32,47	37,66	42,85

\*Sound Pressure Levels (3 m)(dBA)

		EVENT 700		
		Manual Control (no DCV)	Clock Control (no DCV)	Central Demand Control
SEC <sup>1</sup>	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 <sup>4</sup>		
Heat recovery system		Recuperative		
Thermal efficiency	%	87.2		
Maximum flow rate (@100Pa)	m <sup>3</sup> /h	570		
Electrical power input at maximum flow	W	333		
Reference flow rate	m <sup>3</sup> /s	0.111		
Reference pressure difference	Pa	50		
SPI	W(m <sup>3</sup> /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 <sup>2</sup>	Average	5.8	5.4	4.6
	Warm	5.3	4.9	4.2
	Cold	11.1	10.8	10.1
AHS <sup>3</sup>	Average	45.3	45.5	45.9
	Warm	20.5	20.6	20.7
	Cold	88.6	89.1	89.7

<sup>1</sup> Specific Energy Consumption [kWh/(m<sup>2</sup>.a)]

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

<sup>3</sup> Annual Heating Saved [kWh fuel gross calorific value per year]

<sup>4</sup> If a sensor or a pressure transmitter is used in the system, the device can work at variable speed.

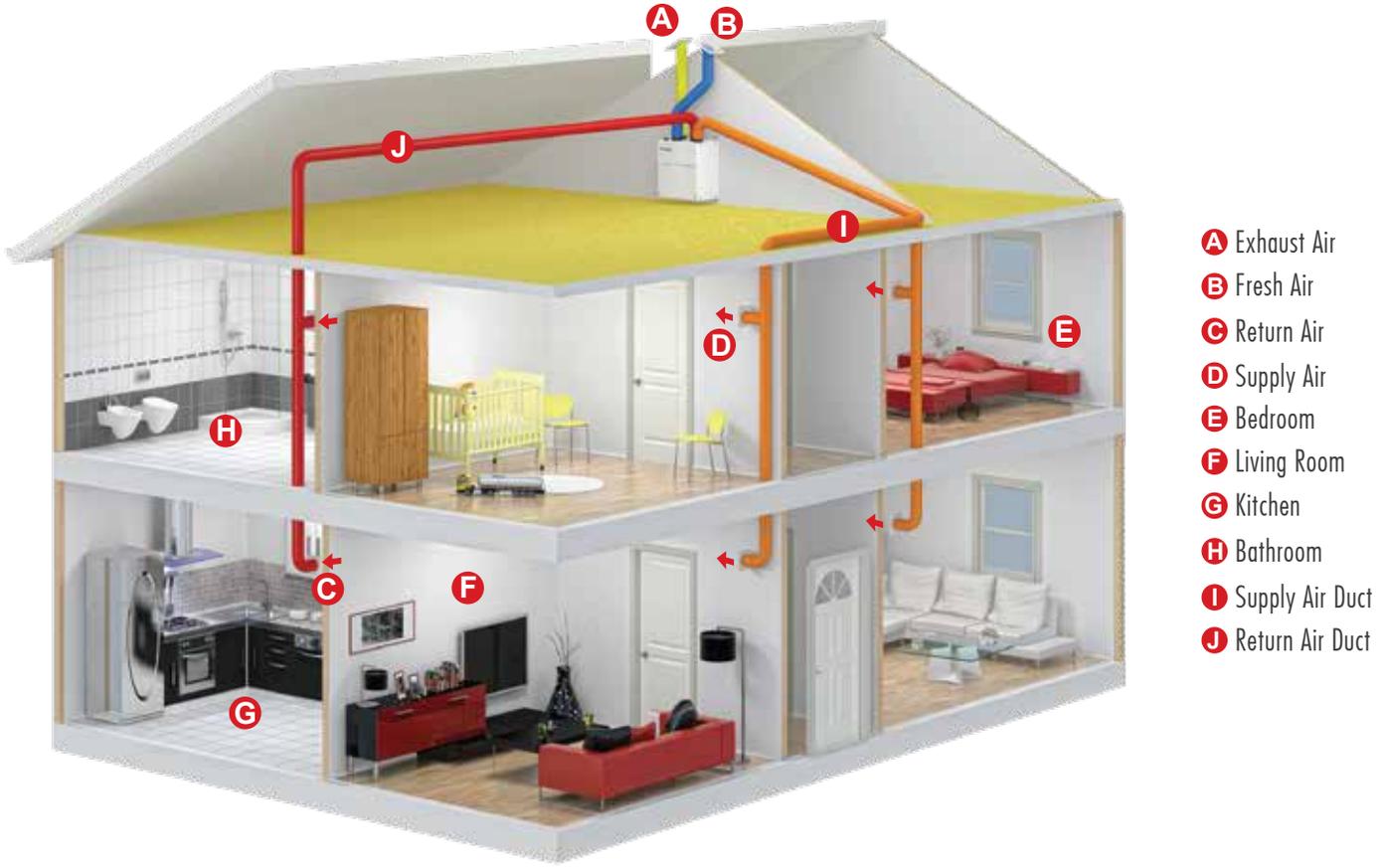
## ■ Sound Performance Data

Unit Type	30% (dBA)	50 % (dBA)	70% (dBA)
EVENT 700	36,61	39,02	48,07

\*Sound Pressure Levels (1,5 m)(dBA)

Unit Type	30% (dBA)	50 % (dBA)	
EVENT 700	30,59	33,00	42,05

\*Sound Pressure Levels (3 m)(dBA)

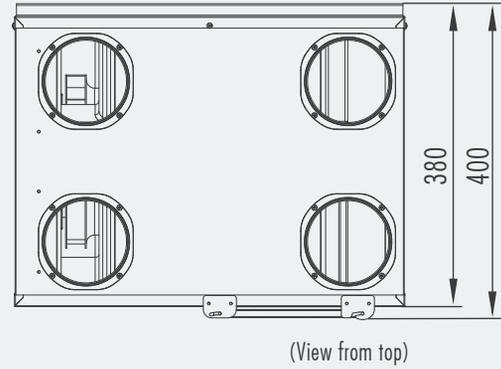
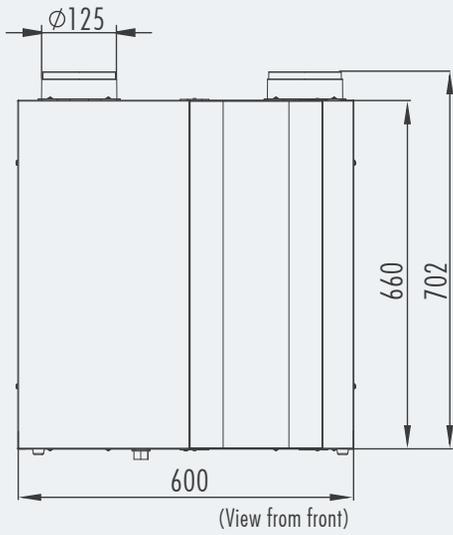


Fresh air is introduced to the ventilation system with fresh air duct. Fresh air is filtered with ISO Coarse %45(G) class filter in the inlet of the unit. Fresh air is pre-conditioned through the counter-flow heat exchanger in the unit and then delivered to the demanded spaces in the house.

Return air is exhausted from kitchen, bathroom, toilet and similar spaces where odours, steam etc. is created and delivered to the unit with return air ducts. To prevent fouling of the counter-flow heat exchanger G class filters are introduced to the unit. Return air is then exhausted outdoors after transferring its energy to fresh air.

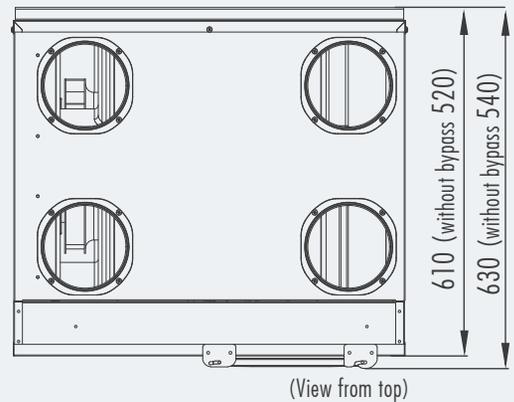
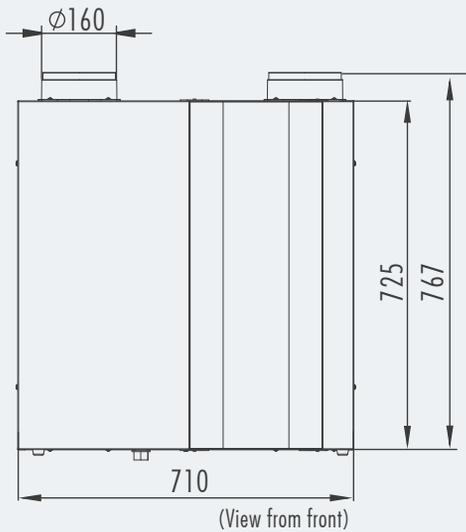
## Unit Dimensions

### EVENT 300



- \* Unit weight is 24 kg.
- \* All measurement values are mm.

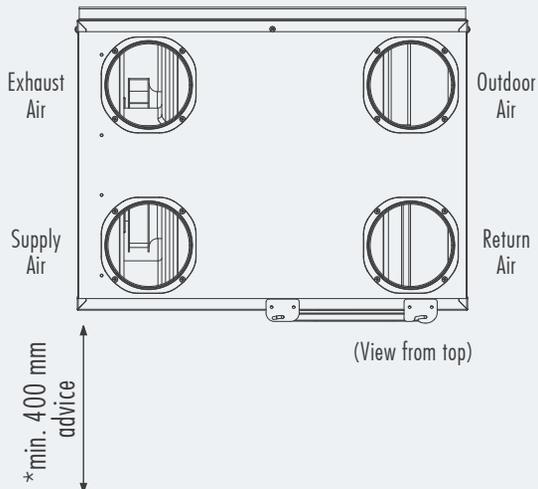
### EVENT 500 / 700



- \* Unit weight is 38 kg (without by-pass module).
- \* Unit weight is 41 kg (with by-pass module).
- \* Event 700 unit has Ø200 mm diameter ducts.
- \* All measurement values are mm.

### Service Space - EVENT 300

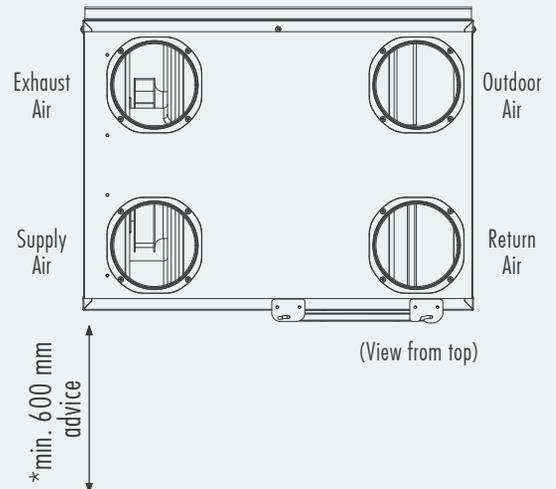
\* A clear space of 400 mm must be provided in front of the unit for service.



\* Drain pipe must be installed.

### Service Space - EVENT 500/700

\* A clear space of 600 mm must be provided in front of the unit for service.



\* Drain pipe must be installed.

Automation Options		Control Cards
Standard	Optional	Enecon Plus
OA Temperature Sensor		✓
RA Temperature Sensor		✓
SA Fan Control		✓
RA Fan Control		✓
Filter Contamination Info (Time)		✓
ByPass Damper		✓
Modbus RTU		✓
Weekly Timer		✓
	On/Off Damper Control	✓
	Proportional Damper Control	✗
	Humidity Control	⊖
	CO2 Control	
	SA Temperature Sensor	✓
	On/Off Water Heating Coil	✓
	Proportional Water Heating Coil	✓
	On/Off Water Cooling Coil	✓
	Proportional Water Cooling Coil	✓
	Electric Pre Heater On/Off Control	✓ (1 Step)
	Electric Post Heater Proportional Control	✓ (2 Steps)
	BacNET	✗
	Web Browser (TCP/IP)	✗
	Filter Contamination Info (DPS)	✓

⊖ Only one of them of defined functions is selectable for this control card.

⚠ The optional features in the table vary according to the product.

⚠ Technical staff should be consulted for IO information.

Enecon Plus		
	STD Panel	Wall-mounted type Max: 30 m communication ability
	Black Panel	Wall-mounted type Max: 30 m communication ability
	Touch Button Panel	Wall-mounted type Max: 30 m communication ability
	Wired Black Panel with Wifi	Wall-mounted type Max: 30 m communication ability
	Wired Panel with Wifi	Wall-mounted type Max: 30 m communication ability
	Humidity Sensor	
	CO <sub>2</sub> Sensor	
	Differential Pressure Switch	

## ■ Selection of Electrical Cable Cross-Section

Unit Model	Unit Voltage (V)	Unit Power Input (kW)	Current (A)	Fuse (A)	Cable Cross-Section (mm <sup>2</sup> ) for 50M and PF=0.8
EVENT					
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

$$I_{\text{current}} = \frac{P}{U \cdot \text{CosQ}}$$

$$I_{\text{cable}} > I_{\text{current}}$$

2

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

$$\%e = \%3$$

3

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

$$\text{Cable Cross-Section } S = \text{Max } (S1, S2, S3, 1.5\text{mm}^2)$$

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: CosQ : 0.8

k : 56m / Ω

1

$$I_{\text{current}} = \frac{166 \text{ W}}{230 \cdot 0,8} = 0.9 \text{ A}$$

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<sub>current</sub>" value.

$$S1 = 0.5 \text{ mm}^2$$

2

$$\%e = \%3$$

$$S = \frac{100 \cdot 166 \cdot 50}{56 \cdot 3 \cdot 230^2} = 0.09 \text{ mm}^2$$

$$S2 \geq 0.09 \text{ mm}^2 \geq 0.5 \text{ mm}^2$$

$$S2 = 0.5 \text{ mm}^2$$

3

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

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

"I<sub>fuse</sub>" which will be higher than "I<sub>current</sub>", 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<sub>fuse</sub>" value.

$$I_{\text{cable}} = 12\text{A}$$

$$S3 = 0.5 \text{ mm}^2$$

$$\text{Cable cross-section } S = \text{Max } (S1, S2, S3, 1.5 \text{ mm}^2)$$

$$S = \text{Max } (0.5, 0.5, 0.5, 1.5)$$

$$S = 1.5 \text{ mm}^2$$

### Electric Heaters



Duct type electric heaters are optionally supplied in cold climates for supply air and in extreme climates for both supply and outdoor air sides against freezing. Electric heaters are manufactured according to circular or rectangular duct systems.

Standard types are produced of stainless steel heating elements and galvanized metal casing. Stainless steel casing is also available. Electric heaters are equipped with two circuit cutting thermostats. Factory setting for the automatically operating one is 70 °C and for the manual operating 110 °C.

Electric heaters capacity can be controlled up to 2 or 3 steps with control panel according to the set temperature from the room control panel and room (or supply air) temperature. Speed controls shall not be used with Electric heater installations. Eneko electric heaters are connected in Delta connection in standard models.

#### Heating Capacity Calculation

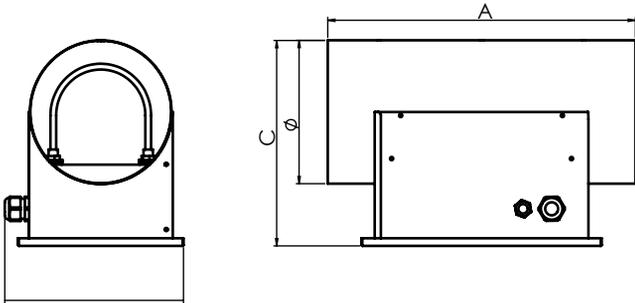
$$Q = 0,33 \times V \times (T_2 - T_1)$$

Q : Heating Capacity (W)

V : Air Flow through electric heater (m<sup>3</sup>/h)

T<sub>1</sub> : Air temperature before the heater (°C)

T<sub>2</sub> : Air temperature after the heater (°C)



Unit Model	Capacity (kW) 1	A	B	C	Ø	
EVENT	300	0.5kW	430	175	225	125
		1kW	430	175	225	125
		1.5kW	430	175	225	125
	500	1kW	430	210	265	160
		1.5kW	430	210	265	160
		3kW	430	210	265	160
	700	1kW	430	250	283,6	200
		1.5kW	430	250	283,6	200
		3kW	430	250	283,6	200

\* All measurement values are mm.

#### Electrical Heater Capacity

Unit Model		Pre-heater/After-heater		
		Capacity (kW) 1	Capacity (kW) 2	Capacity (kW) 3
EVENT	300	0,5	1	1,5
	500	1	1,5	3
	700	1	1,5	3

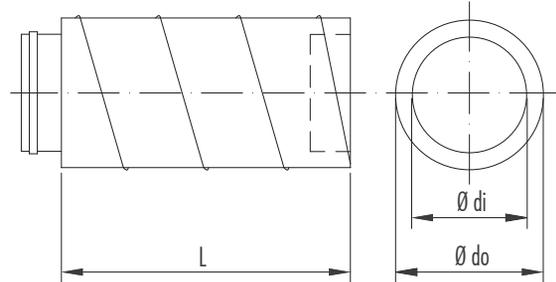
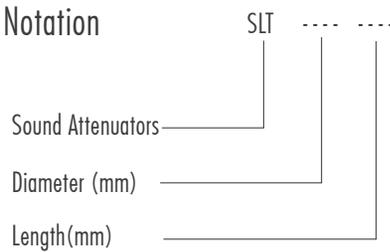
All Heaters 1~/230/50.

## ■ Sound Attenuator For Circular Ducts



Sound attenuators are designed for standard duct dimensions. Various lengths are available according to attenuation demand. Sound attenuation capacities are given in the table. For better performance sound attenuators can be used in series. For the best result the sound attenuators shall be installed just after the unit.

### Notation



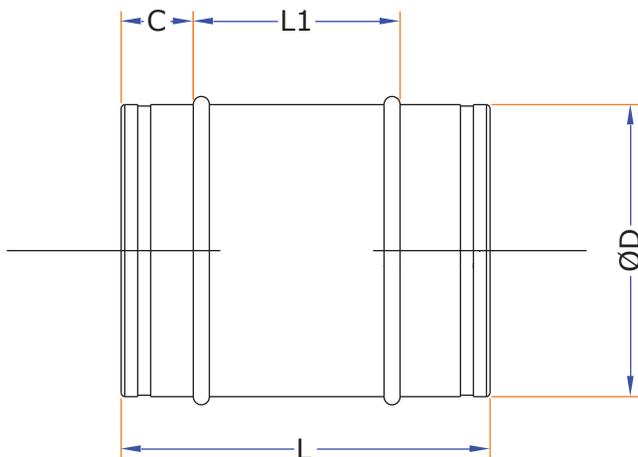
Sound Attenuator Capacity [dB]

UNIT MODEL	SLT	63	125	250	500	1k	2k	4k	8k	
EVENT	300	160-600	1	2	4	5	9	13	13	14
	500	160-600	1	2	4	5	9	13	13	14
	700	200-600	2	3	6	7	13	17	18	20

Sound Attenuator Dimensions [mm]

UNIT MODEL	SLT	Length (L)	Ø di	Ø do	
EVENT	300	200-600	600	160	220
	500	160-600	600	160	220
	700	200-600	600	200	260

## ■ Duct Type Circular External Damper



Unit Model	ØD	L	L1	C	
EVENT	300	-	-	-	
	500	158	240	160	50
	700	198	280	180	50

\* All measurement values are mm.

Unit Model	Aeff(m <sup>2</sup> )	Qmin(m <sup>3</sup> /h)	Qmax(m <sup>3</sup> /h)	
EVENT	300	-	-	-
	500	0,02	109	651
	700	0,031	170	1017

Aeff = Effective Area

Qmin = Air flow rate when the velocity in the duct is 1.5 m/s

Qmax = Air flow rate when the velocity in the duct is 9.0 m/s

### ■ Duct Type Heating Coil/Cooling Coil



Cooling Coil



Heating Coil

Duct type heating/cooling coils are assembled in modules as suitable to mount inside duct and have standard capacity. Coils consist of copper tubes and aluminum fins. Inlets and outlets of modules are suitable for duct connections as in heat recovery ventilation units. Additionally, cooling coils have drain pan and extra insulation to prevent condensation of modules. Both heating and cooling coils can be controlled separately as on/off or proportionately via automation system. All values are calculated according to EN 308 standard.

### ■ Duct Type Heating Coil

Unit Model EVENT	Air flow (m <sup>3</sup> /h)	Duct Type Heating Coil Box Model	90C/70C Water			80C/60C Water		
			Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)	Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)
300	220	Capacity 1	24,2	0,9	0,1	24,1	0,6	0,1
500	370	Capacity 1	12,1	2,4	1,5	12,0	1,9	1,0
700	570	Capacity 1	25,0	3,0	2,4	24,9	2,4	1,6

Unit Model EVENT	Air flow (m <sup>3</sup> /h)	Duct Type Heating Coil Box Model	70C/50C Water			60C/40C Water		
			Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)	Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)
300	220	Capacity 1	24,0	0,4	0,0	23,9	0,3	0,0
500	370	Capacity 1	11,9	1,4	0,5	11,7	0,7	0,2
700	570	Capacity 1	24,7	1,7	0,9	24,5	1,0	0,3

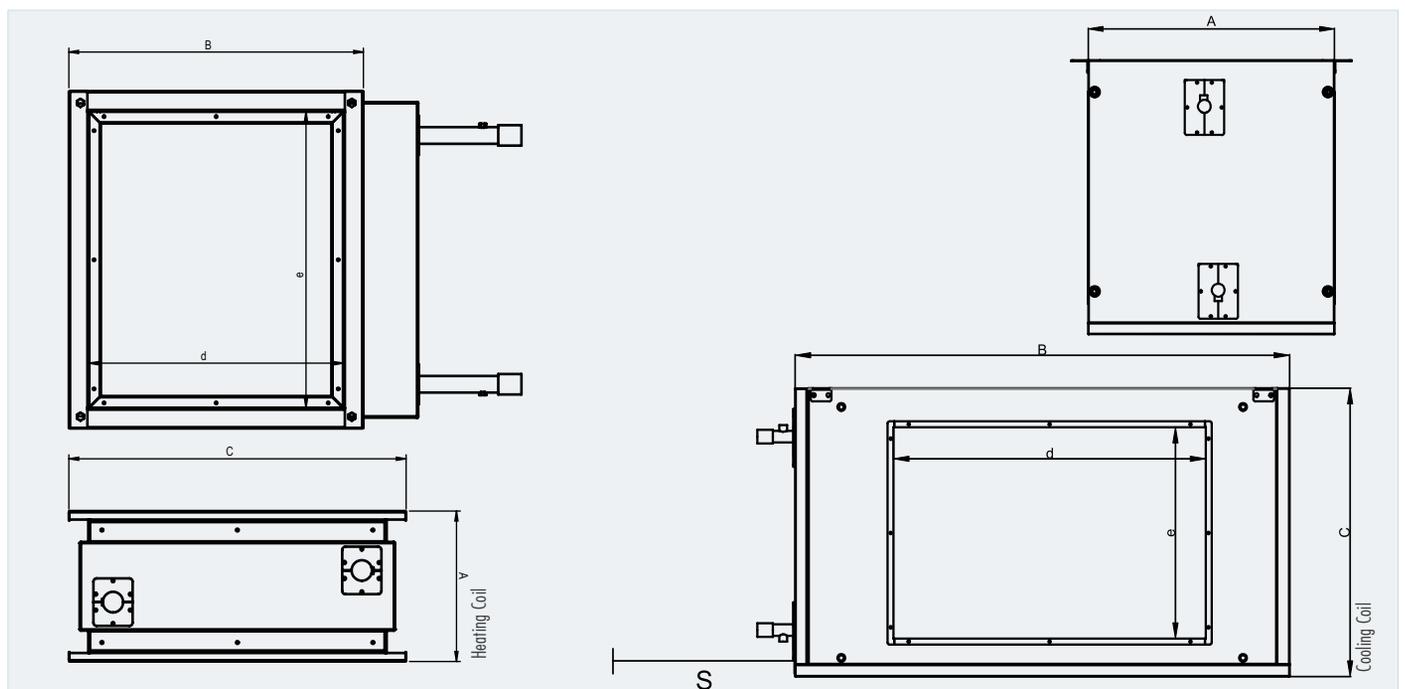
### ■ Duct Type Cooling (Changeover) Coil

Unit Model EVENT	Air flow (m <sup>3</sup> /h)	Duct Type Change-Over Coil Box Model	7C/12C Water			6C/10C Water		
			Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)	Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)
300	220	Capacity 1	2,6	1,0	7,3	2,6	1,1	14,1
		Capacity 2	4,0	1,3	11,9	4,0	1,5	22,9
		Capacity 3	7,6	2,1	8,5	7,6	2,3	16,1
500	370	Capacity 2	5,8	1,3	12,4	5,8	1,5	23,9
		Capacity 1	8,0	1,8	20,7	8,0	2,0	39,9
		Capacity 3	22,5	3,8	14,0	22,4	4,2	26,6
700	570	Capacity 1	11,6	1,7	18,8	11,6	1,9	36,4
		Capacity 2	15,4	4,2	6,3	15,4	4,8	12,7
		Capacity 3	6,7	5,4	6,3	6,7	6,1	12,2

## ■ Duct Type DX Coil

Unit Model EVENT	Air flow (m <sup>3</sup> /h)	Kanal Tipi DX Serpantin Modeli	R32,4C/45C			R410A,4C/45C		
			Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)	Air side pressure drop (Pa)	Capacity (kW)	Fluid side pressure drop (kPa)
300	220	Capacity 1	4,2	1,8	0,2	4,2	1,8	0,3
500	370	Capacity 1	9,5	2,4	0,4	9,5	2,4	0,7
700	570	Capacity 1	19,6	3,2	0,6	19,6	3,1	1,2

## ■ Duct Type Coil Dimensions



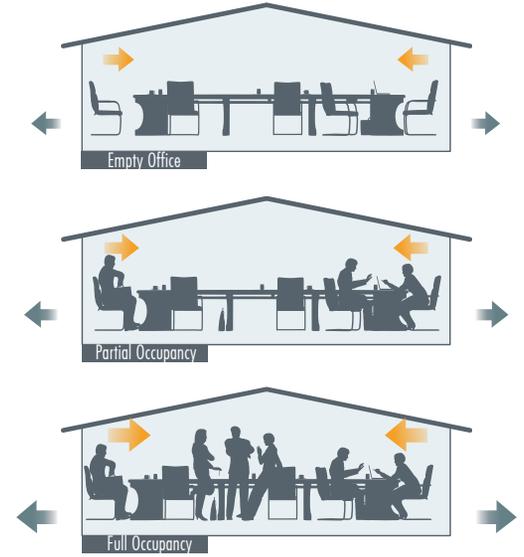
Unit Model	Duct Type Coil Box Model	a	b	c	d	e	s
EVENT 300	Heating Coil-Capacity 1	190	281	220	230	180	281
	Dx Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 2	450	510	490	270	270	510
	Change-Over Coil-Capacity 3	450	510	490	270	270	510
EVENT 500	Heating Coil-Capacity 1	190	311	332	260	280	311
	Dx Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 2	450	510	490	270	270	510
	Change-Over Coil-Capacity 3	450	510	490	270	270	510
EVENT 700	Heating Coil-Capacity 1	190	311	332	260	280	311
	Dx Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 1	450	510	490	270	270	510
	Change-Over Coil-Capacity 2	450	610	540	370	320	610
	Change-Over Coil-Capacity 3	450	860	640	620	420	860

### ■ Ventilation on Demand

Air Quality Sensor (CO<sub>2</sub> / Humidity) is mounted to the return air duct and is connected to control system of unit. The set point for the desired indoor air quality is set during the installation. According to the demand indoors, EVENT units are modulated automatically by the sensor. Annual energy consumption of the unit is reduced as a result of the modulation, ending in reduction in energy costs.

Fresh air demand in a space is calculated according to human occupancy and/or physical properties of the conditioned space. The calculation is based on the maximum indoor occupancy. In practice maximum occupancy is observed for only a small period of time annually where lower air flow rates will be sufficient for most of the year. By reducing the air flow rate according to the fresh air demand; it is possible to reduce units electrical consumption and reduce also energy consumption used to condition the space. It should be noted that by increasing fresh air rate, indoors heating/cooling demand will also be increased.

With the help of control panel, it is possible to regulate fresh air rate according to the demand indoors. Eneko Indoor air quality sensor (CO<sub>2</sub>/Humidity) sensor is mounted to the return duct or the conditioned space and the demanded condition is set. A 0-10 V signal will be created and EVENT unit's air flow will be regulated according to the signal.





## GENERAL

The sale of all Products of ENEKO shall exclusively be made on the basis of these General Terms and Conditions of Sales. Any other conditions and General Conditions of Purchase of the Buyer are not accepted.



## OFFERS

Our offers are non-binding and without obligation. Contracts for delivery and all other agreements (including subsidiary agreements) as well as declarations of our representatives shall only become legally binding for us after written confirmation. We do not render planning service.

Proposals made and information provided by our representatives shall be non-binding. Illustrations, drawings, dimensions and weights or other performance data shall only be binding if this is expressly agreed in writing.



## TERMS OF ORDER

Purchase orders shall be sent to ENEKO in written form and shall be non-binding unless they are accepted by written confirmation (order confirmation) from ENEKO. Each order shall include properly identified Products ordered and relevant shipping dates.



## PRICE OF THE GOODS

Prices are net Ex Works according to current Incoterms unless stated otherwise and do not include any kind of taxes. Prices are valid at the date of delivery will be applied. We reserve the right to adjust prices for confirmed orders as well to reflect any increase in our costs for any reason beyond our control like force majeure, shortage of primary material or labor strikes, official orders, transportation or similar problems. In this case, a new price agreement shall be required for higher rates. If such an agreement is not made, we shall be entitled to withdraw from the contract by written notice within 15 days.



## TERMS OF PAYMENT

Payments shall be carried out according to the contractual terms as defined and set forth in the order confirmation. If the payment conditions have not been agreed upon conclusion of the contract, the payment terms and payment dates specified in our invoices shall be binding. Deadlines for discounts and periods allowed for payment shall begin to run upon receipt of the invoice. Payments by draft, bills of Exchange or anyway extended payments shall mean neither credit novation, nor prejudice to the Retention of Title agreement, nor to territorial competence. If buyer fails to make payment by due date, we are entitled to charge the buyer with a relevant interest on the unpaid amount.



## TERMS OF DELIVERY

Delivery time information is only approximate. We shall only be in default if the performance is due and a written demand for payment was issued. Delivery day is the day of dispatch Ex Works. We shall also not be liable with regard to bindingly agreed periods and dates in the event of delays in delivery and of performance due to force majeure and events which considerably complicate or make delivery impossible not only temporarily-strike lockout, breakdown, delay in supply with important raw and auxiliary materials even if the delay occurs at our supplier, in particular. These delays entitle us to postpone delivery for the period of the impediment plus a reasonable start-up period or to withdraw from the contract as a whole or in part. If delivery time is extended or we are released from our delivery commitment, the buyer may not derive a claim for damages from it. However, we may only rely on the circumstances mentioned if we notify the buyer immediately. We shall be entitled to make part deliveries. Any part delivery shall be considered as independent transaction. In case of default, our liability is limited to contract-typical foreseeable damage.



### SHIPMENT

Shipment is made for the buyer's account. Mode of shipment and shipping route, transport and packaging and other securities respectively shall be at our choice. We shall be entitled, however, not obliged to insure deliveries in the name and for account of the buyer. Risk passes to the buyer when shipment is handed over to the person performing the transport or left our Works for shipment. If shipment is delayed upon buyer's request, risk passes to the buyer with the ready for shipment note. If ordered goods are rejected after the ready for shipment note, we shall be entitled to request payment and store the goods at buyer's expense. Discharge of the goods is made at buyer's expense.



### RETENTION OF TITLE

In any event ENEKO shall retain full ownership of all materials supplied whilst the payment conditions of the entire amount have not been complied with, said materials may be removed from the customer at our request. Should the customer be declared bankrupt or insolvent and has not made paid the entire amount of payments. ENEKO shall be entitled to recover the goods. ENEKO may interrupt the supply without incurring any liability whatsoever if he had notice of or became aware of a decrease in the creditworthiness of the purchaser or if any of the existing negotiable instruments or debts were not properly complied with, shall result as being unpaid and protested.



### WARRANTY

ENEKO Products are under warranty (defect in material or workmanship) for 2 years from the date of sale reflected on the invoice. Under this warranty, ENEKO is under the obligation to replace the part requested under warranty.

The followings are excluded from ENEKO warranty:

- Normal wear and tear
- Defective assembly or handling
- Third party compensation

Parts the subject of a claim shall be sent to our warehouse as carriage paid with relevant report completely filled in, wherein the parts shall be subjected to analysis.



### LIABILITY

ENEKO, for any losses/damages, shall only be responsible within the limits of the law. Owing to basic obligations undertaken by simple negligence, if the contract is violated, ENEKO's liability shall be limited to compensate for losses which are emerged specific and predictable. ENEKO shall not carry any responsibility in case of a single negligence in breach of non-essential contractual obligations.



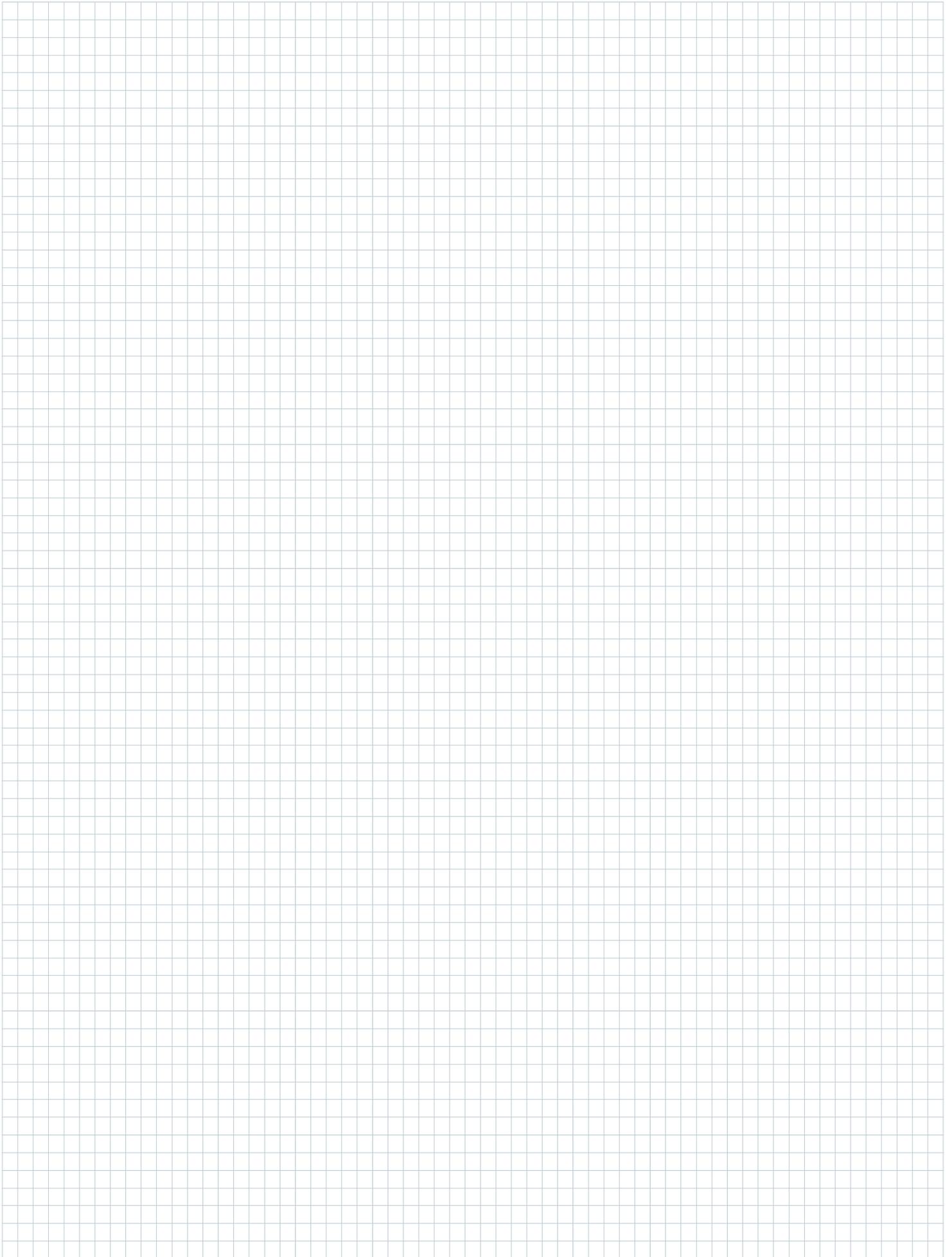
### PROPERTY RIGHTS

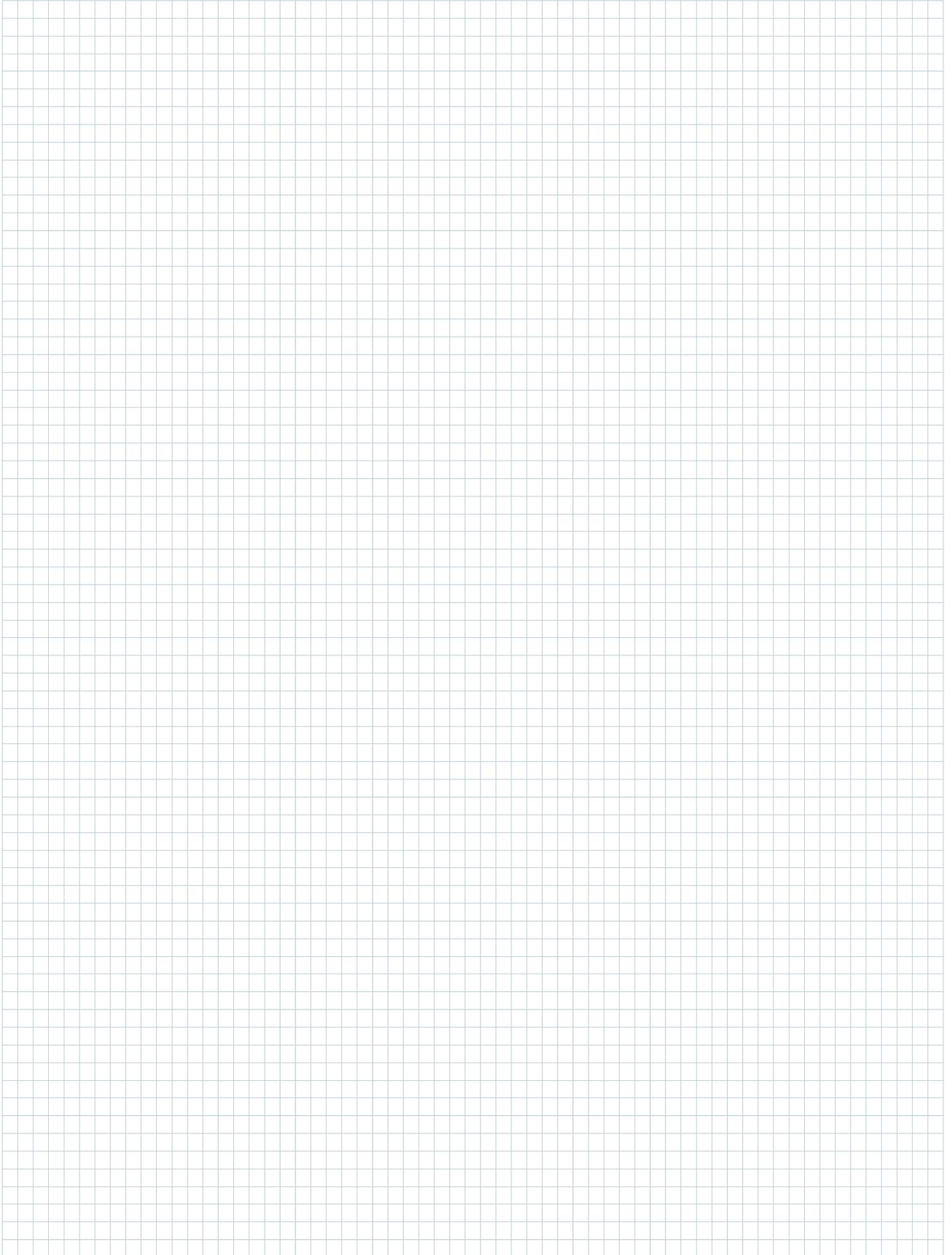
The purchaser in no event and under no circumstances whatsoever shall publish or use the trademark, trade name or logo of ENEKO without a prior written permission.



### GOVERNING LAW AND JURISDICTION

This agreement shall be governed with all aspects of the Turkish Law. The courts of Izmir/Turkey shall have an exclusive jurisdiction to adjudicate any dispute arising under or in connection with this agreement.









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