

E.C.A.®

phoenix

**PHOENIX PH HM 11LT/MIN
WATER HEATER**



**User And Installation
Manual**

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INTRODUCTION

First of all, we would like to thank you for choosing an E.C.A. gas water heater.

E.C.A. Phoenix gas water heaters are designed to accommodate the domestic hot water needs in a safe and comfortable way.

Information about installation and operation of Phoenix gas water heaters are provided in this manual. Technical specifications, choosing the right place to install, water, gas, flue and electrical connections, maintenance information and a list of possible errors are given in detail. For utilizing your gas water heater's complete features and to use your appliance safely for a long time, please read the manual carefully.

Please keep all the documents that come with your appliance for future reference.

WARRANTY AND SERVICE

- All repairs and annual maintenances must be done by an authorized technical services. If the instructions and warnings from the installation manual are followed, this boiler has 3 years of warranty for the failures related to the manufacturing and materials.
- Start-up must be done by an authorized technical service. For the warranty to be valid, warranty documents must be filled and stamped by the service during start-up.
- This E.C.A. product does not require repairment under normal working conditions. But if you need any assistance, you can call service company. For the warranty to be valid, all maintenance and repairs must be done by an authorized technical service personnel.
- Authorized technical services list are provided separately with your appliance.
- Default guarantee period of E.C.A. boilers are 10 years.
- This appliance conforms the related regulations about the limitation of hazardous materials in electric and electronic devices. Does not contain polychlorinated biphenyl, asbestos or mercury.

SYMBOLS

Symbols below are placed within the manual to indicate important points about the usage and working of the appliance. Meaning of these symbols are given below.

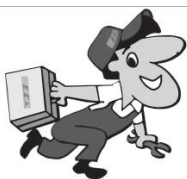


CAUTION: Indicates the possibility of pecuniary or functional loss

DANGER: Indicates the possibility of health and safety loss.



INFORMATON: Indicates the information that should be considered by the user.



SERVICE: Indicates the situations that must not be interfered by the user, the technical service should be contacted.

SAFETY RULES AND WARNINGS

If there is a natural gas smell;

- Shut off the gas valve of the appliance and all of your gas burning appliance
- Shut off and put out your oven, stove, cooker etc.
- Do not light matches, lighters etc, put out your cigarettes.
- Open all your windows and door and ventilate the room.
- Do not switch on your electrical devices and do not touch the plugs.
- Shut off the gas valves at the building entrances.
- Do not use phones in the environments that have a gas smell.
- Call the gas company and inform the closest technical service.
- Do not put or use flammable materials near your appliance.
- Keep materials like water, foam etc. away from electrical connections during cleanup, maintenance etc.
- Do not block ventilation outlets in your boiler room.

INSTALLATION

Installation of the System

• Before the installation of your gas water heater, natural gas and domestic hot water pipings must be ready. Natural gas pipings must be designed, approved and done by a qualified engineering office. All these must be done and paid by the user.

• **The appliance must be connected to a grounded plug with 230V AC, 50 Hz supply.**

• Any dirt, blockages, welding residuals, burr, flug etc. particules left inside the pipes will affect the gas water heater's performance. These residuals will cause gas water heater to overheat, noisy operating etc. Any damage or failure caused by unfit piping system is out of warranty coverage.

Installation of Gas Water Heater

• Installation of this gas water heater must be done by a authorized technical service according to the information (placement, flue connections etc.) presented by the standarts and authorized gas companies. After the installation, installer must make sure that user has given the user manual and give all the necessary information about the boiler and related safety equipments.

• Gas water heater must be installed in a manner that the appliance should not be in direct contact with water vapor, detergent vapor or similar chemicals.

• Flue connections must not be tampered with without consulting to the authorized technical service.



The appliance will not be in use until winter season, water inside the gas water heater should be drained to prevent freezing.



The appliance should not be used above 2000m altitude above sea level.

Do not install the appliance where it will be affected by direct sunlight. Sun beams can cause discoloration on the outer surfaces of the appliance.

COMISSIONING

• Start-up of the appliance must be done by the authorized service. Natural gas usage must be approved by the related gas company prior to the start-up.

• The gas type (natural gas), inlet gas pressure (mbar), maximum water pressure (bar) and electrical nominal voltage (V) values on the information label must be checked with the local conditions.

• After the installation of the appliance, please ask your authorized service personnel to give information about the operation and safety equipments of the appliance.

OPERATION AND MAINTENANCE

- Please be wary of the warnings in the installation and user manual. That way, any danger caused by false operation could be prevented.
- To increase the lifespan of your device, obtain high performance and to ensure safe use; maintenance should be performed once a year. Maintenance is under the scope of appliance's warranty and must be done by the authorized technical services.
- Outer surfaces of the appliance must be cleaned with a damp cloth without using any chemical substances. Usage of chemicals like detergents etc. could cause rust and scratches.



Danger: This device is not intended for use by people with reduced physical, sensory and mental capacities (including children) or lack of experience and knowledge, unless they are supervised and managed by a person responsible for the safety of the device. Children should be supervised to ensure that they do not play with the device. Cleaning and user maintenance should not be performed by children without supervision.



Danger: This device is not intended for use by people with reduced physical, sensory and mental capacities (including children) or lack of experience and knowledge, unless they are supervised and managed by a person responsible for the safety of the device. Children should be supervised to ensure that they do not play with the device. Cleaning and user maintenance should not be performed by children without supervision.



Danger: In case of incorrect and improper use of the device, it may pose a risk to life and may cause material damage to the product and its surroundings.



Danger: This device may be used by children aged 8 and over and by people with reduced physical, sensory or mental capacities or lack of experience and knowledge, if they have been given supervision or instruction on how to use it safely and if they understand the risks involved.

PRODUCT

General Specifications

This is a room sealed fan assisted gas water heater with electronic direct ignition and ionisation safety. The water heater supplied for use with Natural Gas. The water heater has space saving design which provides easy servicing and maintenance. It has also a elegant appearance with compact dimensions (654x352x268 mm). Microcontroller board provides all the functionality and safety of the water heater.

Burner, is made of stainless steel, withstands thermal stress. Burner performs silently and provides efficient and clean combustion as a result of the homogeneous dispersion of gas. Heat exchanger is made of copper and designed for thermal shock absorbing. It has long life, high productivity and is non-calcerous as well.

Functions and the safety of the appliance is provided by the control mainboard. Mainboard controls the gas valve, burner and flow sensor. Flame in the burner is always checked via ionization electrode and can be observed by the flame symbol on the screen.

Thanks to the single button, ease of use and ergonomically control of mainboard is provided for the end users. With a backlighted wide black LCD screen shows information about working situation, set points of water temperature, real time water temperature, fault codes and service parameters.

Safety measurements on the appliance assures both your safety and the safety of the appliance. These safety measurements are as follows;

- Flue Gas Safety (Bad combustion prevention)
- Flame Loss Safety (Flame availability check with ionisation electrode)
- Overheating Water Temperature Safety (85 °C)
- NTC Overheating Safety (71 °C)
- Low Voltage Safety (170 VAC)
- Fan Rpm Control via Hall Effect Sensor Signals.
- Prevention of Dry Combustion Thanks to the Flow Sensor. (Combustion is not allowed below 2,5lt/min water flowrate)
- Frost Protection (5°C Electrical supply to the boiler must be maintained in order to frost protection to work)
- Overload Working Safety (system off, factory setting is 6 hours continuous operation)

Product Notation

Notation	Description
Phoenix PH HM 11	E.C.A. Phoenix Gas Water Heater

Table 1

Electrical Board Circuit Diagram

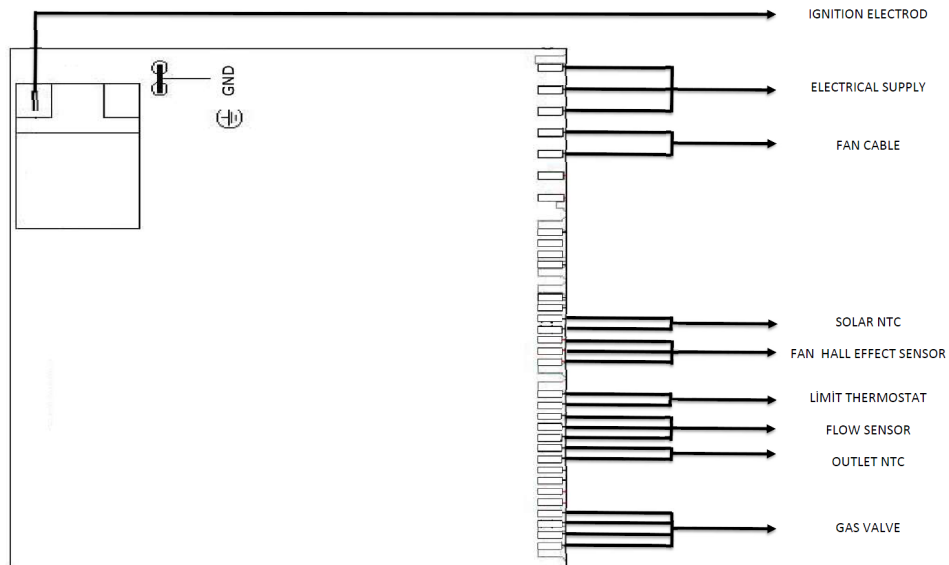


Figure 1- Electronic Board Circuit Diagram

Components

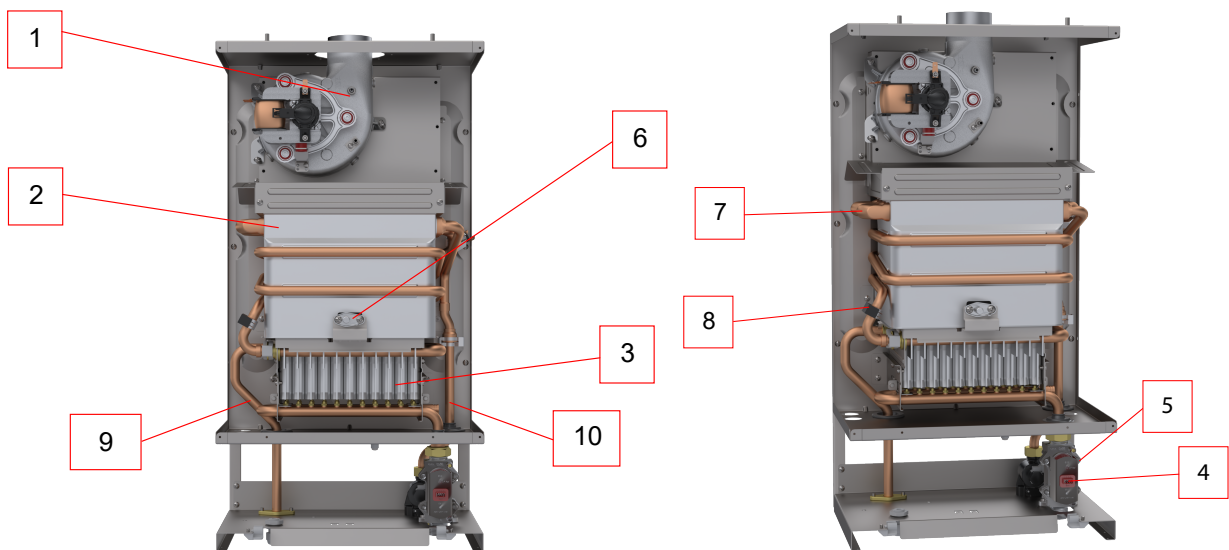


Figure 2- Components

1-Fan with Hall Effect Sensor	7- Ignition and Ionisation Electrode
2-Heat Exchanger	8-Overheating Safety Switch
3-Water Cooled Low NOx Burner	9-NTC Sensor
4-Electronic Gas Valve	10-Burner Inlet Pipe
5-Control Panel	11-Water Outlet Pipe
6-Flow Sensor	12-Water Inlet Pipe

PACKAGING



CAUTION: Warnings on the packaging must be followed during transportation and storage.

The appliance is delivered in a 760x440x330 mm carton box with 2 pieces of styrofoams supporting the appliance.

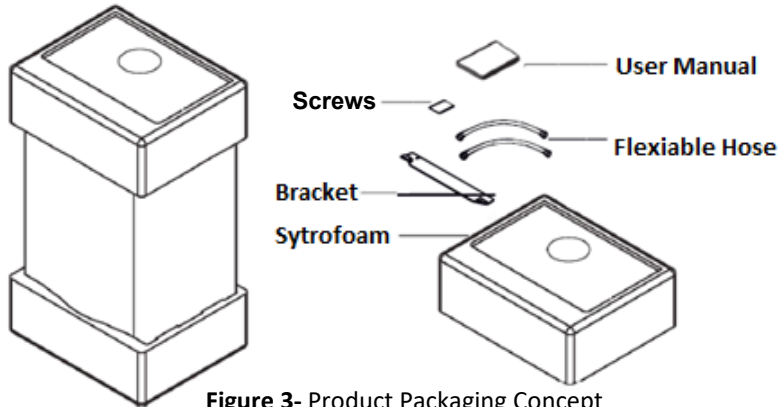


Figure 3- Product Packaging Concept

Parts required for the installation of the product (Wall hanging bracket, 3 gaskets for water and gas connection, 3 wall plugs for screws) is provided in the package

INSTALLATION AND CONNECTIONS

Selecting the Suitable Place for Installation

The appliance must be installed in accordance with gas safety regulations and relevant standards. Additionally, the clearances around the boiler should be as shown in fig. 4 in order to make service, maintenance and usage easier.

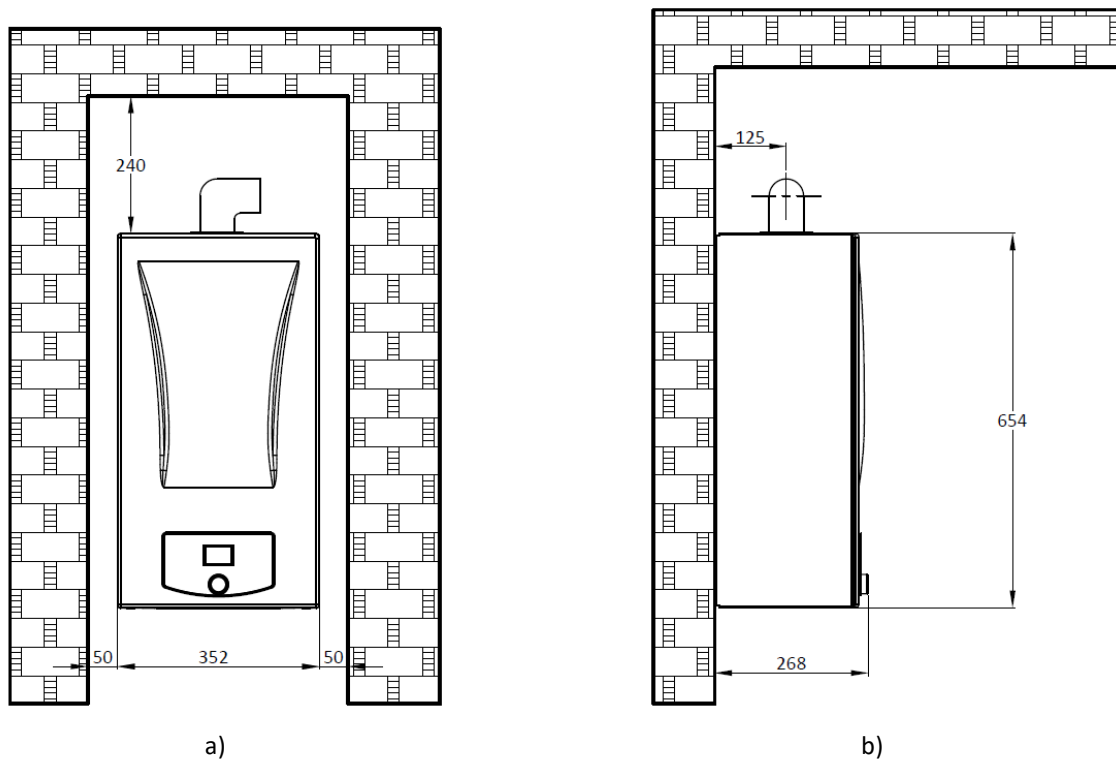


Figure 4- Indication minimum clearances from the ceiling and the sides.

The appliance should be mounted against a closed wall. The outer surface of the water heater do not exceed 85°C in maximum running mode so do not take additional precautions against constructional materials (combustible materials).



Danger: Do not block the air vents which provide fresh air to the installation room.



Danger: The water heater location and air/flue terminal position must obey national and local requirements, gas safety regulations and relevant standards.



Danger: Do not block the air vents as fresh air is needed in the room where the device is located.

The water heater is not suitable for external installation. It should be within the building.

- In case of gas leakage, it is necessary to vent the installation room according to national and local requirements, although the water heaters are independent of room volume and ventilation.
- The air/flue terminal must be exposed to the external air and allow free passage of air across it at all times.
- The minimum acceptable dimensions from the terminal to obstructions and ventilation openings must obey national and local requirements.
- The air/flue ducts should be fitted at a slight 2° or 3° downwards incline to prevent any water or condensation from entering the combustion chamber.

Hanging the Appliance to the Wall

E.C.A. Phoenix gas water heater must be hung to a brick wall with the supplied hanging bracket.

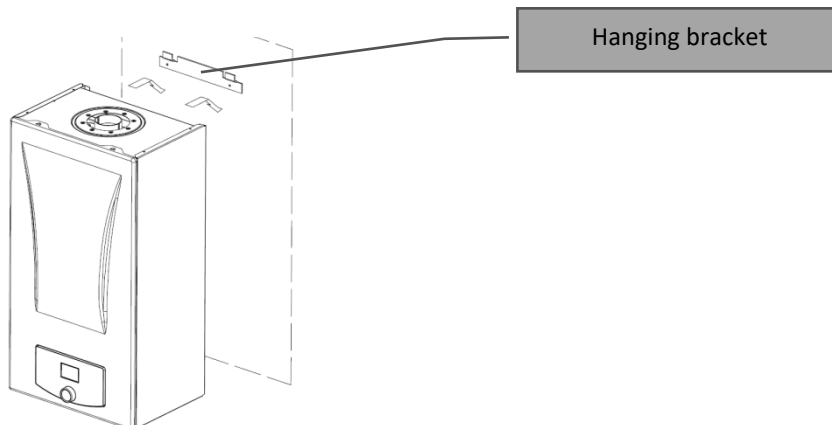


Figure 5- Hanging bracket

For installation:

- Take measurement from the back side of the boiler to make sure that the holes are in line and horizontal.
- Mark the hole places on the wall.
- Drill the holes and put in the wall plugs.
- Fix the hanging bracket to the wall using the provided screws.
- Hang the boiler to the hanging bracket.

It is important that the hanging parts should be fixed to the wall properly to endure the weight of the appliance.

CONNECTIONS

Flue Connections

E.C.A. Phoenix gas water heaters are designed to work with C-type flues to provide the air required for burning from out of boiler room. During flue connections tightness gaskets should be mounted correctly to prevent flue gas leakage to the fresh air intake.

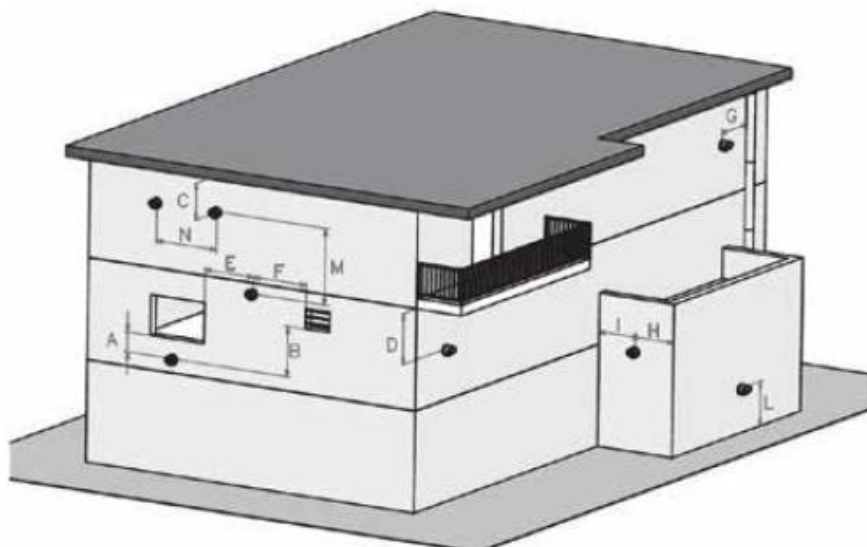


Figure 6- Distances for Flue Outlets

ALLOWABLE POSITION	DISTANCE (cm)	ALLOWABLE POSITION	DISTANCE (cm)
A - Below a window	60	G - Beside an horizontal or a vertical pipe	60
B - Below an air vent	60	H - An outer corner of the building	30
C - Below a rain channel	30	I - An inner corner of the building	100
D - Below balcony	30	L - From the floor	180
E - Beside a window	40	M - Vertical distance between two chimney outlets	150
F - Beside an air vent	60	N - Horizontal distance between two chimney outlets	100

The places where it is inconvenient to make the chimney outlet of C type (hermetic) devices are stated in the following articles:

- Passages and halls,
- Narrow eaves gaps,
- Ventilation and lighting spaces of buildings,
- Inside balconies,
- Elevator shafts,
- Grilles that provide fresh air to other units,
- Locations subject to direct wind resistance.

Ventilation systems installed in underground, basement, and similar areas must be set up in a manner that does not pose a threat to living spaces and prevents any unauthorized interference. If such installation is not feasible, the exhaust vent must be extended to the roof.



DANGER: Non-approved combustion air / flue pipes can create the risk of injury. Only use the manufacturer's original combustion air / flue pipes. It is not appropriate to interfere with the original chimney kits (cutting, adding, etc.).



DANGER: During installation, the boiler flue set and accessories must be fixed in such a way to preserve their impermeability, taking into account the impacts that may come from the outside. Otherwise, the CO (carbon monoxide) gas that will leak from the chimney connections will cause poisoning and pose a life-threatening risk.

A chimney clamp should be used for each chimney and vertical section transition points, and a distance of less than 2 m should be left between the two flue clamps. The flue system must be rigidly fixed to the wall with the flue clamp.

Horizontal Flue Connections

Air/flue kit consists of the following parts:

- Apart from the water heater package, a standard concentric air/flue kit is given with a cardboard box.

- 90° Concentric elbow with flange (ϕ 60/100mm), Flat sealing ring
Sealing ring, Viton (ϕ 60mm)
- Sealing ring, Silicone (ϕ 100mm)
- Concentric terminal, L=860mm, (ϕ 60/100mm) Inner and outer flanges, 2 pieces (ϕ 100mm)

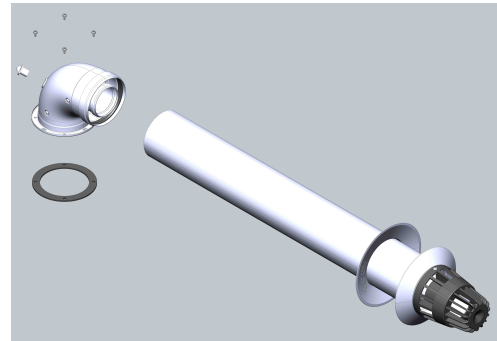


Figure 7 – Horizontal Flue Kit

Product	Elbow	L (m)	Lmax (m)	Parameter 11
				Set Value
PHOENIX PH HM 11	3x90°	≤ 1	4	4
	2x90°	$1 < \leq 2$		
	1x90°	$2 < \leq 3$		
	0x90°	$3 < \leq 4$		
	2x90°	≤ 1	3	3
	1x90°	$1 < \leq 2$		
	0x90°	$2 < \leq 3$		
	1x90°	≤ 1	2	2
	0x90°	$1 < \leq 2$		
	0x90°	≤ 1		

Table 3 – Horizontal Parameter Info

The air/flue ducts should be fitted at a slight % 2 or 3 downwards incline to prevent any water or condensation from entering the heater,

If the air/flue kit length is insufficient, additional flue accessories should be ordered through qualified service. Do not use any other type / brand name of flue parts.

- Horizontal air/flue kit accessories (fig.7) :

- Concentric extension, L=500 mm, ϕ 60/100 mm (7006902786)
Concentric extension, L=1000 mm, ϕ 60/100 mm (7006902787)
- 90° Concentric elbow, ϕ 60/100 mm (7006902785)
- 45° Concentric elbow, ϕ 60/100 mm (7006902784)



Figure 8. Flue Types

The total length of horizontal air/flue system must not exceed 4 m. Furthermore, each extra 90° concentric elbow or two pieces of 45° concentric elbow decreases the maximum length 1m (fig. 9). The maximum number of 90° elbow to be used is 3.

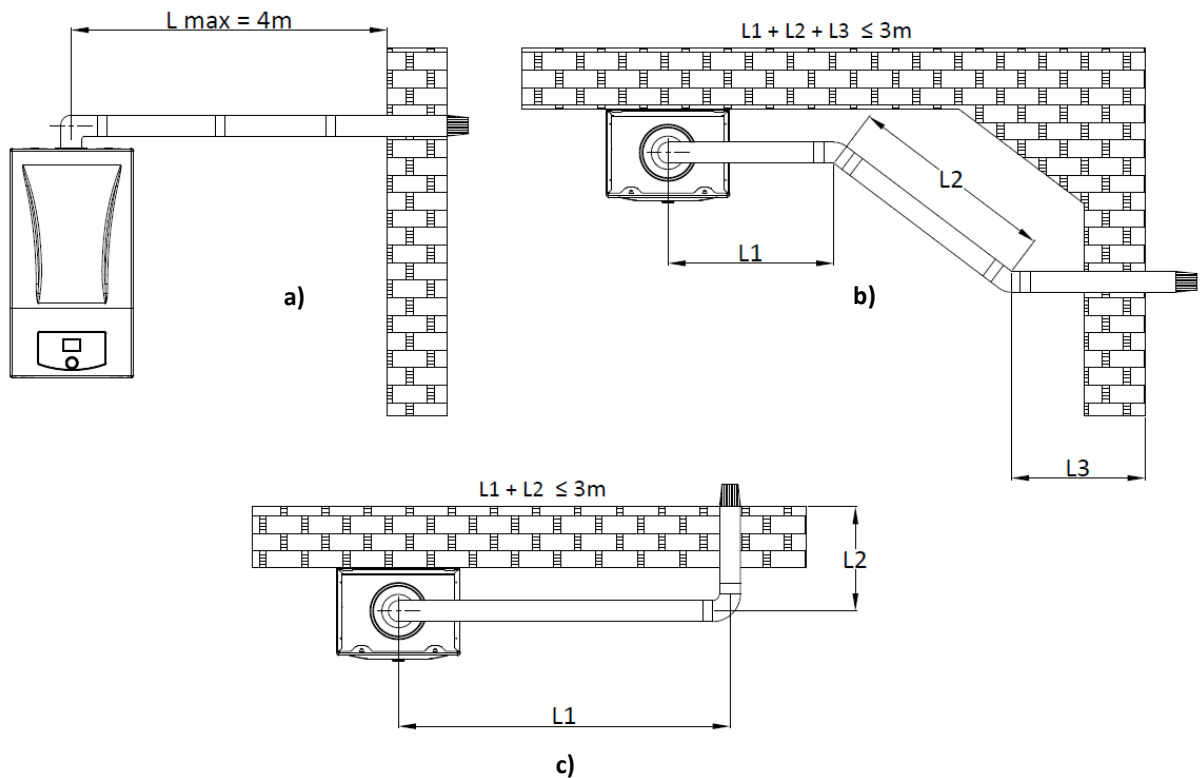


Figure 9 - Flue Assembly Types

Vertical Flue Connections

1. Vertical Flue Kit ($\varnothing 60/100mm$) (7006902326)
2. Vertical Flue Adapter ($\varnothing 60/100mm$) (7006901413)
3. Extension Pipe 500mm / 1000mm ($\varnothing 60/100mm$) (7006901415)/ (7006901416)
4. 45° Elbow ($\varnothing 60/100mm$) (7006901420)
5. 90° Elbow ($\varnothing 60/100mm$) (7006901421)

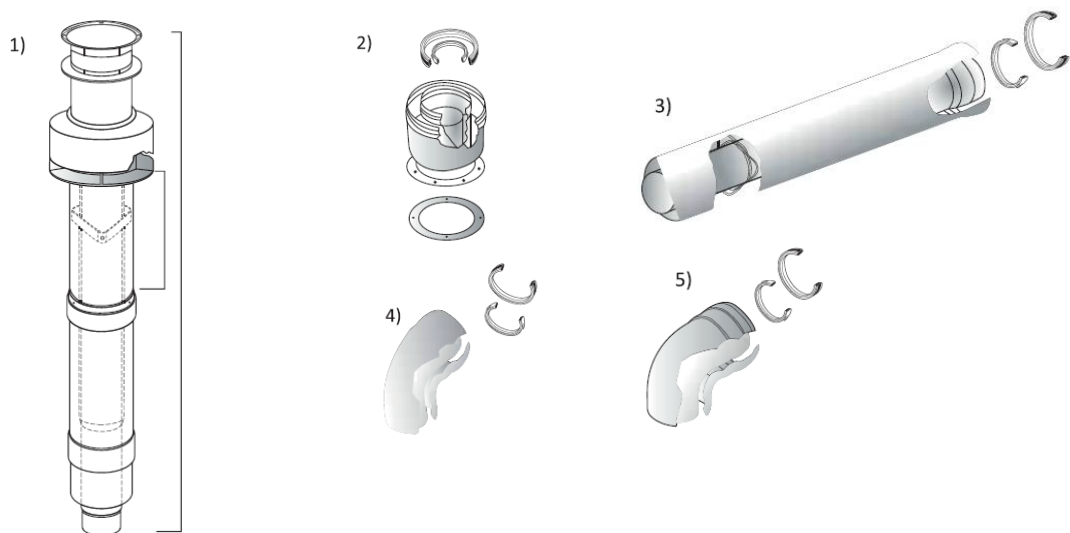


Figure 10 - Vertical Flue Types

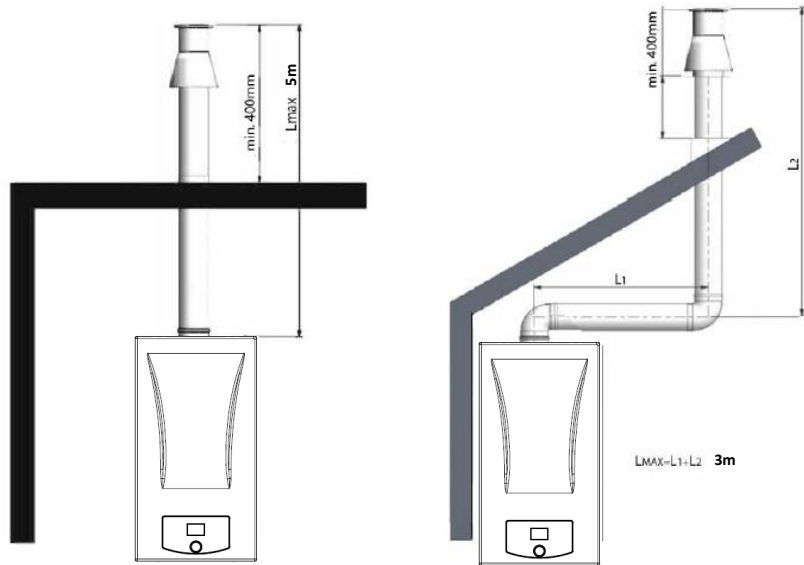


Figure 11 - Vertical Flue Assembly Type



Chimney Length Setting Definitions:

Depending on the flue length configuration there is a parameter defined to control fan speed to have the best efficiency and emission values of combustion. As the installation completed, this parameter must be set by an authorized service technician at start-up. This setting is needed only for the start-up of gas water heater, changing chimney lengths of installation and changing the electronic board.

Product	Elbow	L (m)	Lmax (m)	Parameter 11
				Set Value
PHOENIX PH HM 11	4x90°	≤ 1	5	4
	3x90°	1 < ≤ 2		
	2x90°	2 < ≤ 3		
	1x90°	3 < ≤ 4		
	0x90°	4 < ≤ 5		
	3x90°	≤ 1	4	4
	2x90°	1 < ≤ 2		
	1x90°	2 < ≤ 3		
	0x90°	3 < ≤ 4		
	2x90°	≤ 1	3	3
	1x90°	1 < ≤ 2		
	0x90°	2 < ≤ 3		
	1x90°	≤ 1	2	2
	0x90°	1 < ≤ 2		
	0x90°	≤ 1	1	1

Table 3



Serviceman must save the flue length info. When switch on the power at first time, "FA" symbol is seamed on the screen with fan  icon. Serviceman can change the flue length value by rotating the button. For saving the value, serviceman must push the button and wait until blink fan  icon.



Caution: Any flue kit restrictor must not used.

Gas and Water Connections

- Water & gas connections distance between the pipes' connections are shown in fig. 12.

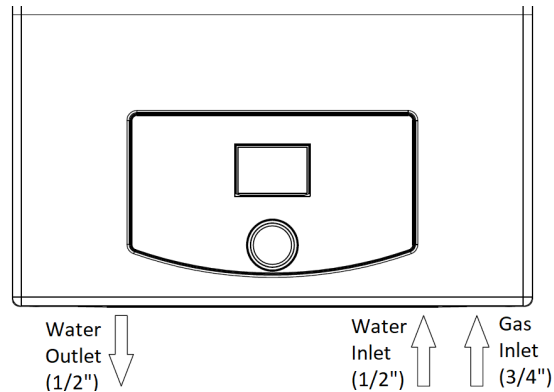


Figure 12

- A suitable valve should be mounted on the gas inlet and the water circuits. In addition, a water filter should be mounted on cold water (1/2") inlet.
- The connection between the appliance and gas supply must be made with a flexible pipe.

Electrical Connections



Danger: When making electrical connections, make sure that there is no charge in the electrical line.



Danger: Appliance must be connected to a grounded 230V AC, 50 Hz plug. If the supply cable is damaged, it should be replaced by E.C.A. authorized services.



Danger: 2A double pole breaker with minimum 3mm contact clearance must be used for electrical connection of the boiler.



Danger: Electrical connections for the fixed wiring, cable and conduit entries shall be suitable for cables having a maximum overall dimension 14mm for cables or 16mm for conduits.

Supply cable of the appliance must be connected to a grounded plug that can supply the required voltage (230V AC, 50 Hz). Mainboard failures due to voltage fluctuations and unfit grounding is not covered by warranty.

START-UP

Final Checks And Operations Before Start-up

Open hot water tap to check the water circuit. Check any leakage water pipes. Check whether flue kit is comprised of original parts or not according to the instructions and regulations.

In addition,

- Electricity connections of the heater must be earthed and suitable with main supply conditions.(230 Vac-50 Hz).
- Gas supply must be checked by the qualified gas company. Call qualified service to heater start-up after all these processes are completed.



Caution: The start-up must be performed certainly by an authorized person.



Caution: After the start-up, you should request information about operating the water heater and safety precautions from qualified person.



Caution: After the start-up, you should request information about operating the water heater and safety precautions from qualified person.

CONTROL PANEL

The control panel shown in fig. 13 consists of the following parts as detailed below.



Figure 13 - Control Panel

ON/OFF & Temperature Setting Knob Functions

- The appliance is turned ON/OFF using the knob by pushing it.
- Set the water temperature between 35 °C and 60 °C by rotating.
- Reset the appliance if the error cause a lock out condition by pushing 3 seconds under fault condition.
- Auto or Manuel calibration adjustment. (for authorized technical person)
- Entering parameters menu and parameter adjustment. (for authorized technical person)

LCD Display

Water heater functions, water temperature (set and actual values), fault/error conditions can be seen on LCD (Fig14)

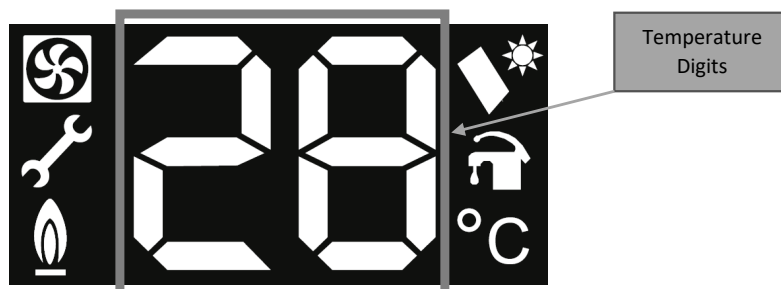


Figure 14 - LCD Screen



Fan symbol: Shown in case choosing the flue length value.



Failure symbol: Shown in case error conditions.



Flame symbol: Indicates flame availability.

If thermal load is below %50 then only one segment is shown.



Solar panel symbol: Indicates solar connections.



Tap symbol: Indicates water flow.



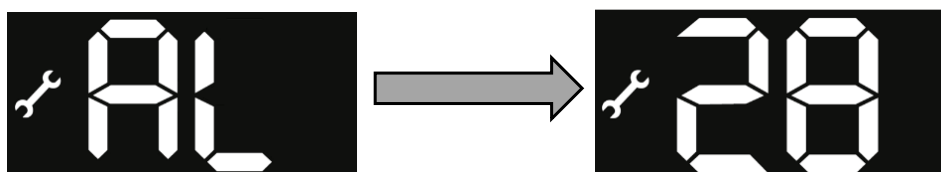
C symbol: Indicates actual temperature measurement.

On Mode:

Pushing the button screen will be activated automatically.



In case an error, AL and the reference fault code appears on the screen alternately. Resetting the fault, you must keep pushing the button 3 seconds, when RESET letter starts blinking you can leave pushing the button. If the fault does not disappear after reset you can read troubleshooting or you can call an authorized service technician.



OFF Mode:

Double dash is shown on the screen after closing the gas water heater by pushing the button. 1 minute later double dash disappears.



Frost Protection (Anti-Freeze Function)

The appliance goes on and off automatically depending on actual water temperature values measured by the water temperature sensor for protecting water circuit against freezing.

- If the water sensor measures a low water temperature in the system (less than 5 °C), the frost protection is activated. When the water temperature goes above 15 °C the frost protection is deactivated.



CAUTION: The electricity and gas valve must be open to activate the frost protection.

TROUBLESHOOTING

ERROR CODE	POSSIBLE CAUSE	SOLUTION
ON/OFF boiler is not started.	Electrical supply is not provided.	Check the plug. If it is OK, call an authorized service.
AL01 Flame loss fault	Cable connection fault.	Call an authorized service
AL02 Overheating fault	Overheating cable is cut off	Call an authorized service
AL06 NTC fault	Cable connection fault.	Call an authorized service

AL07 DHW Solar sensor fault	Cable connection fault.	Call an authorized service
AL11 Gas valve parasite fault	Electronic board is damaged.	Call an authorized service
AL12 Gas valve cable fault	Gas valve cable is damaged.	Call an authorized service
AL28 Non-resettable lock-out	The 6 allowed lock-outs have been exceeded	Call an authorized service
AL37 Low voltage supply fault	Voltage supply is out of the limits	Call an authorized service
AL40 Frequency measurement fault	Cable connection fault.	Call an authorized service
AL41 Loss of flame for more than 6 consecutive times fault	Wrong installation of gas water heater	Call an authorized service
AL42 Button fault		Call an authorized service
AL43 OT Communicaiton Anomaly	Cable connection fault.	Call an authorized service
AL44 Anomaly triggered for gas valve no flame time-out	Gas valve fault.	Call an authorized service
AL62 Calibration request fault		Call an authorized service
AL70 DHW Solar sensor overheating fault	NTC is not placed well	Call an authorized service
AL71 High Temperature Warning	Limit thermostat is not placed well	Call an authorized service
AL72 NTC Measurement fault	NTC is not placed well	Call an authorized service
AL80 SGV Drive fault	Cable connection fault.	Call an authorized service
AL81 Bad combustion at start-up	Bad combustion at start-up	Check the chimney inlet and outlet. If the error continues, call an authorized service.
AL82 Bad combustion fault	Bad combustion.	Check the chimney inlet and outlet. If the error continues, call an authorized service.
AL83 Temporary bad combustion warning	Recirculation due to extraordinary windy weather conditions.	Fault disappears automatically.
AL84 Temporary combustion fault	Bad combustion.	Call an authorized service
AL86 Fan hall effect sensor fault	Fan hall effect sensor cable is disconnected.	Call an authorized service
AL98 Software fault		Call an authorized service
AL99 Generic anomaly fault		Call an authorized service
FE Frost protection	If the temperature measured by DHW NTC sensor is lower than 3°C this fault occurs.	Call an authorized service
FX Long-term fault.		Call an authorized service

Product specifications are subject to change without notice. ALL RIGHTS RESERVED

ERP GUIDE

Technical Specifications Table

Product Type	Unit	PHOENIX PM HM 11 LT/MIN WATER HEATER
Category		II2H3B/P , II2H3P
Flue Type		C12(X), C32(X)
Gas Inlet Pressure (Natural Gas-G20)	mbar	20
Gas Inlet Pressure (LPG-G30)	mbar	30
Gas Inlet Pressure (LPG-G31)	mbar	37
Capacity-Efficiency		
Min. Heat Power (Pmin)	kW	7,37
Max. Heat Power (Pmax)	kW	18,94
Min. Load (Qmin)	kW	8,5
Max. Load (Qmax)	kW	22
Gas Consumption		
Natural Gas Flowrate (Min-Max Load)	m ³ /h	0,9-2,28
LPG Flowrate (Min-Max Load)	kg/h	0,7-1,78
NO _x Class		6
Domestic Hot Water		
Minimum Water Flowrate	L/min	2,5 (±%10)
Maximum Water Flowrate	L/min	11 ±%15 (ΔT = 25°C)
Minimum Operation Pressure	bar	0,2
Maximum Operation Pressure	bar	10
Temperature Setting Range	°C	35-60
General		
Power Supply	V AC-Hz	230 VAC-50 Hz
Electrical Consumption	Watt	30
Electric Protection Degree		IPX4D
Weight (net)	kg	16
Dimensions (HxWxD)	mm	654*352*268

CE Marking



The CE mark certifies that the products meet the essential requirements of the applicable regulations in line with the declaration of conformity. The manufacturer can be consulted for a declaration of conformity.

Product Information Sheet (ErP)

The product data presented below complies with the requirements of EU regulations 811/2013 and 813/2013 to comply with directives 92/42/EU and 92/42/EEC.

CE PIN Number: 0085CU0315

Product Data	Symbol	Unit	PHOENIX PM HM 11 LT/MIN WATER HEATER
Condensing Boiler			No
Low-Temperature Boiler			No
B1 Boiler			No
Cogeneration Space Heater			No
Combination Heater			No
Useful heat output			
Rated heat output (*e)	Prated	kW	19
At rated heat output and hightemperature regime	P4	kW	18,94
Auxiliary electricity consumption			
At full load	elmax	kW	0,03
At part load	elmin	kW	0,015
In standby mode	PSB	kW	0,004
Additional Information for Heating Devices with Water Heating (*f)			
Temperature application (*f)			Medium
Declared load profile (*f)			L
Water heating energy efficiency class (*f)			A
Water heating energy efficiency (*f)	η_{wh}	%	76
Daily fuel consumption (*f)	Qfuel	kWh	14,5
Annual fuel consumption (*f)	AFC	Gj	12
Other items			
Standby Heat Loss	Pstby	kW	0,065
Ignition Burner Power Consumption	Pign	kW	0
Annual Energy Consumption	QHE	kWh	8542
Daily Electricity Consumption	Qelec	kWh	0,081
Annual Electricity Consumption	AEC average	kWh	19
Sound Power Level	L_{WA}	db(A)	48
Emission of Nitrogen Oxides	NOx	mg/kWh	40,65
Indication about ability working only during off-peak hours			No
Smart control compatibility			No
Thermostat value setting of the water heater		°C	35-60
Manufacturer	Emas Makina Sanayi A.Ş.		
Address of the Manufacturer	Mustafa Kemal Bulvarı Organize Sanayi Bölgesi 3.Kısım No: 13 45030 MANİSA		

(*e) For heat pump heaters and combined heaters, the rated heat output Prated is the same as the standard load in heating mode Pdesignh. The rated heat output of a Psup auxiliary heating device is the same as the auxiliary heating power sup(Tj).

(*f) valid for HM models.

Package information card stating the central heating energy efficiency of the package

Package Information - Water Heaters

Water Heating Energy Efficiency of Combination Heater (Table 7)

Declared load profile: ① %

Solar Energy Device Contribution

From the solar energy device data sheet Auxiliary Electric
 $(1.1 \times 'I' - 10\%) \times 'II' - 'III' =$ ② %

Water Heating Energy Efficiency of the Package under Average Climatic Conditions

③ %

Water Heating Energy Efficiency Class of the Package under Average Climatic Conditions

	<input type="checkbox"/> G	<input type="checkbox"/> F	<input type="checkbox"/> E	<input type="checkbox"/> D	<input type="checkbox"/> C	<input type="checkbox"/> B	<input type="checkbox"/> A	<input type="checkbox"/> A ⁺	<input type="checkbox"/> A ⁺⁺	<input type="checkbox"/> A ⁺⁺⁺
<input type="checkbox"/> M	<27%	≥27%	≥30%	≥33%	≥36%	≥39%	≥65%	≥100%	≥130%	≥163%
<input type="checkbox"/> L	<27%	≥27%	≥30%	≥34%	≥37%	≥50%	≥75%	≥115%	≥150%	≥188%
<input type="checkbox"/> XL	<27%	≥27%	≥30%	≥35%	≥38%	≥55%	≥80%	≥123%	≥160%	≥200%
<input type="checkbox"/> XXL	<28%	≥28%	≥32%	≥36%	≥40%	≥60%	≥85%	≥131%	≥170%	≥213%

Water Heating Energy Efficiency of the Package under Average Climate Conditions

Colder: ③ $- 0,2 \times$ ② $=$ %

Hotter: ③ $+ 0,4 \times$ ② $=$ %

The energy efficiency of the products in the package provided for this data sheet may not represent the actual energy efficiency when installed in a building, as efficiency is affected by other factors such as heat loss in the distribution system and the sizing of the products depending on the size and characteristics of the building.

To evaluate the water heating energy efficiencies of combination heater, temperature control and solar device packages, the elements identified in Table 7 are included here:

- I: water heating energy efficiency value of the combination heater, expressed in %.
- II: Value of the mathematical expression $(220 \cdot Q_{ref}) / Q_{nonsol}$. Here, Q_{ref} is taken from the product data sheet of the solar energy device in Annex VII and for the declared M, L, XL or XXL load profiles of the Q_{nonsol} combination heater.
- III: Value of the mathematical expression $(Q_{aux, 2,5}) / (220 \cdot Q_{ref})$ expressed as a %. Here, Q_{aux} is taken from the product data sheet of the solar device and Q_{ref} is taken from Table 8 in Annex VII for the declared M, L, XL or XXL load profiles.

REMOVAL INFORMATION



Unpacking the New Device

Packaging protects your device against transport damage. All materials used in packaging are environmentally friendly and can be reused. Please help: Dispose of the packaging in a way that will not harm the environment. To obtain information about current troubleshooting methods and methods, please contact your authorized dealer or your municipality.

Compliance with AEEE Regulation and Disposal of Waste Product

Dispose of the packaging material in accordance with environmental rules.

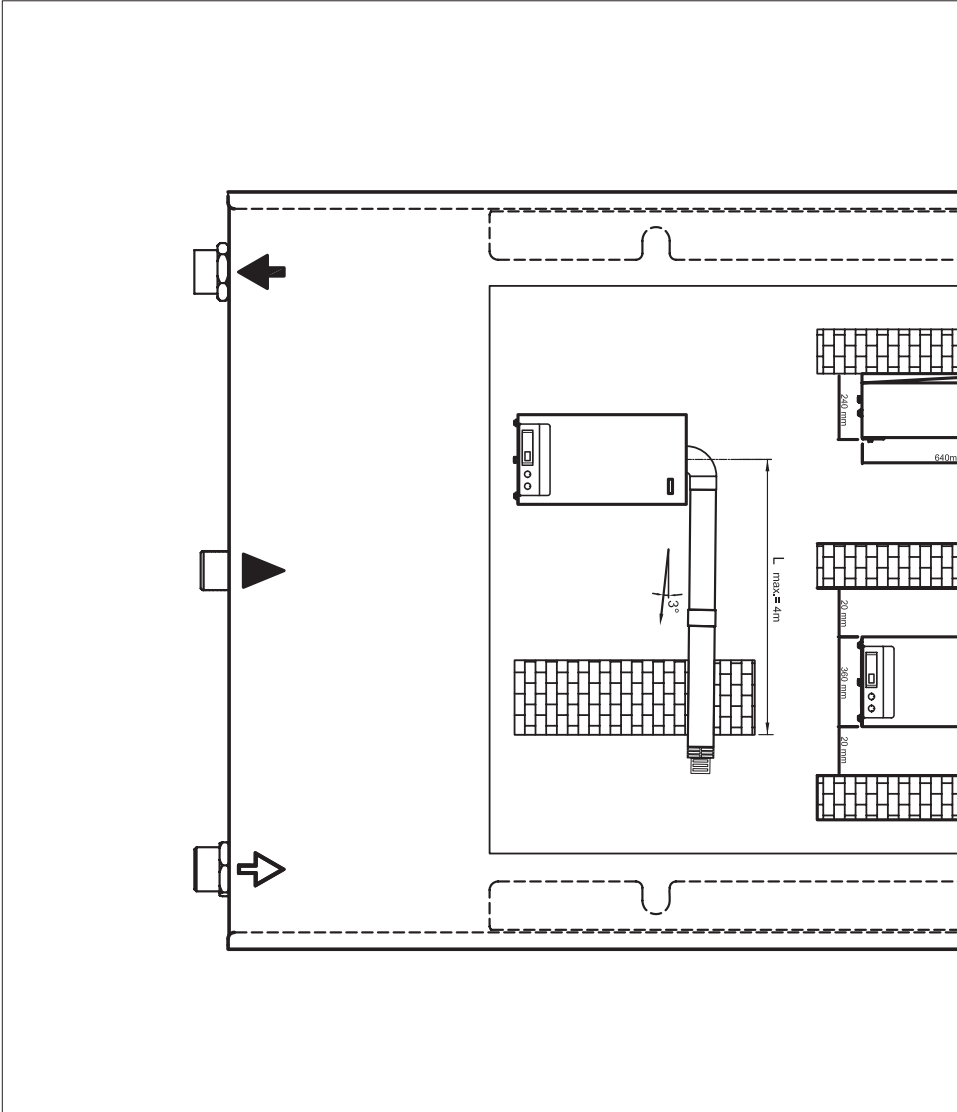
This product is T.R. It does not contain harmful and prohibited substances specified in the "Regulation on the Control of Waste Electrical and Electronic Equipment" published by the Ministry of Environment and Urbanization.

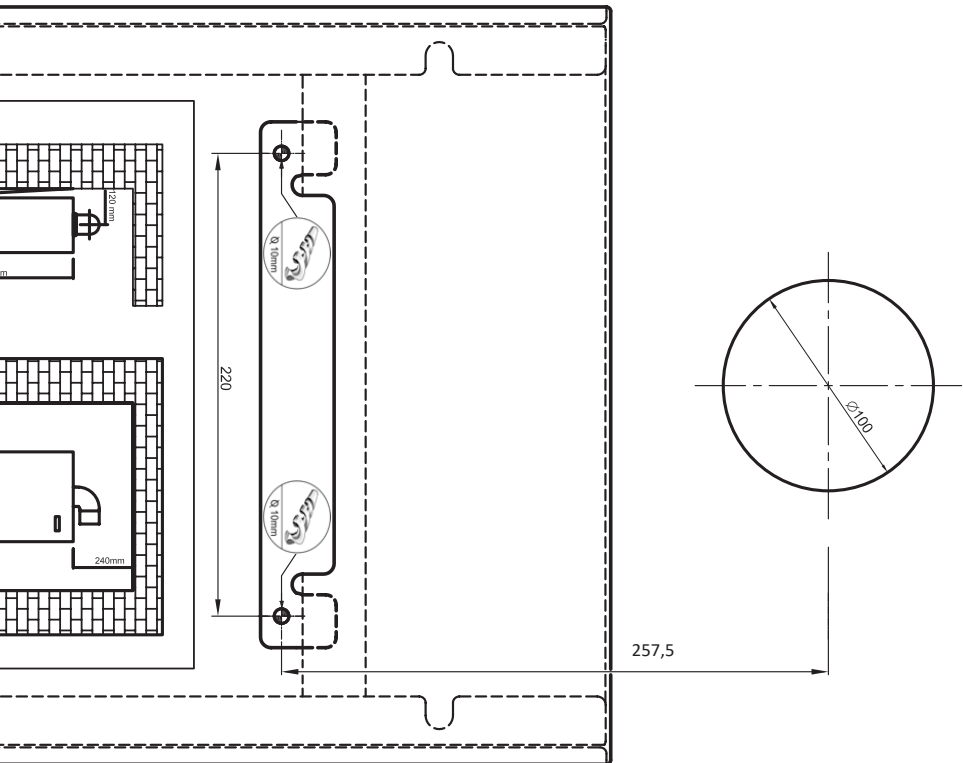
It complies with AEEE regulations.

This product is manufactured from high quality parts and materials that are recyclable and reusable. Therefore, do not dispose of the product with household or other waste at the end of its service life. Take it to a collection point for the recycling of electrical and electronic equipment. Ask your local government about these collection points. Help protect the environment and natural resources by recycling used products. Before disposing of the product, for the safety of children, cut off the power plug and break the lock mechanism, rendering it inoperable.



ASSEMBLY TEMPLATE





PRODUCTION

EMAS MAKINA SANAYI A.S.

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