ENERWA 24 / 28 / 33
ENERWA PLUS 24 / 28 / 33 / 42 / 45
ENERWA PLUS SYSTEM 24 / 28 / 33

CONDENSING COMBI & SYSTEM BOILERS
INSTALLATION & USER MANUAL

warmhaus

warmhaus

INDEX

1. DEAR CUSTOMER

We congratulate you for preferring the Warmhaus boiler to maintain your heating and hot use water comfort for long years and thank for your trust. Warmhaus boiler, manufactured in accordance with European Union standards and advanced technology, are also being imported to many countries. You can benefit from our Authorized Technical Service network having occupational competency certificate for all kinds of ordinary maintenance requirements for this product manufactured with rigorous studies. Our Authorized Services guarantee protection of your device performance as they always provide original spare parts service. Carefully read this guide in order to use the boiler in an economic, comfortable and efficient way and keep as a source of application.

In order to ensure efficient use, we initially recommend you to have the installation performed by a certified dealer experienced and competent in installation by the local gas authority.

1.1. GENERAL WARNINGS

Guide Book is an inseparable and integral part of the product and should be delivered to the new user when the device is transferred. The aforementioned book should be carefully protected and used as well as be applicable when required as it contains important information regarding installation.

Radiator and DHW installations should be engineered and produced by a competent and certified engineering company in accordance with measurements defined based on laws by considering legal regulations in force.

Installation and Maintenance operations should be performed by the expert personnel having adequate technical knowledge in installations sector and occupational competency certificate in accordance with legal regulations in force. As the result of a false installation, dangers may occur which the manufacturer company cannot be held responsible for and may damage people, other live beings (animals, plants) or commodities.

Natural Gas Installation Project; One of the dealers authorized by a gas company located at your city should be preferred for performing project and etude studies.

In order to enable use of the boiler with LPG tubes or LPG tanks, conversation of the boiler should be performed by our authorized Warmhaus service. Project design and application for LPG use should be performed by the company supplying the tank in accordance with local and legal rules.

1.2. GENERAL WARRANTY CONDITIONS

The Manufacturer company shall not have any responsibilities within or out of the agreement scope due to failures arising from failing to follow legal regulations in force and standards and information given in this guide book (and information and instructions provided by the manufacturer under any circumstances) during installation, use or maintenance operations and device warranty shall also be void.

Only the authorized Warmhaus Service is authorized to make the electrical connection of boiler and supplying electricity to the boiler.

The maintenance and repairs as the result of failure of the product within the warranty period due to material, production and installation errors shall be performed as free of charge without claiming any workmanship costs and spare part payments.

(Also See: 3.5. ISSUES REQUIRED TO BE TAKEN INTO CONSIDERATION BY USERS FOR WARRANTY CONDITIONS)

This device should only be used for its designed intended purposes (to be used in closed-circuit heater installation and production of open circuit domestic hot water production). All kinds of other uses are not suitable as well as may create a potential danger.

Manufacturer shall not be responsible for damages occurring due to interventions, false installation and initial starting performed by unauthorized persons and warranty scope shall be void. As the Combi is a device having heating system, domestic hot water, natural gas/LPG and electrical connections, do not make and have any interventions made without the authorized service.

Forbid any interference with a sealed component.

Device maintenance operations should be performed by the authorized and expert technical personneland expert technical personnel.

It is strictly forbidden to try to detect the gas leakage with the help of flame.

This device has been manufactured to be installed in the country given on the technical registry label. Performing the installation in countries other than the country written on the table may damage individuals, animals and commodities.

Combis bear CE mark in accordance with below given directives:

- Gas Appliances Directive 2009/142/EC
- Boiler Efficiency Directive 92/42/EEC
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU

Manufacturer: WARMHAUS Isıtma ve Soğutma Sistemleri Tic. A.Ş. Taşpınar Mahallesi, TEKNOSAB 1. Cadde No: 12, 16700 Karacabey / Bursa / Türkiye

WARMHAUS

Warmhaus Authorized Technical Service Centres maintain an assurance regarding quality and professionalism on that issue. Warmhaus is not responsible for damages arising from repairs, part replacements and maintenances performed by third persons and companies and combi remains out of the warranty scope under such conditions.

20 kW
24 kW

CE 1015

WARMHAUS A.Ş. reserves the right to make all kinds of technical and commercial amendments without giving information and rejects all responsibilities depending on misspelling.

1.3. BOILER GAS CATEGORIES & DESTINATIONS

Designation: Used gas types & Countries		
Object Manufacturer	Type-model / Technical data	Mark (s) of conformity
Boiler gas categoires & destinations	Wall-hung boilers	granted

Gas categories for Warmhaus boilers applied on CE certification on SZU Test / BRNO are given bellow;
- the appliance category(ies) in relation to the direct countries of destination has been spesified EN 15502-1; GAR Certificate E-30-00300-18 product ID Nr. CE-1015CT0615
- the country(-ies) of destination, in accordance with EN ISO 3166-1;
- the gas supply pressure in millibars, if several normal pressures can be used for the same gas group. They are indicated by their numerical value and the unit “mbar”

Document for conformity approved by SZU test	Appliance Categories	Gas Type	Gas Inlet Supply Pressures	Used Gas	ENERWA 24 / 28 / 33 ENERWA PLUS 24 / 28 / 33 / 42 / 45 ENERWA PLUS SYSTEM 24 / 28 / 33	Countries of Destination**
YES	I 2H	Natural Gas	20 mbar	G20	Available	AT, BG, CH, CZ, DK, EE, ES, FI, GB, GR, HR, IE, IT, LT, LU, LV, NO, PT, RO, SE, SI, SK, TR
YES	I 2H	Natural Gas	25 mbar	G20	Available	HU
YES	I 2E	Natural Gas	20 mbar	G20	Available	DE, LU, PL, RO
YES	I 2E+	Natural Gas	20 mbar	G20	Available	BE, FR
YES	I 2E(S)	Natural Gas	20 mbar	G20	Available	BE
YES	I 2ELL	Natural Gas	20 mbar	G20	Available	DE
YES	II 2H3P	Natural Gas	20 mbar	G20	Available	CH, CZ, ES, GB, GR, HR, IE, IT, LT, PT, RO, SI, SK
YES	II 2H3+	Natural Gas	20 mbar	G20	Available	CH, CY, CZ, ES, GB, GR, IE, IT, LT, PT, SI, SK, TR
YES	II 2E+3+	Natural Gas	20 mbar 25 mbar	G20	Available	BE, FR
YES	II 2E+3P	Natural Gas	20 mbar 25 mbar	G20	Available	BE, FR
YES	II 2H3B/P	Natural Gas	20 mbar	G20	Available	AT, CH, CY, CZ, DK, EE, FI, GR, IT, LT, NO, RO, SE, SI, SK
YES	II 2E3B/P	Natural Gas	20 mbar	G20	Available	DE
YES	II 2ELL3B/P	Natural Gas	20 mbar	G20	Available	DE
YES	I 2L	Natural Gas	25 mbar	G25	Available	NL
YES	I 2E+	Natural Gas	25 mbar	G25	Available	BE, FR
YES	I 2ELL	Natural Gas	20 mbar	G25	Available	DE
YES	II 2L3P	Natural Gas	25 mbar	G25	Available	NL
YES	II 2L3B/P	Natural Gas	25 mbar	G25	Available	NL
YES	II 2ELL3B/P	Natural Gas	20 mbar	G25	Available	DE
YES	I 3+	Buthane Gas	28-30 mbar 37 mbar	G30	Available	BE, CH, CY, CZ, ES, FR, GB, GR, IE, IT, LT, PT, SI, SK
YES	I 3B/P	Buthane Gas	30 mbar	G30	Available	BE, CY, CZ, DK, EE, FI, GB, GR, HU, HR, IT, LT, NL, NO, RO, SE, SI, SK, TR
YES	I 3B/P	Buthane Gas	50 mbar	G30	Available	AT, CH, DE, FR, SK
YES	II 2H3+	Buthane Gas	28-30 mbar 37 mbar	G30	Available	CH, CY, CZ, ES, GB, GR, IE, IT, LT, PT, SI, SK, TR
YES	II 2E+3+	Buthane Gas	28-30 mbar 37 mbar	G30	Available	BE, FR
YES	II 2H3B/P	Buthane Gas	30 mbar	G30	Available	CY, CZ, DK, EE, FI, GR, IT, LT, NO, RO, SE, SI, SK
YES	II 2H3B/P	Buthane Gas	50 mbar	G30	Available	AT, CH, SK
YES	II 2E3B/P	Buthane Gas	50 mbar	G30	Available	DE
YES	II 2L3B/P	Buthane Gas	30 mbar	G30	Available	NL
YES	II 2ELL3B/P	Buthane Gas	50 mbar	G30	Available	DE
YES	I 3P	Propane LPG	37 mbar	G31	Available	BE, CH, CZ, ES, FR, GB, GR, HR, IE, IT, LT, NL, PL, PT, SI, SK, TR
YES	II 2H3P	Propane LPG	37 mbar	G31	Available	CH, CZ, ES, GB, GR, HR, IE, IT, LT, PT, RO, SI, SK
YES	II 2L3P	Propane LPG	37 mbar	G31	Available	NL
YES	II 2E+3P	Propane LPG	37 mbar	G31	Available	BE, FR

1.4. GAS LEAKAGES

HOW TO MOVE WHEN NATURAL GAS ODOUR IS DETECTED..

Do not use lighter-matches

Do not turn on, off or unplug the lamps or other electrical appliances.

Ventilate the environment by opening doors and windows.

Close valves of appliances operating with natural gas and your gas meter

Do not use/let anyo-ne use the doorbell.

Do not use phones in case of a natural gas leakage. It may create sparks.

Immediately evacu-ate the place with gas odor.

Call the Natural Gas Emergency Line from your neighbor or anot-her suitable place.

Do not intervene the installation Wait for Gas Authorities Team to arrive.

Never close culverts ensuring discharge of the gas from the environment in case of a natural gas leakage.

INFORMATION: You can visit web sites of local gas authorities and **NATURAL GAS EMERGENCY** sections.

Advice: Please take note local emergency phone numbers.

2. INSTALLATION PERSONNEL SECTION

2.1. CONTENTS OF PACKING BOX

Warmhaus is sold as two boxes with combi and flue set. Combi box contains below listed materials and small box contains exhaust gas flue pipes.

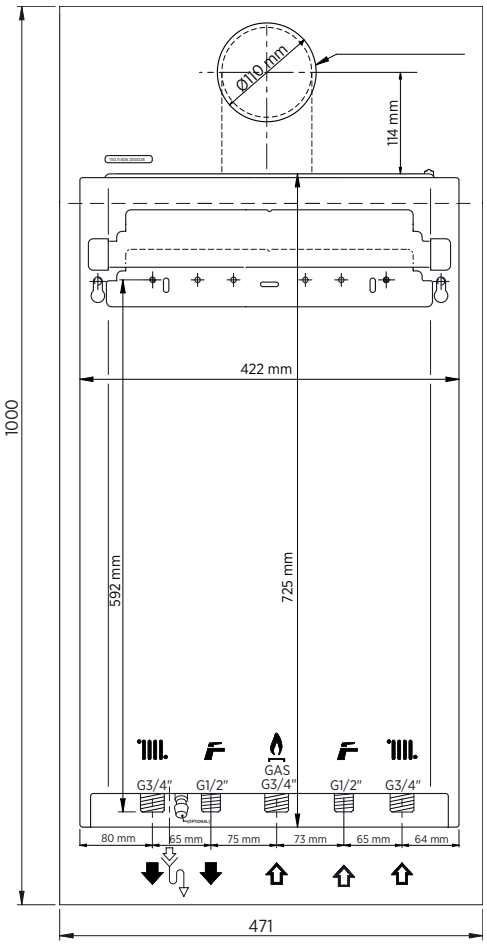


Figure 1 Installation scheme

Figure 2 User's Guide

Figure 3 Connection accessories

Figure 4 Hanger Plate

I. Installation Scheme (Figure 1)
II. User's Guide (Figure 2)
III. Connection Accessories (Figure 3)
a. 1 throttle screw (installed at flue output).
b. 2 hanger screws
c. 2 Dowels
IV. Hanger Plate (Figure 4)
V. Exhaust Gas Flue Set (Figure 5)

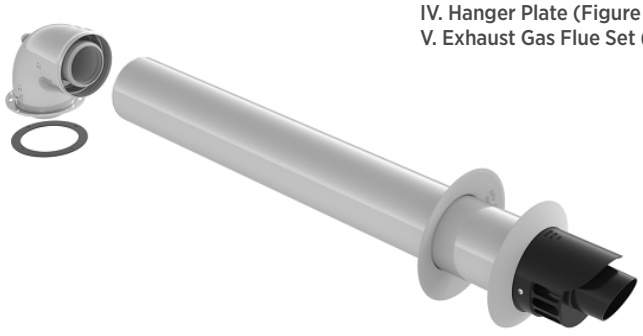


Figure 5 Exhaust gas flue set

Do not leave packing materials (plastic, nylon, bags, etc.) at places to be reached by children for preventing any dangers for health.

2.2. BOILER INSTALLATION RULES

2.2.1. General Rules for Installation Places of Boilers

No restriction is available for places where Hermetic (C type) boiler is installed (devices may be installed regardless the room volume and ventilation type). Also, they may be installed at partially protected areas such as balcony, terrace provided that being placed in protective cabinets and taking required precautions against frost of installation water.

Boiler should be soundly installed to building wall. Flexible connection piece should be used between the boiler and gas line. Flex lengths to be used in A, B and C type devices should not exceed dimensions allowed by local gas authorities. Flue outputs of hermetic combis must be connected to places open to exterior and having air circulation. Installation (positions of pipe output opening based on various forms, vertical, horizontal minimum distances, cross section areas of channels if given to channels, etc.) must be carried out according to regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures.

2.2.2. Places Not Suitable for Installing Hermetical Boilers

Stairways of Buildings,

- Corridors available for general use, ventilation ways and shafts, lofts, attics, emergency exit doors, cellars, hall and similar places creating common use areas,
- Yards between buildings,
- Narrow cornice distances,
- Over flue walls,
- Enclosed balconies,
- Open balconies (except being located in the cabinet and permission of the device company),
- Below protruding structure parts preventing exhaust gas output,
- Places those may be directly subjected to wind resistance,
- It is forbidden to install Hermetic boiler (C type) to openings providing clean air to other units!

2.2.3. Wall Installation of Boiler and Selecting the Installation Place

- It should be controlled and ensured that the wall installation of the boiler is sound and reliable.
- The hanger plate given as standard with the boiler should be installed according to the technique to full or semi-full brick wall according to installation scheme and with connection screws and not to be used for other purposes.
- In case of using different materials for installation, boiler shall be out of the warranty scope.
- If the wall of installation is not a brick wall, initially the reliability of support system should be controlled.
- Boiler should be installed on a wall resistant to fire.
- NOTICE: Combustible and corrosive materials:
- Chemically aggressive substances can corrode the appliance and invalidate any guarantee.
- Do not store or use any combustible materials (paper, thinners, paints, propellants, cleaning agents etc.) Keep the distance minimum 50 mm.
- Inside the cupboard containing the appliance or within the vicinity of the appliance.
- 1,8 - 2,2 m height is recommended for installation of the boiler hanger plate.
- For places with limited installation place, boiler should be installed at minimum 30 cm height from ground and by leaving at least 5 cm distances from both sides in order to allow easy intervention of the service technician.
- Boiler installation must not performed in environments containing explosive, flammable substances and acid fumes
- Installation cannot be made at near or on ovens, radiators or heater devices.
- Hermetic combis can be installed in furnitures but at least 5 cm each should be left at both sides.
- If to be installed on the kitchen table or the set, at least 30 cm distance should be left under the boiler.
- It is recommended to connect the output to drain line with a transparent hose against the possibility of water leakage from Safety Valve of boiler during installation. If this is not possible; do not place electronic devices, delicate, corrodible devices, components and tools under the boiler
- Do not place/use any furnitures below the combi due to above mentioned reasons.

Make sure that there are no liquids or inflammable materials in the immediate vicinity of the boiler. It is necessary to leave a spesific distance 1.0 mt between the heating device and the building material containing combustible material even the maximum allowable temperature value of 85 °C in the rated heat capacity of the appliance is not exceeded.

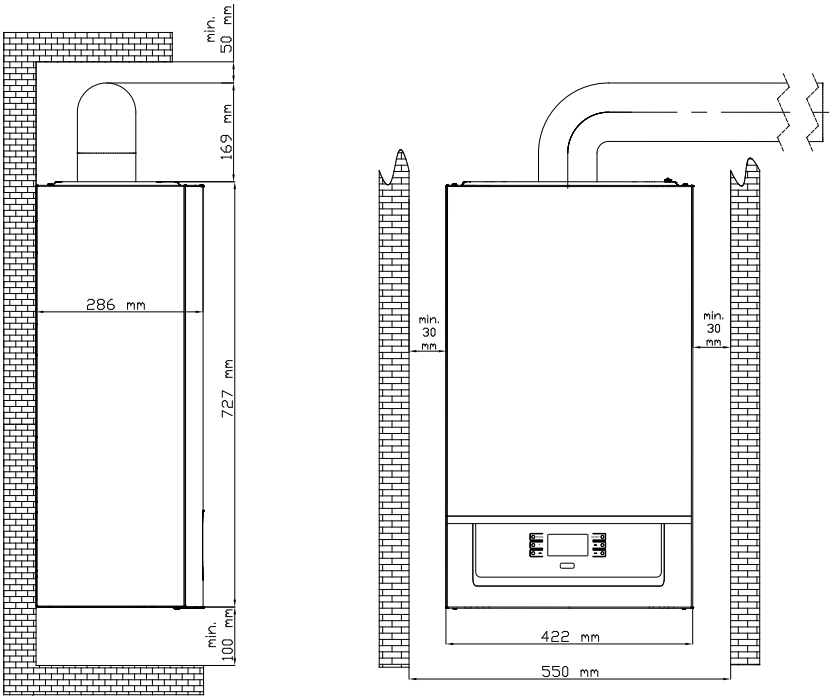
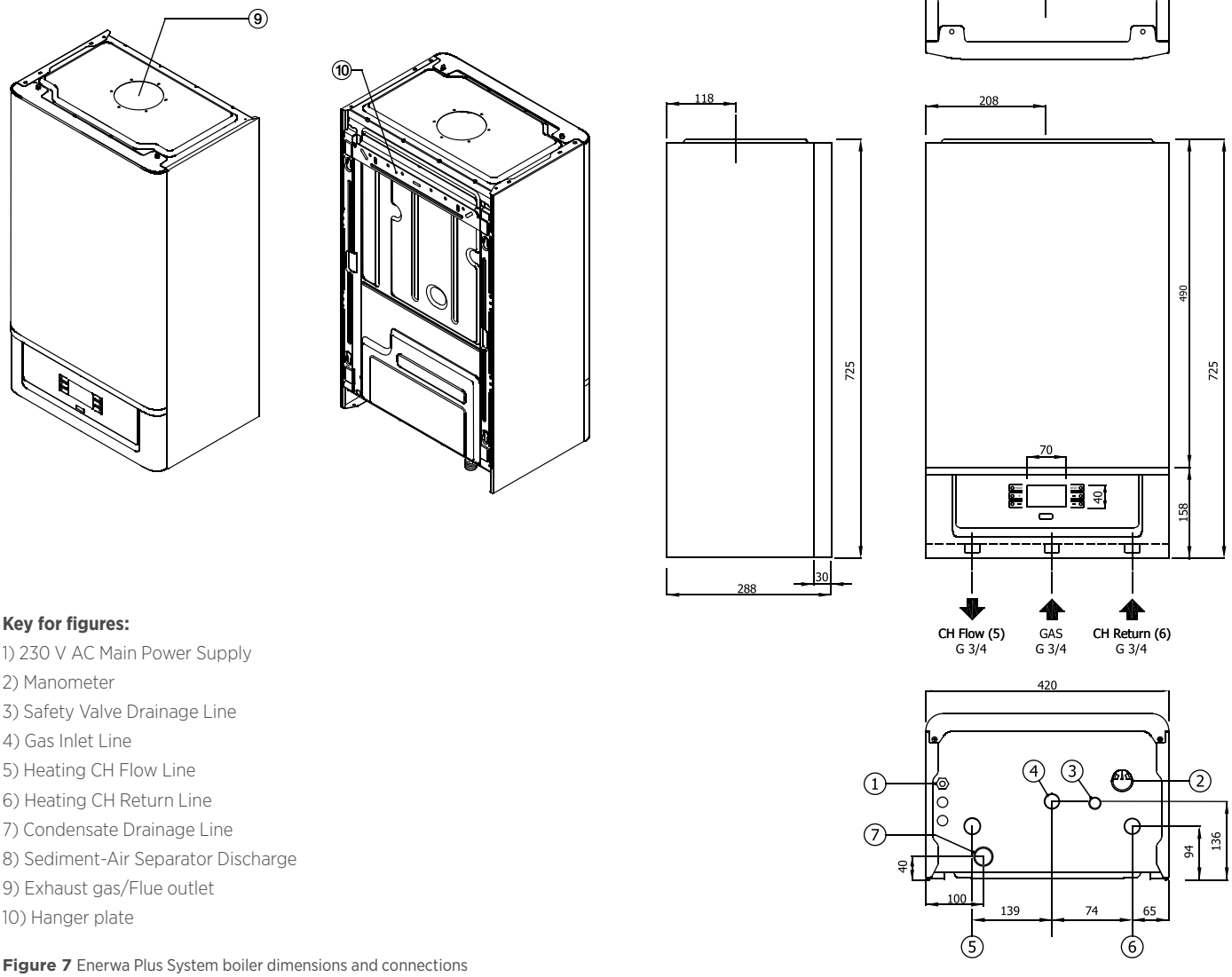


Figure 6 Boiler Services & Clearances

2.2.4. Dimensions and Connections

ENERWA PLUS SYSTEM 24
ENERWA PLUS SYSTEM 28
ENERWA PLUS SYSTEM 33

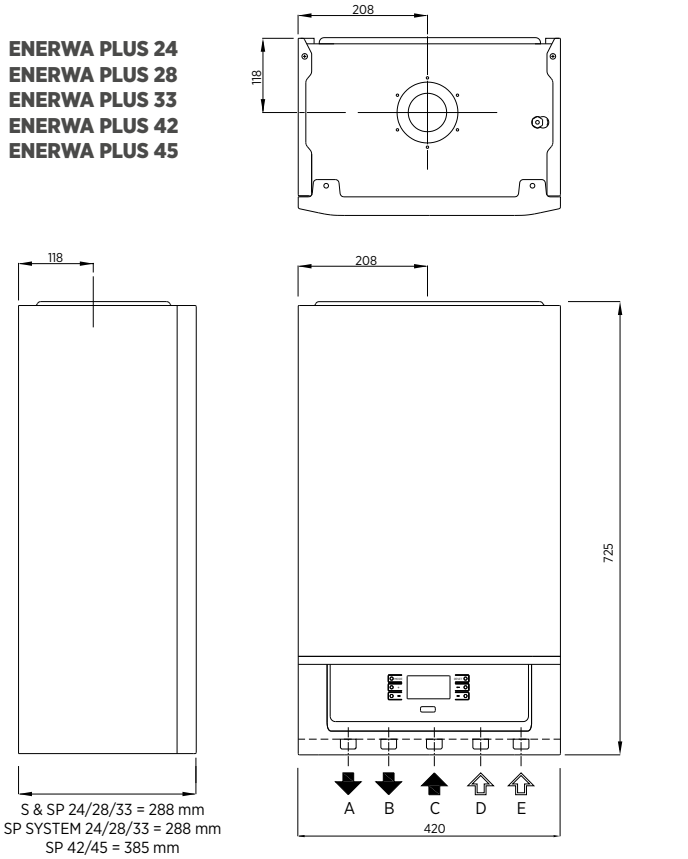


Key for figures:

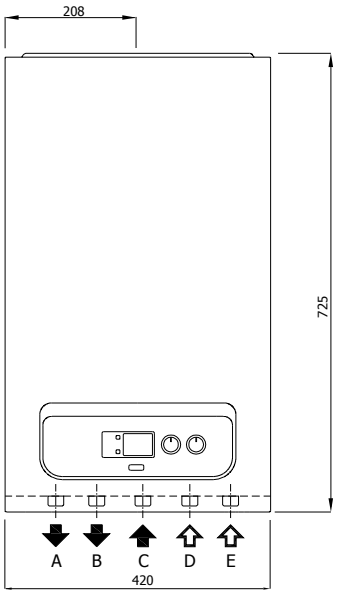
1) 230 V AC Main Power Supply
2) Manometer
3) Safety Valve Drainage Line
4) Gas Inlet Line
5) Heating CH Flow Line
6) Heating CH Return Line
7) Condensate Drainage Line
8) Sediment-Air Separator Discharge
9) Exhaust gas/Flue outlet
10) Hanger plate

Figure 7 Enerwa Plus System boiler dimensions and connections

ENERWA PLUS 24
ENERWA PLUS 28
ENERWA PLUS 33
ENERWA PLUS 42
ENERWA PLUS 45



ENERWA 24
ENERWA 28
ENERWA 33



Key for figures:

A. Central Heating Flow (CH-3/4" thread)
B. Domestic Hot Water Outlet (DHW-1/2" thread)
C. Gas Inlet
D. Domestic Hot Water Inlet (DHW-1/2" thread)
E. Central Heating Return (CH-3/4" thread)
F. Filling Valve
G. Manometer
H. Pressure Relief Valve Outlet
I. Drain Point
J. Condansate Drain (Ø24 mm)
K. Power Supply (230V AC 50 Hz)

Figure 8 Enerwa & Enerwa Plus Dimensions & Connections

2.2.5. Natural Gas Connection (Appliance Category I2H)

The boilers are designed to run on methane (G20) gas. Gas supply pipes shall be equal to or larger than 3/4"G boiler fittings. Prior to making the gas connection, a thorough internal cleaning shall be carried out to all fuel supply installation pipe furnishings as possible wastes may distort smooth operation and reliability of the boiler. Ensure that the gas supplied by the mains line is of the type prescribed for the boiler (refer to the label on the boiler).

Also, in case of reduced pressure, the network dynamic pressure (methane or LPG) used for supplying the boiler should be carefully controlled and will impact the boiler strength. Ensure that gas valve connection is correct.

Flammable gas supply pipe should be able to supply correct adequate gas amount to the boiler when the boiler is at full power and be projected and sized according to force and local gas company specification and instructions in order to guarantee the appliance efficiency. Connection system shall comply with the legislation in force.

2.2.6. Flammable Gas Quality

The boiler is designed to be used with pure fuel not containing any foreign substances; therefore, required filter systems must be available in the gas supply line (for ensuring purification of the fuel).

2.2.7. In Case of Using LPG Tank

LPG use is recommended for heat requirements over 24 kW. New LPG stock tanks may contain settled gas residues (nitrogen) however, that pauperises the mixture assigned to that device and cause abnormal operations.

- Various alloy layers may be formed during stocking LPG gas in tanks depending on mixture compositions. That causes a change in heating power of mixture assigned to the device and changes efficiency of the device.

2.2.8. In Case of Using Bottled Gas

- 300 mmSS pressurized hood should be used for LPG.
- 500 mmSS hood should not be used.
- 370 mmSS pressurized hood should be used for Propane.
- Do not place tubes at cold places having risk of snow for preventing frost during winter months.
- Do not place tubes in hot places containing ovens, fireplaces for preventing dangers!
- Do not make connection with single tube and use LPG collector set for double, triple uses.
- The distance between the collector and tube should be maximum 125 cm.
- Copper pipe installation should not used for distances longer than 125 cm.
- Hose connection ends should be tightened with clamp and no other tools should be used.
- Gas installation rules with use of LPG tank and industrial tubes should comply with local standards and to be performed by expert installation teams and certified by the company undertaking the construction. In case of failing to fulfil these conditions, boiler shall not be commissioned by Warmhaus Authorized Services.

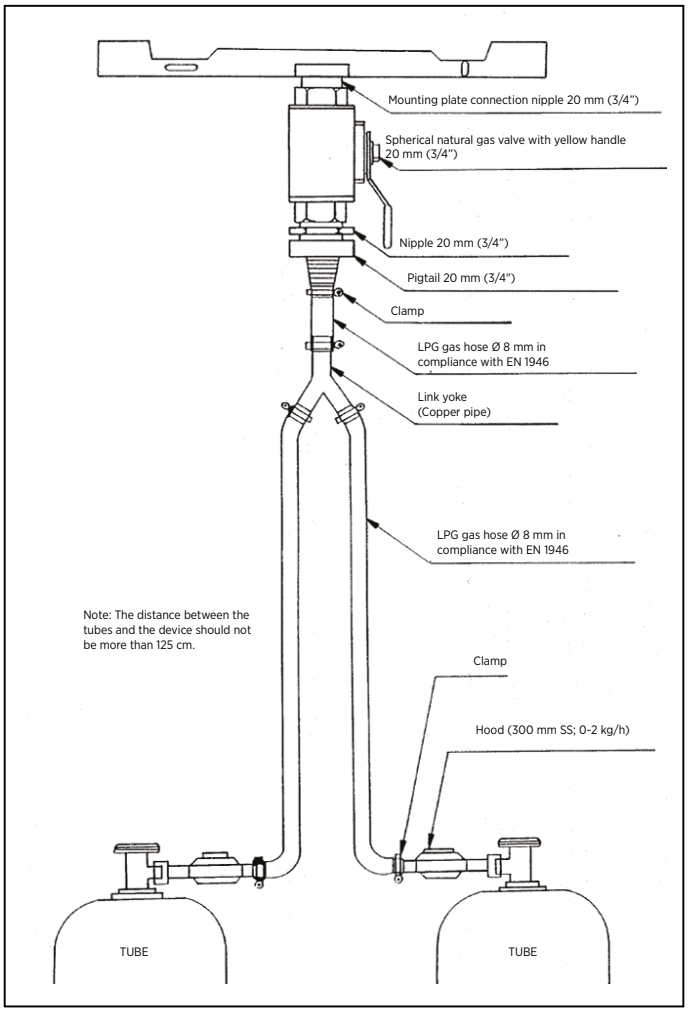


Figure 9 The connection between the boiler and tube gas if the hose length is less that 125 cm

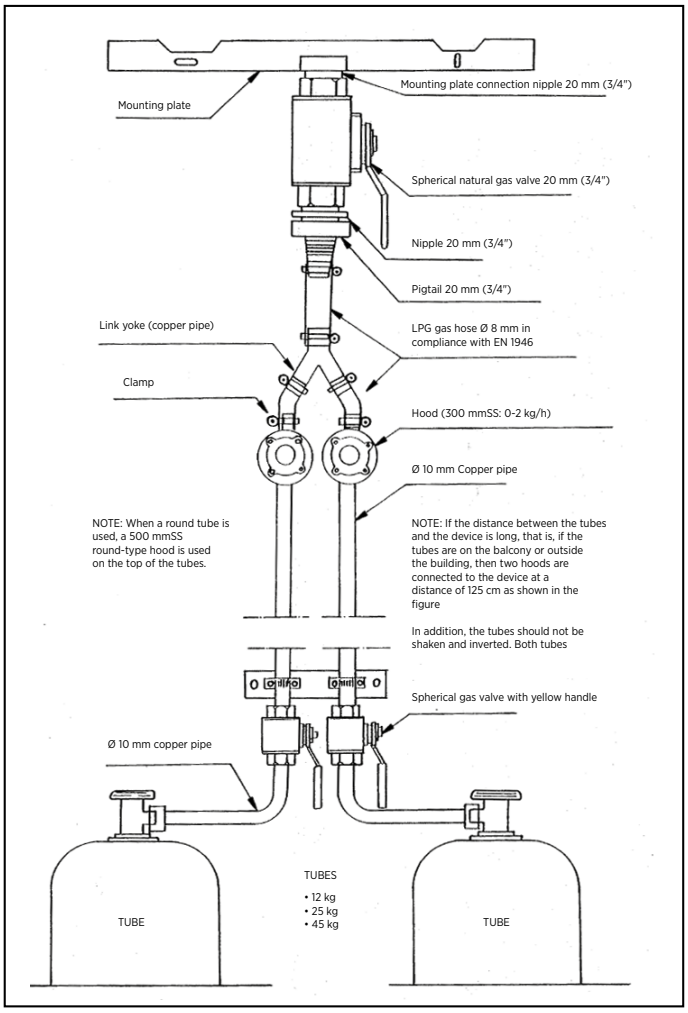


Figure 10 The connection between the boiler and tube gas if the hose length is more than 125 mm

2.2.9. Installation at Partially Protected Exteriors

Installation instructions: This boiler can be installed in partially protected exteriors. Partially protected place means that the boiler is located at places without direct exposure to atmospheric factors and precipitations (rain, snow, etc.).

Frost protection: Boiler device is equipped with a system that prevents frost by automatically activating the pump and boiler when the internal water is lower than 5oc.

Frost protection function only depends on below given conditions:

- If the boiler is correctly connected to gas and electrical sources;
- If the boiler is supplied from gas and electricity sources (if the main switch is open) in a fixed way;
- If the boiler is not in failure situation due to lack of ignition;
- In order to maintain circulation of installation water, installation valves and radiator valves under the combi & System boiler must be open.

Under these conditions, the boiler is protected against frost up to -5°C environment temperature.

Lowest Temperature -5°C. In case the boiler is installed in an environment with a temperature lower than -5°C, and gas supply is interrupted or passed into failure due to failing to make ignition, Frost Prevention System shall not be activated and frost/failure shall occur in the device. Following instructions should be followed for preventing the risk of frost:

- Heating circuit, into antifreeze (special heating devices) a good brand of antifreeze manufacturer's instructions are followed carefully so as it deems necessary for the rate and the minimum temperature is desired to be stored in the heater frost protection with the matter.

Materials used for manufacturing the boiler are resistant against glycol and propylene based anti-frost liquids. Follow warnings of supplier company regarding their lives and possible disposals.

Frost / icing protection of the boiler is guaranteed only under these conditions:

Damages arising from failing to follow above mentioned issues and interruption of electricity supply shall be excluded from validity of the warranty.

In case the combi boiler device is installed at places with temperature lower than 0°C (both for tap water ad radiator purposes) both radiator installation and tap water pipes must be insulated.

2.3. HYDRAULIC INSTALLATION RULES

2.3.1. Radiator and DHW Installations

Radiator ad ground heating installation should be constructed in accordance with legistation in force technical specifications and heat loss calculation. Radiator type and amount and ground heating installation pipe amount should comply with the heat loss calculation.

- Radiator installation should be designed as resisting to at least 6 bars.
- If the city grid pressure is higher than 6,5 bars, pressure reducer must be installed.
- It is recommended to construct the radiator installation as double line and without using bends and joints as much as possible.
- Strainer filter must be installed in radiator return and tap water (city grid) input line.

- For example; as the radiator cycle's 8 litres expansion (24 kW) tank can support maximum (80 °C in radiator system) 140 litre and (55°C in ground heating system) 170 litre installation water expansion, additional expansion tank should be used for larger installation volumes. 170 litre installation water expansion, additional expansion tank should be used for larger installation volumes.
- If the room thermostat and thermostatic radiator valve shall be used together; thermostatic valve should not be installed in radiators in the place where room thermostat is available!
- Cross connection must be made for efficient functioning in radiators longer than 1,5 m.
- Covers should be used for radiator and hot tap water wall passages and fixed with wall clamps for preventing slopes in expansions due to heating.
- Can function under minimum 0,5 bar tap water pressure and that corresponds to a very low flow rate and therefore, it shall not possible to adjust the requested tap water temperature. For this reason, tap water line should be installed at shortest distance with pipe having at least ½" internal diameter and by using bends as low as possible. At least 1 bar pressurized grid input water should be supplied for acquiring the comfort requested in the hot tap water. Hydrophore should be used if required.
- Prior to filling the radiator installation, it must be flushed and all wastes must be cleaned!

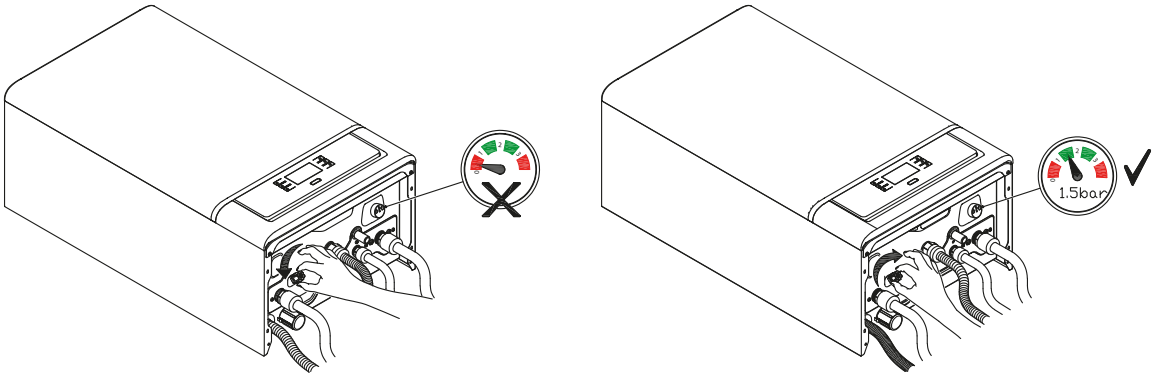
Warning: In order to prevent invalidity of device warranty prior to making combi connections, clean residues likely to be occurred in main heat exchangers (pipes, heater assembly, etc.) via dissolvent or equal substances, otherwise they will negatively affect functioning of the combi. In order to prevent lime scales in the radiator installation and therefore faulty operation of installation, follow rules envisaged by standards regarding domestic tap water and radiator installations.

Warning: It is recommended to install a Anti-Lime Kit for preventing occurrence of lime scales at places where water hardness is higher than 25 French degree in order to protect service life and efficiency of the hot tap water heat exchanger.

2.3.2. Filling/Emptying Radiator Installation

Ensure that the pressure reaches to 1-1,5 bar in the Manometer indicated with G symbol by rotating the Fill Tap counter clockwise that is indicated with F symbol in Lower Figure 12 for filling the closed circuit radiator installation after installation of the and close the Filling Tap by rotating clockwise and discharge air of radiators via air discharge valves.

Combi safety valve discharge should be connected to a discharge funnel. Otherwise, safety valve shall be activated and manufacturer shall not be responsible due to water discharge to the place of device.



When the pressure is between 1 - 1.5 bar, close the filling valve by turning it to the right.

Figure 11 Filling the heating installation water with the filling valve of the boiler and pressure control.

2.3.3. Circulation Pump

The boiler is equipped with a pump having controlled by an external signal PWM (i=feedback signal), the main PCB of combi sends a PWM signal as an actuating variable to the pump. It should be controlled that the pump ensures required flow rate depending on the critic line pressure loss.

ErP READY — COMPLY WITH THE NEW EUROPEAN DIRECTIVE FOR ENERGY EFFICIENT PRODUCTS

Figure 12 Enerwa and Enerwa Plus have a pump with Automatic Air Vent Valve and modulation.

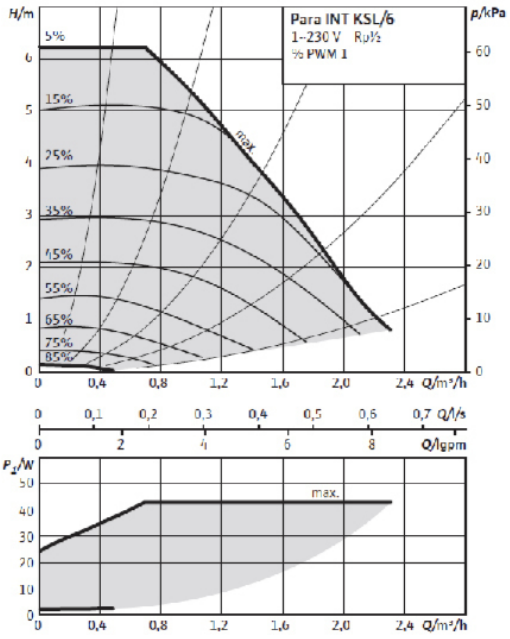


Figure 13 Pump Flow Rate / Pressure graphic of Enerwa 24 and Enerwa Plus 24

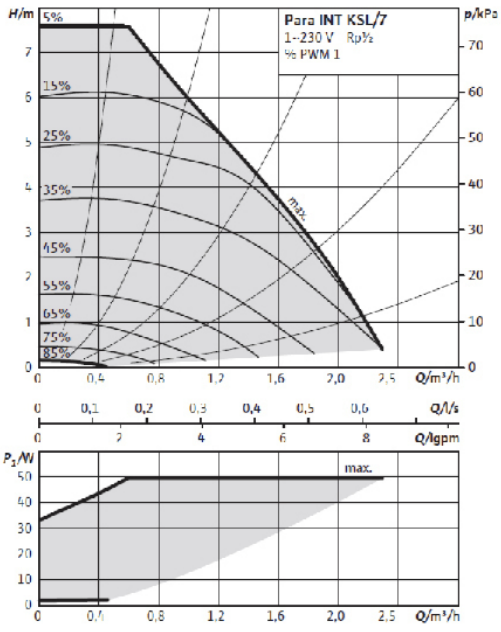


Figure 14 Pump Flow Rate / Pressure graphic of Enerwa 28, Enerwa 33 and Enerwa Plus 28, Enerwa Plus 33

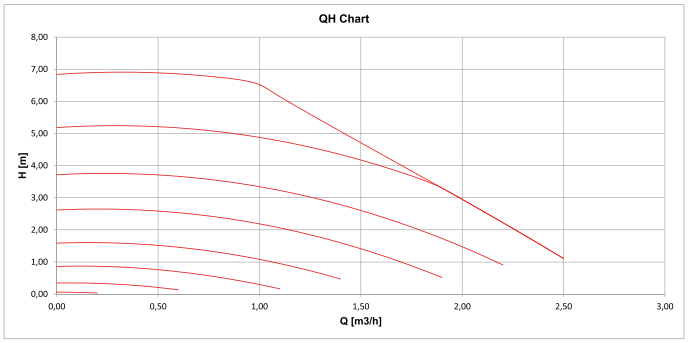
2.3.4. Enerwa Plus System 24 / Enerwa Plus System 28 / Enerwa Plus System 33 Circulation Pump

GRUNDFOS UPM3 15-70 CAOD AA

CE MARK COMFORMITY WITH FOLLOWING RELEVANT EC DIRECTIVES	EMC Directive (2004/108/EC), Low voltage Directive (2006/125/EC) Ecodesign Directive (2009/125/EC)
Power	**Grundfos UPM3 15-70 CAOD AA**
Energy Efficiency Index (EEI) (EN16297/3) Max. delivery head in [m] at Q = 0,25 m3/h Max. volume flow (H: 1,11 m) Max power consumption	≤ 0,20 6,90 m 2,5 m3/h 52
Max.speed	5766 rpm

Hydraulic operational areas

ENERWA PLUS SYSTEM 24
ENERWA PLUS SYSTEM 28
ENERWA PLUS SYSTEM 33



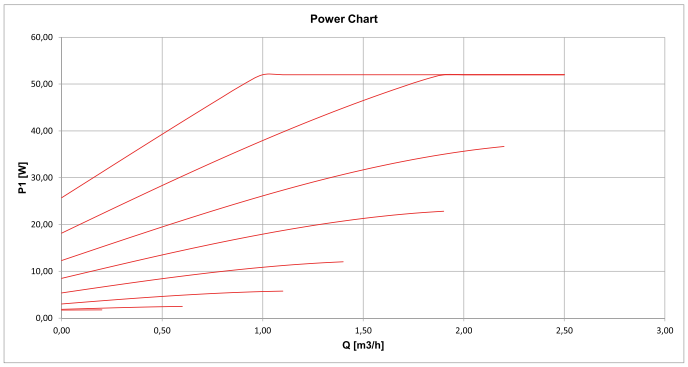


Figure 15 Pressure, flow and electricity consumption of pumps according to power capacities of boilers

2.3.5. Enerwa Plus 42 / Enerwa Plus 45 Circulation Pump

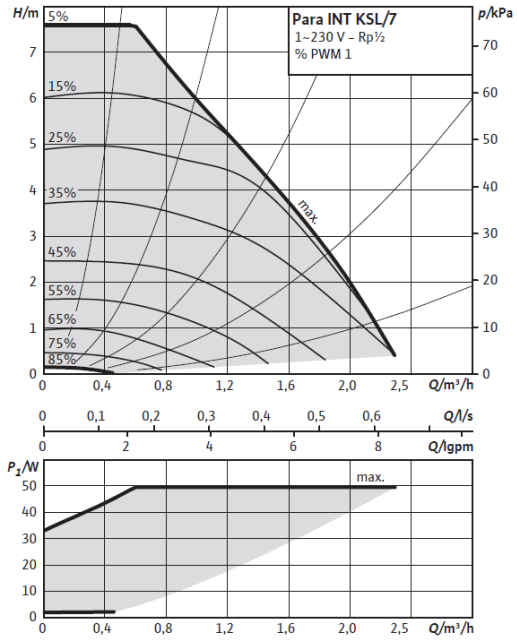


Figure 16 Flow/pressure graph pressure of Enerwa Plus 42 pump

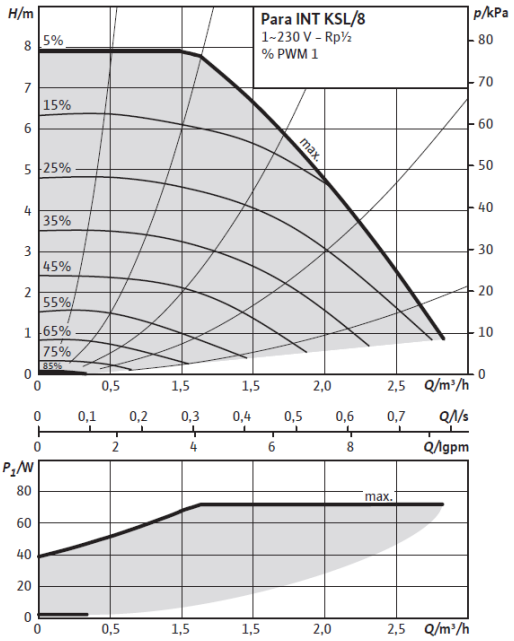


Figure 18 Flow/pressure graph of the Enerwa Plus 45 pump

ErP READY — COMPLY WITH THE NEW EUROPEAN DIRECTIVE FOR ENERGY EFFICIENT PRODUCTS

Figure 17 Pump Flow Rate / Pressure graphic of Enerwa Plus 42

Figure 19 Enerwa Plus 45 has a pump with Automatic Air Vent Valve and Modulation.

2.3.6. Installation Diagram

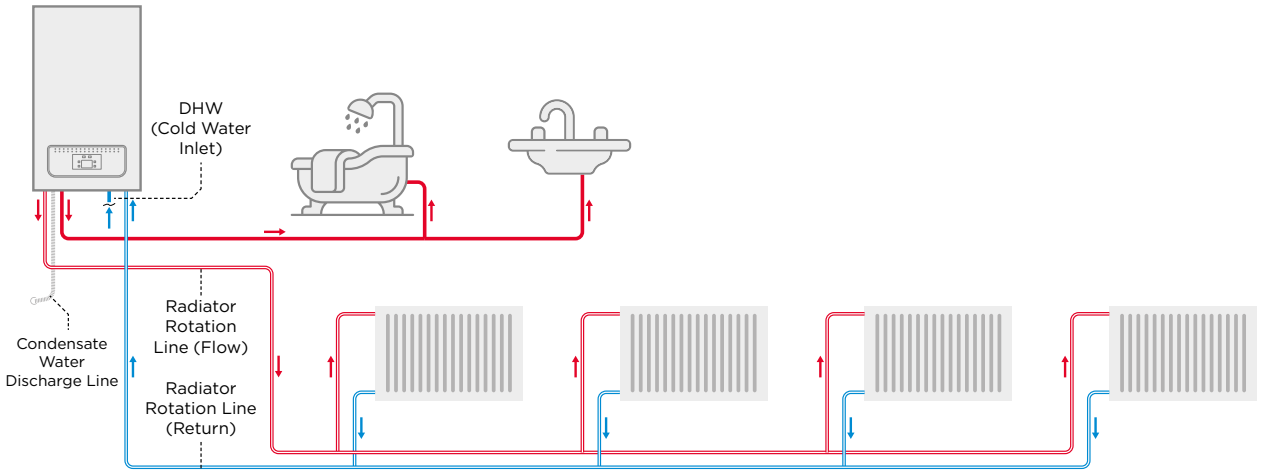


Figure 20 Scheme of use of the boiler in a double pipe heating installation system.

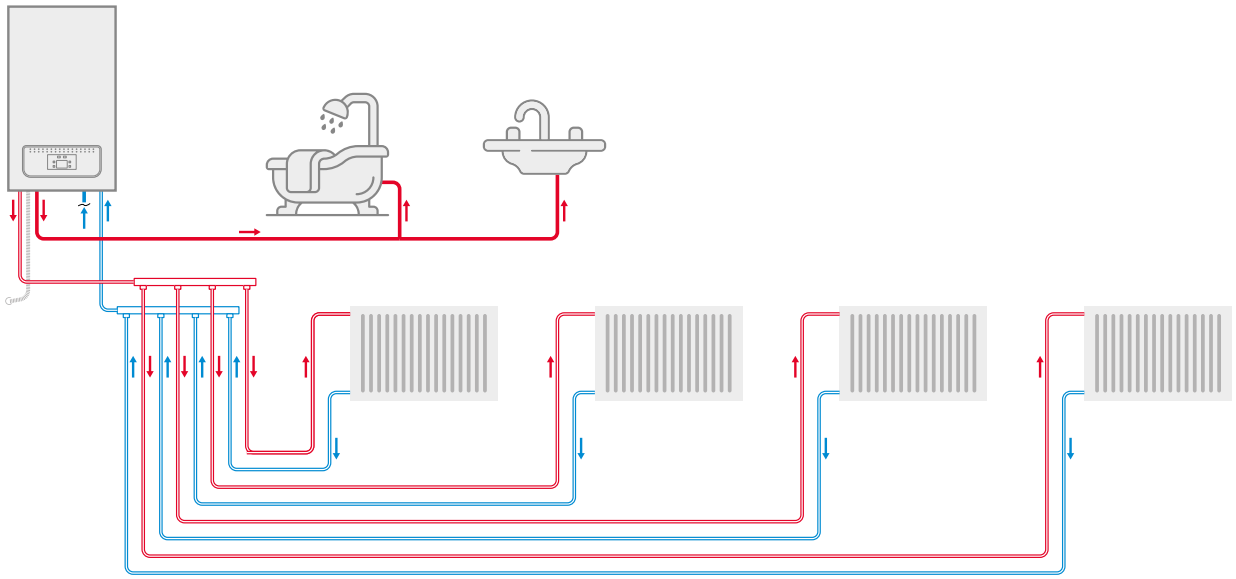


Figure 21 Scheme of use of the boiler in a mobile tubular distributed heating installation system.

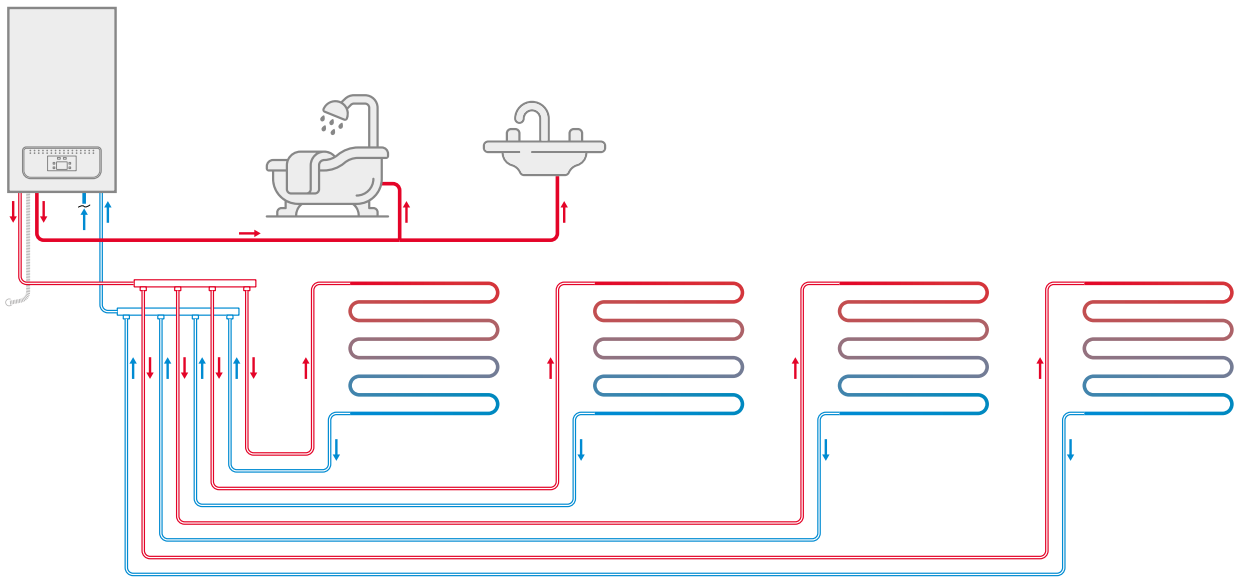


Figure 22 Scheme of use of the boiler in a mobile tubular distributed underfloor heating installation system.

2.3.7. Filling the siphon for Condensation Line

After the wall hanging operation of condensing boiler electrical connections, radiator lines, hot tap water connections and condensation water drainage line are completed, condensation siphon should be filled with water (Figure 27).

Slope of condensation water hose and line must be always towards down.

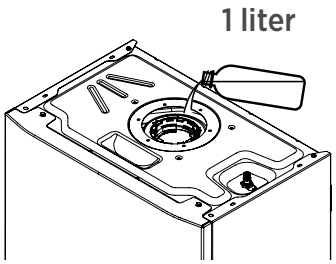


Figure 27 Filling the condensation siphon

Condensation line drain line impermeability should be maintained. However, prior to installation of the flue bend of the siphon in the boiler discharge 1 litre water to the internal flue against the possibility of flue gas leakage possibility at first start. Thus, waste gas leakage possibility shall be prevented with the water available in siphon.

Attentions For Condensate Drain:

FAILURE TO INSTALL THE CONDENSATE DISCHARGE PIPEWORK CORRECTLY WILL AFFECT THE RELIABLE OPERATION OF THE BOILER

1. Ensure the discharge of condensate complies with any national or local regulations in force.
2. The discharge pipe should be run in a proprietary drain pipe material e.g. PVC, PVC-U, ABS, PVC-C or PP.
3. Metal pipework is NOT suitable for use in condensate discharge systems.
4. Any condensate discharge pipework external to the building (or in an unheated part of it e.g. garage) must be insulated to protect against frost.
5. In all cases discharge pipe must be installed to aid disposal of the condensate. To reduce the risk of condensate being trapped, as few bends and fittings as possible should be used.
6. When discharging condensate into a soil stack or waste pipe the effects of existing plumbing must be considered. If soil pipes or waste pipes are subjected to internal pressure fluctuations when WC's are flushed or sinks emptied then back-pressure may force water out of the boiler trap and cause appliance lockout.
7. Condensate outlet shall not be modified or blocked always be downwards.

Discharging the Condensation Water

For discharging the condensation water produced by the device, it should be connected to waste water grid via at least Ø 24 mm pipes resistant to acidic condensation waters. Connection of the device with waste water grid should be made as preventing frost of the liquid contained in the connection installation. Prior to starting the device, ensure that the condensation water is correctly discharged; then verify that the siphon is filled through condensation at first start. Also, instructions in force, national and local arrangements should be taken into consideration for discharge of waste waters.

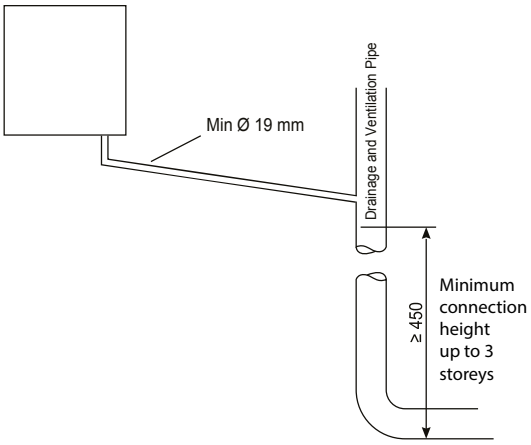


Figure 23 Connection of the Condensate Water Drainage Pipe to Internal Drainage and Ventilation Pipe

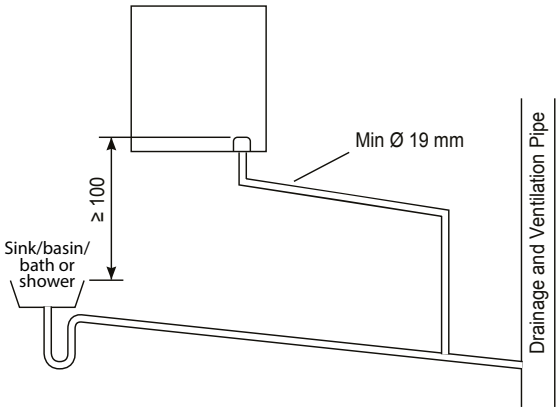


Figure 24 Connection of Condensate Water Drainage Pipe at Indoor Bathroom Drainage Lower Level

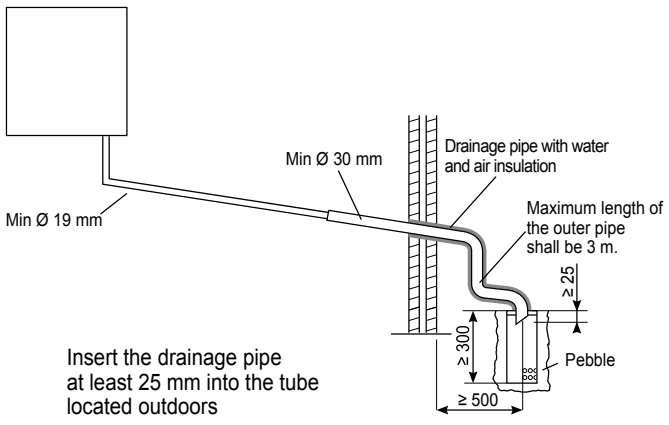


Figure 25 Outside Connection of Condensate Water Drainage Pipe

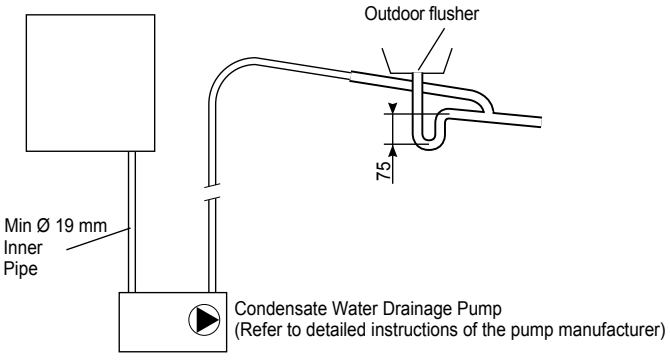


Figure 26 Typical Connection Method of a Condensate Water Drainage Pipe (refer to detailed instructions of the pump manufacturer)

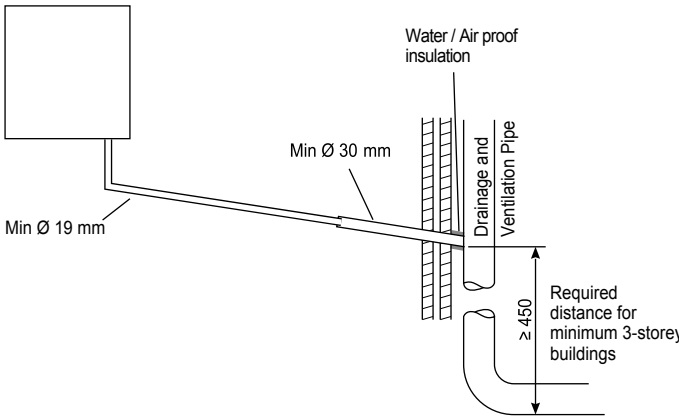


Figure 28 Connection of Condensate Drainage to Drainage and Ventilation Pipe

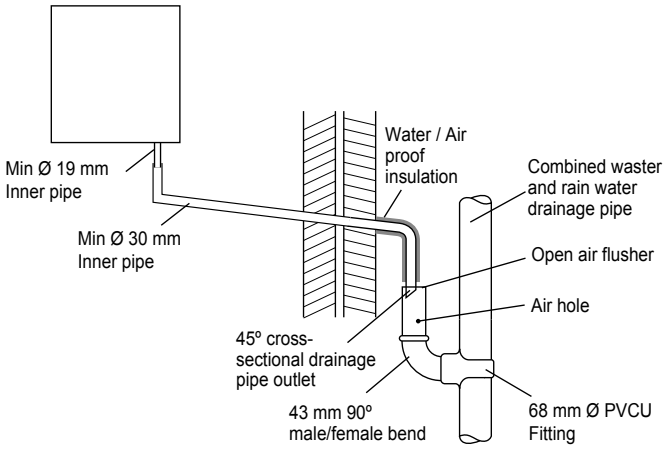


Figure 29 Connection of Condensate Drainage to Rain Water Drainage

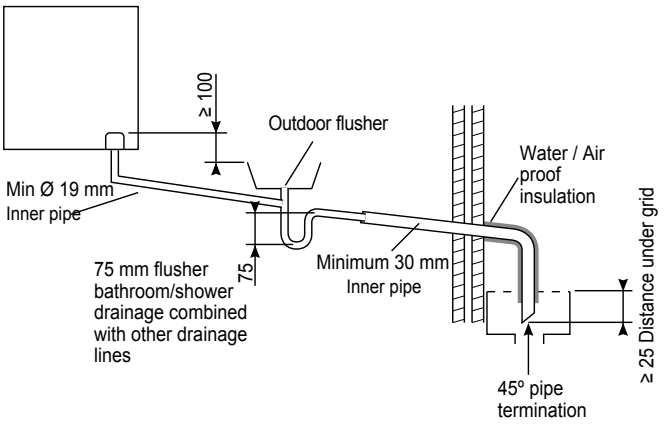


Figure 30 Connection of Condensate Drainage to Rain Drainage Line through Sink, Bathtub or Shower Drainage Pipe

2.4. BOILER FLUE CONNECTIONS

2.4.1. Exhaust Gas Flue Pipe Set and Accessories Connection

Flue accessory sets to be used in exhaust gas installation of hermetic boiler should be original Warmhaus flue sets and they should be used by considering measurements and restrictions given in installation instructions.

In case of using exhaust gas pipe and/or accessories other than Warmhaus original exhaust gas flue pipes and accessories, boiler shall not be commissioned by the Authorized Service and thus, no warranty is given!

Warmhaus provides different solutions for placing exhaust gas discharge and air suction pipes in addition to the boiler and boiler shall not be operated without them.

Boiler should only be installed with original Warmhaus air suction and exhaust gas discharge device made of plastic material. Plastic channels cannot be installed without suitable protection against UV and weather conditions to distances over 40 cm and exteriors.

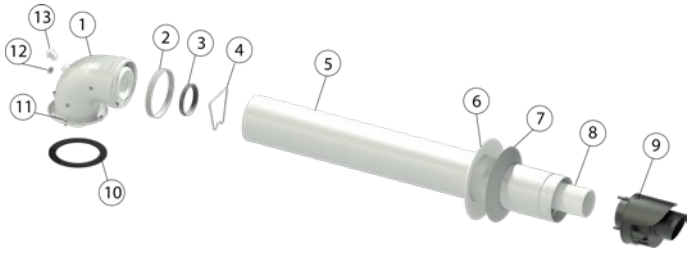
Flue should be installed in accordance with national and local directives.

2.4.2. Installation with Horizontal Flue Sets

Connecting Horizontal Concentric Flue Set to the boiler (original diameter DN 60/100 mm)

Since your boiler is hermetic model, it takes the used air from exterior and discharges exhaust gases created as the result of burning through the same flue group. In order to prevent emission of excessively harmful exhaust gases, flue usage and installation is very important, therefore warnings should be taken into consideration when flue connections are being performed.

- Make required flue selection for the flue connection to be made externall and installation place of the boiler. If the swtandard flue set is not adequate, please select most suitable elements from our list of connection accessories considering warnings given in our user's guide.
- Fix the flange under the Bend piece (1) by using the Flange Bolt (10) via Flange Connection Screws (11) to holes on the boiler.
- 2 impermeability bolts within the hermetic flue set (2) are placed into internal pipe slots at both ends of the 90° Bend.
- Place the exterior wall (EPDM) bolt into the flue terminal as seen in Figure 31 for grouping the flue output terminal. After placing the flue output terminal through exterior of wall and the previously opened hole, fix the Interior Wall Connection Bolt (7) into the flue terminal.



1. 90° bend
2. (Ø100 mm) Sealing gasket
3. (Ø60 mm) Sealing gasket
4. Centering wire
5. Exterior flue pipe
6. Interior wall closing flange
7. Exterior wall closing flange.
8. Interior flue pipe
9. Protection cage
10. Flange gasket
11. Flange connection screws
12. Fresh air control cap
13. Flue gas control cap
14. Fresh air control cap

Figure 31 Hermetic boiler concentric flue set.

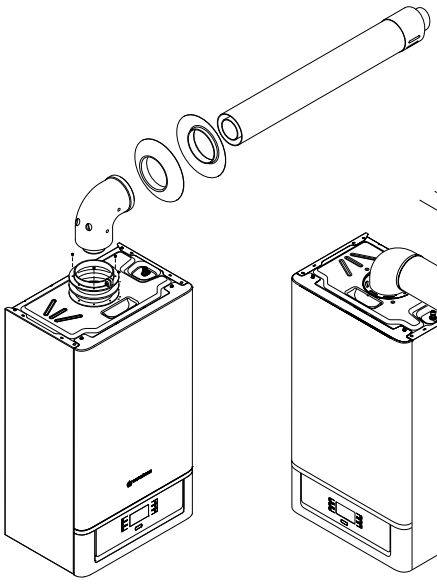


Figure 35 Installation of flue set pieces

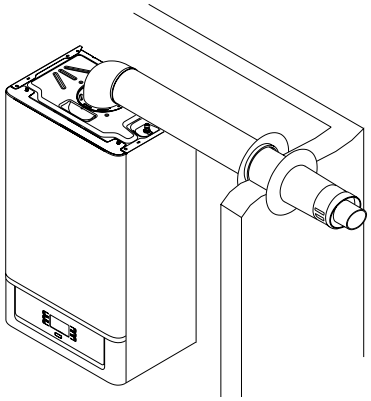


Figure 36 Hermetic combi boiler concentric flue wall output.

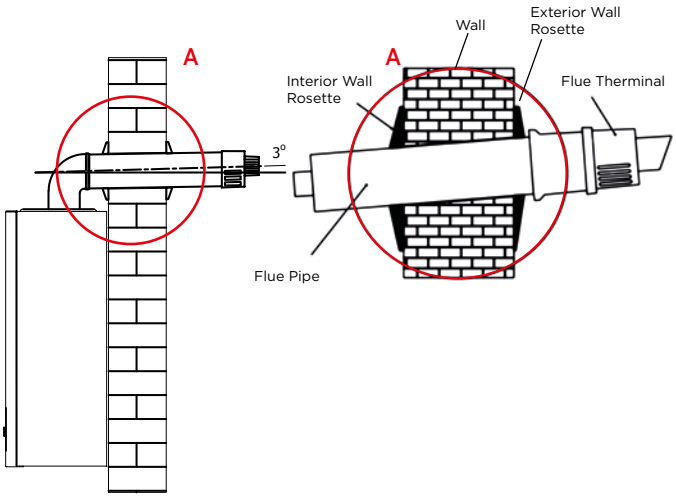
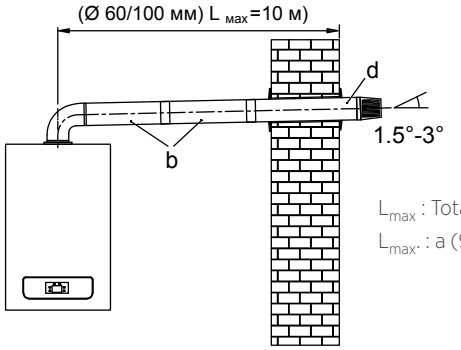


Figure 32 Condensing boiler flue training



L_{max} : Total equivalent length ≤ 10 m
L_{max} : a (90° elbow) + b + c ≤ 10 m

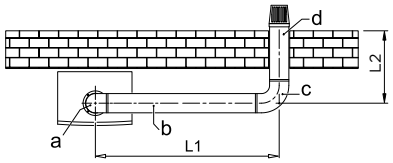
Figure 33 I. Single 90° bended sample flue installation

When it is required to shorten the discharge flue and/or extension, consider that internal pipe should protrude 5 mm when compared with the external pipe.

For security purposes, boiler suction / discharge flue should not blocked even temporarily.

Total length of hermetic flue set should not exceed 10 m with single bend horizontally. Also, this total length reduces by 1 m with every 90°bends or two 45° bends. Maximum 3 pieces of 90° bend can be used.

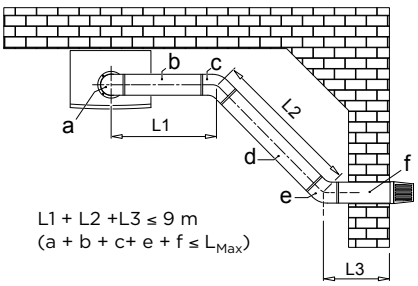
During installation of horizontal pipes, the pipe slope should be kept at 3% upwards as minimum and dowel at every 3 meters and holder clamps should be used.



a- Standard Flue Set Bend (90°)
b- Flue Extension Pipe
c- Additional 90° Bend
d- Standard Flue Set Pipe

L1 + L2 ≤ 9 m
(a + b + c+ d ≤ L_{Max})

Figure 37 II. Two 90° bended sample flue installations



a- Standard Flue Set Bend (90°)
b- Flue Extension Pipe (L1)
c- Additional 45° Bend
d- Standard Flue Set Pipe (L2)
e- Additional 45° Bend
f- Standard Flue Set Pipe (L3)

L1 + L2 +L3 ≤ 9 m
(a + b + c+ e + f ≤ L_{Max})

Figure 34 III. Single 90° and two 45° bended sample flue installations

The equivalent distance must be calculated without exceeding the specified maximum distances, For additional elbows in a concentric chimney system, the following equivalent lengths must be calculated by subtracting the maximum distance to the chimney.

Additional Elbow	Equivalent To Straight Length
45° Degree	0.5 meter
90° Degree	1.0 meter

2.4.3. Installation with Vertical Flue Sets (Ø 60/100 mm)

Your boiler can also be vertically connected to flat and aslope roofs via available connection accessories depending on the status of installation place. For flat connections (Ø 60/100mm) vertical flue set should not exceed 11 m.

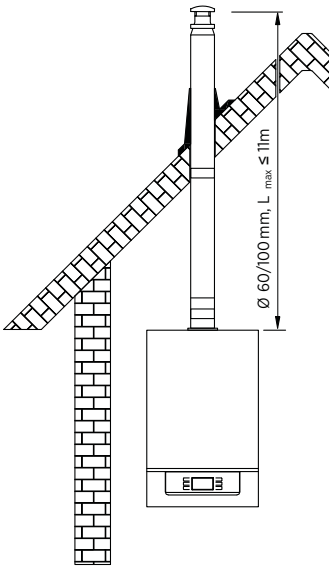
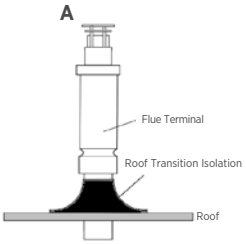


Figure 38 Vertical flue set installation

Flue gas vertical outlet flue set is an example of a view with Pitched-Roof insulation and flue transition piece installed.



Flue gas vertical outlet flue set Flat-Roof insulation and flue transition part

Implementation

L1	=0.3 m.
L2	=0.5 m. (45° bend equivalent length)
L3	=2.0 m.
L4	=0.5 m. (45° bend equivalent length)
L5	=2.5 m.
L6	=1.0 m.
L Total	=6.8 m. 6.8 m. < Lmax = 11 m.

Correct in implementation.

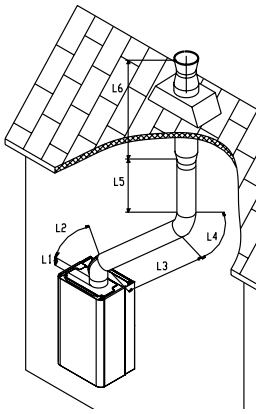


Figure 39 Vertical flue set installation application

Additional Elbow (Ø60/100 mm)	Equivalent To Straight Length
45° Degree	0.5 meter
90° Degree	2.2 meter

2.4.4. Twin Flue Kits Ø 80/80 Flue Type Use

This kit allows air to come in from outside the building and the fumes to exit from the chimney or flue through divided flue exhaust and air intake pipes. Combustion products are expelled from pipe (F) (in plastic, so as to resist acid condensate). Air is taken in through duct (A) for combustion (this is also in plastic). Extensions for separator kit Ø 80/80. The maximum vertical straight length (without bends) that can be used for Ø 80 intake and exhaust pipes is 34 metres, regardless from whether they are used for intake or exhaust. The maximum horizontal straight length (with bend in suction and in exhaust) that can be used for Ø 80 intake and exhaust pipes is 30 metres, regardless from whether they are used for intake or exhaust.

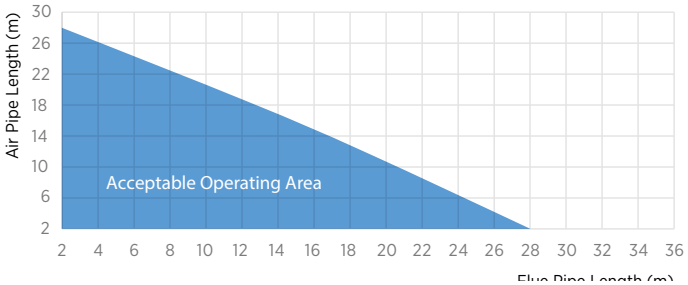


Figure 43 Table 1 Air Pipe and Flue Pipe Lengths Diagram

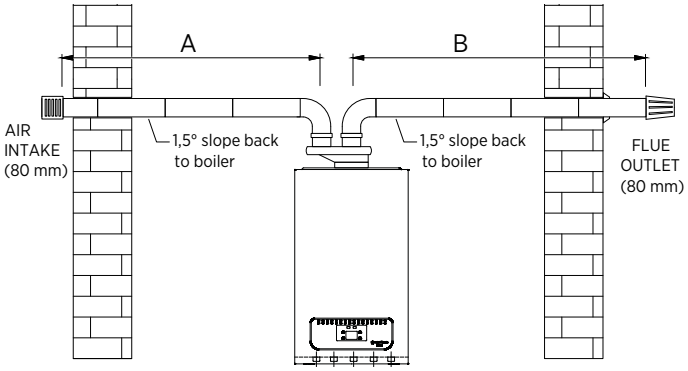


Figure 41 Horizontal Air-Flue Lengths

Implementation

L1	=0.5 m.
L2	=2.2 m. (90° bend equivalent length)
L3	=1.5 m.
L4	=2.2 m. (90° bend equivalent length)
L5	=1.5 m.
L6	=0.5 m.
L7	=2.2 m. (90° bend equivalent length)
L8	=0.5 m.
L9	=0.5 m. (45° bend equivalent length)
L10	=1.5 m.
L11	=2.2 m. (90° bend equivalent length)
L12	=1.5 m.
L Total	=16.8 m. 16.8 m. < Lmax = 30 m.

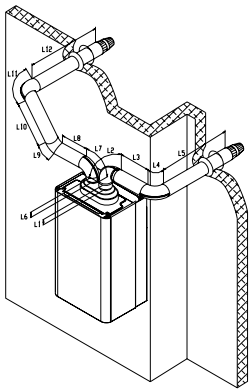


Figure 40 Hermetic flue type installation sample

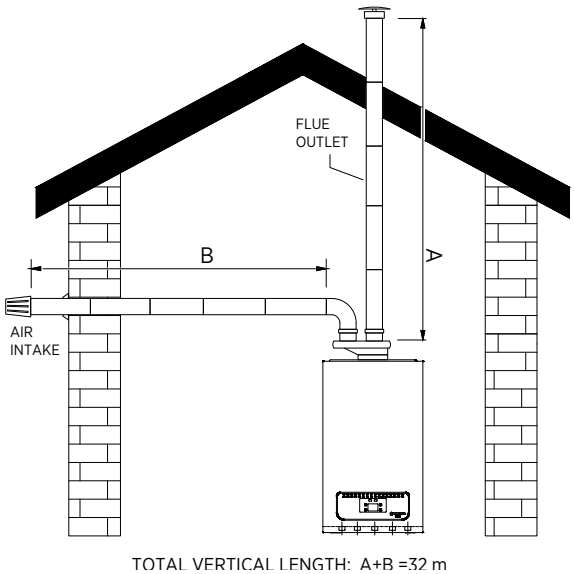


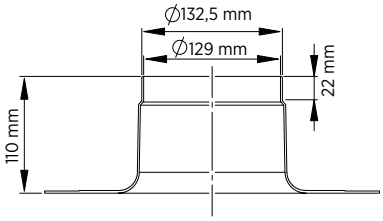
Figure 42 Vertical Air and Horizontal Flue Lengths

2.4.5. Concentric Flue Kits For Condensing Boilers (Ø60/100 mm)

	Product Name	Product Code
	(Ø60/100) Condensing Concentric Horizontal Flue Set $L_{Horizontal} = L_{From\ the\ center\ of\ the\ elbow} + L_{Terminal}$ L_{Total} = 115 + 790 = 905 mm	15311014000002 (White)
	(Ø60-100) Condensing Vertical Flue Set with Adapter L= [L_{Term} + $L_{Extpipe}$+$L_{Adapter}$=1000+500+145] = 1645 mm Extension Parts: (Ø60/100) Condensing Flue Extension, $L_{Extpipe}$=500 mm, (Ø60/100) Condensing Vertical Adapter, L_{Adapt}=145 mm	15311660600013 (Black-White)
	(Ø60/100) Condensing Flue Extension L=500 mm	15311660600014 (White)
	(Ø60/100) Condensing Flue Extension L=1000 mm	15311660600015 (White)
	(Ø60/100) Condensing Flue Extension L=2000 mm	15311660600016 (White)
	(Ø60/100) Condensing 45° Elbow	15311660600017 (White)
	(Ø60/100) Condensing 90° Elbow L=170 mm	15311660600018 (White)
	(Ø60/100) Condensing Vertical Adapter L=130 mm	15311660600019 (White)

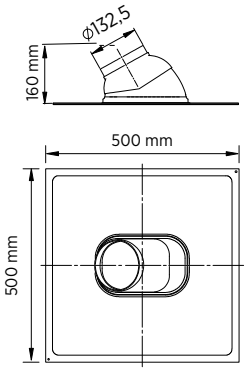
Flat Roof Outlet Part

15311660600124

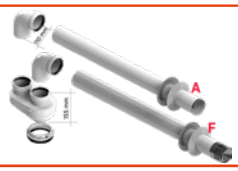
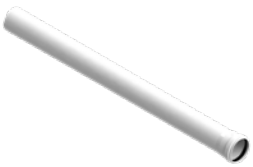


Pitched Roof Outlet Tile A = 500 x 500 mm

15311660600125

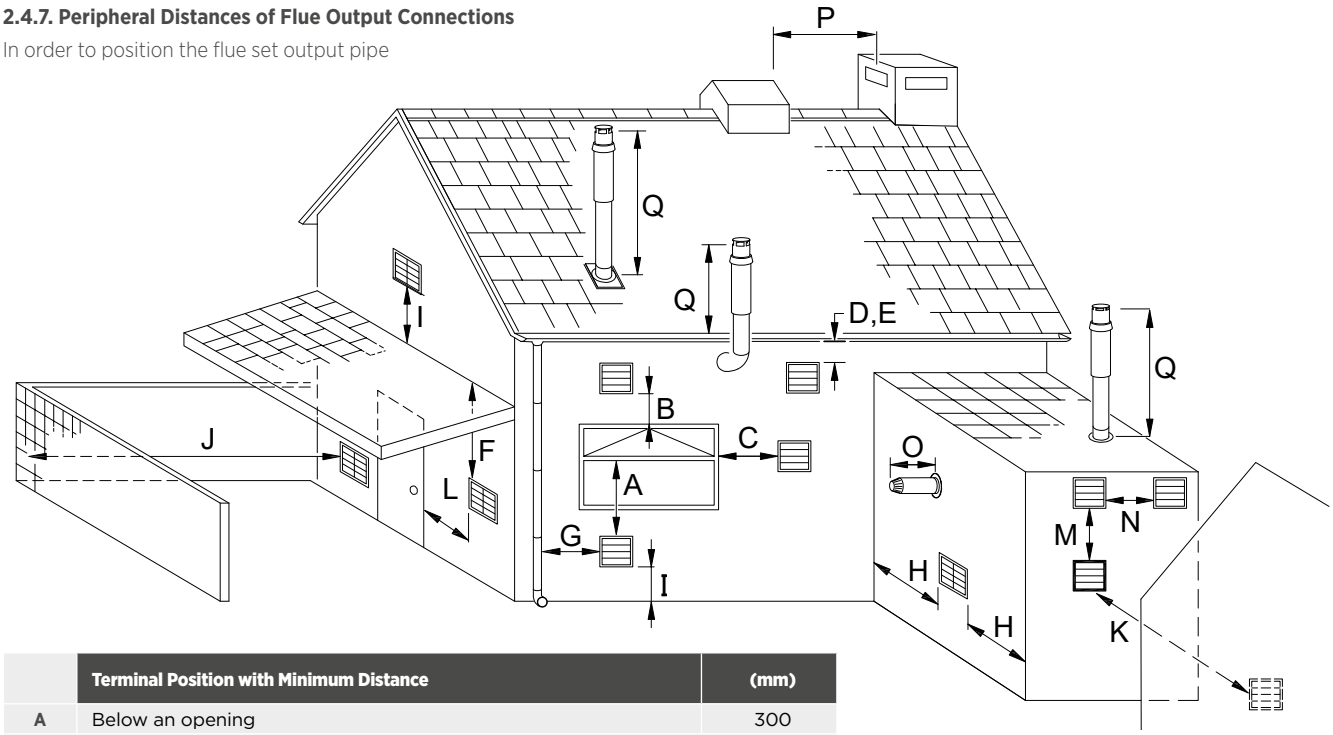


2.4.6. Twin Flue Kits For Condensing Boilers (Ø80/Ø80 mm)

	Product Name	Specification	Product Code
0113_00.D190515 	Ø80 Twin Flue Set	Ø80 mm Flue Terminal = 985 mm Air Terminal = 939 mm High of Twin Flue Adapter = 155 mm	15311660600096
0114_00.D190515 	Ø 60- Ø 80 Twin Flue Set Adapter	Ø60 mm > Ø80 mm + Ø80 mm High of Twin Flue Adapter H = 155 mm	15311660600102
0115_00.D190515 	Ø80 Condensing Twin Flue Extension Pipe L=500 mm	Ø80 mm; L = 500 mm	15311660600091
0116_00.D190515 	Ø80 Condensing Twin Flue Extension Pipe L=1000 mm	Ø80 mm; L = 1000 mm	15311660600092
0117_00.D190515 	Ø80 Condensing Twin Flue Extension Pipe L=2000 mm	Ø80 mm; L = 2000 mm	15311660600093
0118_00.D190515 	Ø80 Twin Flue Elbow (90°)	Ø80 mm; H= 152 mm	15311660600094
0119_00.D190515 	Ø80 Twin Flue Elbow (45°)	Ø80 mm; L = 117 mm	15311660600095
0121_00.D190515 	Ø80 Interior Wall Rosette	Ø80 x 145 mm	15311660600099
0120_00.D190515 	Ø80 Exterior Wall Rosette	Ø80 x 145 mm	15311660600098
0122_00.D190515 	Ø80 Flue Vertical Outlet Adapter with Condensate Trap	Ø80 mm; L = 145 mm	15311660600100
0123_00.D190515 	Ø80 Vertical Flue Kit	Ø80 mm; L = 861 mm	15311660600097

2.4.7. Peripheral Distances of Flue Output Connections

In order to position the flue set output pipe



	Terminal Position with Minimum Distance	(mm)
A	Below an opening	300
B	Above an opening	300
C	Horizontally to an opening	300
D1	Below gutters, soil pipes or drainpipes	25 (75)
E1	Below Eaves	25 (200)
F1	Below balcony or car port roof	25 (300)
G1	From a vertical drainpipe or soil pipe	25 (150)
H1	From an internal or external corner or to a boundary alongside the terminal	25 (300)
I	Above ground, roof or balcony level	300
J	From a surface or a boundary facing terminal	600
K	From a terminal facing the terminal	1200
L	From an opening in the car port into the building	1200
M	Vertically from a terminal on the same wall	1500
N	Horizontally from a terminal on the same wall	300
O	From the wall on which the terminal is mounted	50
P	From a structure on the roof	N/A
Q	Above the highest point of intersection with the roof	300

Flue outlets must not be subject to any blockage and must not interfere with any other flue outlet. If the output pipe passes 1000 mm nearby of a plastic or painted groove or 500 mm of painted fringes, an aluminium shield with at least 1000 mm length should be placed below the groove or fringe. Output pipe should be at least 2 m over surfaces that may be reached by individuals.

Under certain weather conditions, output pipe may emit water vapour; installation should not be performed at places where this vapour may cause discomfort.

Exhaust gases should be prevented from entering flue ventilation spaces. Flue system of boiler boiler may be installed from inside the room without requiring intervention from the external wall. For that reason, a housing should be installed in the wall for lining the internal surface of channel where in the output pipe passes through, particularly for thick walls.

Figure 44 Peripheral Distances of Flue Output Connections

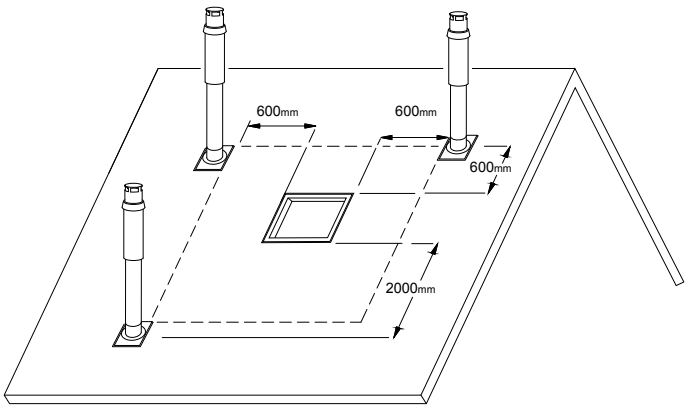


Figure 45 Terminals adjacent to windows or openings on pitched and flat roofs

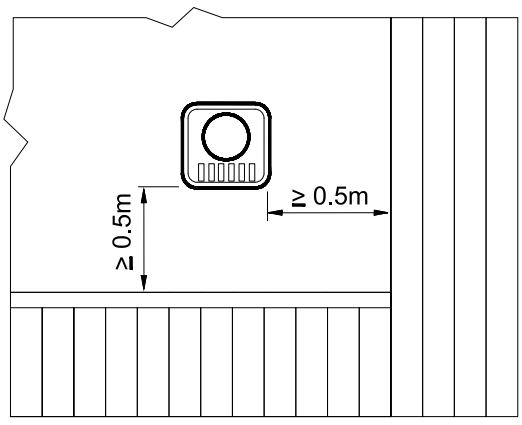


Figure 46 Distance of flue outlets from side and bottom of type C appliances

2.4.8. Distance of Flue Gas Installation from Combustible Building Materials

The flue gas installation of "C" type devices must be at least 5 cm away from flammable building materials or elements. If the installation will pass through these materials or elements, the passage of the flue gas installation (since it may rise above 85 °C) must be provided with protective pipes that will provide this distance, in order to prevent the building elements from coming into contact with the flue gas installation in case of breakage.

2.4.9. Flue Gas Pipe Outlets of Type C Devices (The Part Where Combustion Air Enters and Flue Gas Exits)

Places where the waste gas pipe outlet mouths of "C" type devices cannot be discharged;

- Passages and corridors,
- Narrow eaves gaps,
- Ventilation and light spaces of buildings,
- Balconies (open or closed),
- Elevator shafts,
- The bottom of protruding building parts that significantly prevent waste gas outflow,
- Places where flammable substances or explosive substances are processed, stored, manufactured or found, and where flammable liquids are present.

2.4.10. Flue Gas Pipe Outlets Passing through Building Protrusions and Building Elements Made of Combustible Materials

The flue gas installation pipe outlet must be at least 50 cm away from flammable materials and the sides and bottoms of protruding buildings, at least 50 cm away from the tops, and at least 1 m away from flammable materials compared to the building parts. If the building elements at the back are made of non-combustible material and protected against flame, a distance of 50 cm from the top is sufficient for the protruding building parts made of flammable material (Figure 41).

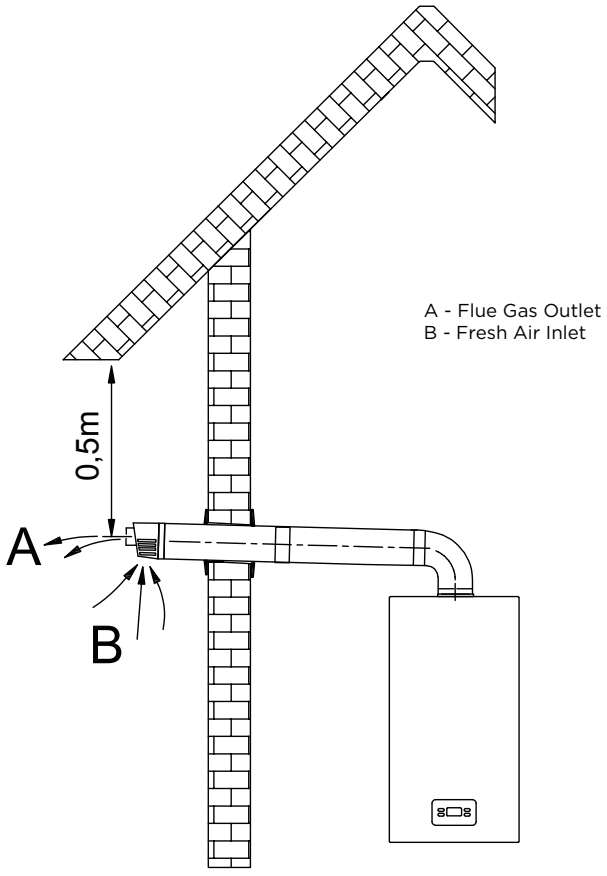


Figure 47 Distance of flue gas outlet openings of Type C devices to the roof

2.5. ELECTRICAL CONNECTIONS

Electrical safety of boiler shall be realized if completely connected to an effective earthing installation that follows safety instructions in force. No earthing shall be made from the neutral line on the socket for places not having earthing! It is dangerous and unacceptable to use gas and water connection pipes for earthing.

WARMHAUS cannot be held as responsible for any damages and losses on individuals or commodities arising from failing to provide earth connection of the boiler and not being provided by a competent electrician in accordance with directives and standards in force.

Also, ensure that the electricity installation complies with the maximum power to be supplied as indicated in technical specifications label on the boiler is given with "X" type socketless special power source cables. "Warmhaus boiler has an IPX5D protection level. Power supply cable should be connected by relying on earth connection and L-N poles in a 230 V +%10; -%15 50Hz grid, high voltage category 3rd class multiple pole disconnector should be envisaged on the same grid. Apply out Authorized Warmhaus Service for replacement of the cable.

Power supply cable should follow the defined route. In case fuses on the adjustment card are replaced, please use 2A or 3,15A speed type fuses. In order to feed the device from the general electricity grid, adapter, multiple sockets and extension cables are not allowed to use.

2.5.1. Optional Controls: Room Thermostat, Outside Sensor and Others

Room thermostat, Outside Temperature Sensor, etc. control devices must be connected to Warmhaus boiler devices by the authorized service personnel; in case connections are performed by unauthorized persons, boiler warranty shall be void.

Room thermostat, Outside Temperature Sensor, etc. control devices are provided as optional accessories for Warmhaus boiler devices and they must be Warmhaus approved.

Please follow user's instructions for placement of Outside Temperature Sensor.

This sensor can be directly connected to electrical installation of the boiler and it automatically reduces the maximum return water temperature in the installation when exterior weather temperature rises for enabling functioning according to outside temperature changes sent to radiator installation. Outside Temperature Sensor is activated when connected as independent from the used room thermostat typology and functions as common with room thermostats. The relation between installation input temperature and exterior weather temperature is defined according to curves in the diagram from position of the button located on the panel of boiler (or on the control panel if connected to boiler (Figure 51-52).

Electrical connection of the Outside weather temperature Sensor shall be made to the terminals to which the White & White cables of the Aux cable connected to the electronic card of the boiler are connected (Figure 42).

2.6. REMOTE CONTROL AND CONTROL ACCESSORIES (OPTIONAL)

2.6.1. Remote control with room thermostats

Product Name	Explanation	Product View
Clewa Cabled Room Thermostat	With minimal dimensions and decreased 4 button keypad Remote control which is connected to boiler with cable can work in modulation, run weekly programs, adjust hot usage water and show boiler fault code in the screen and reset it. Daily 8 program can be applied for adjusting heating and Domestic Hot Water (Hot Water Storage Tank).	
Clewa S Wireless Wide Screen Room Thermostat	This remote control unit, which also has room thermostat feature, is connected to the combi boiler with wireless and has 10-button keypad, where each function is assigned separately. This remote control features modulated operation according to room temperature, weekly programs, DHW adjustment and display of the boiler fault code on the display and reset it. There are 6 daily programs for heating and DHW heating. Daily 6 program can be applied for adjusting heating and Domestic Hot Water (Hot Water Storage Tank).	

Product Code	Product Name	Explanation	Product View
15311660600046	MLC 27 Cascade Module	Control unit ensures Enerwa System boilers to work as cascade.	
15311660600047	MLC 30 Multiple Zone Module	Remote control that regulates the operation of Enerwa Series boilers when there are low temperature/floor heating zones (mixed circuit).	
15311660600049	QAZ 36 Immersion Boiler/ Hydraulic Separator Sensor	It is Immersion Sensor used to measure DHW Storage Tank temperature or Hydraulic Separator temperature and report it to the boiler.	
15311660600050	QAD 36 Strap-on Temperature Sensor	Strap-on Temperature Sensor which ensures the measure of temperature on pipe at hydraulic separator. It is used to measure the temperature of flow water of low heating zone at the double heating zone.	
15311660600001	WDHS-01 Outside Temperature Sensor	It is the sensor which measures the outside air temperature and inform maximum outgoing water temperature to the boiler. A single boiler heating system must be used with one Outside Sensor to save fuel.	

See Technical Manual for more information.

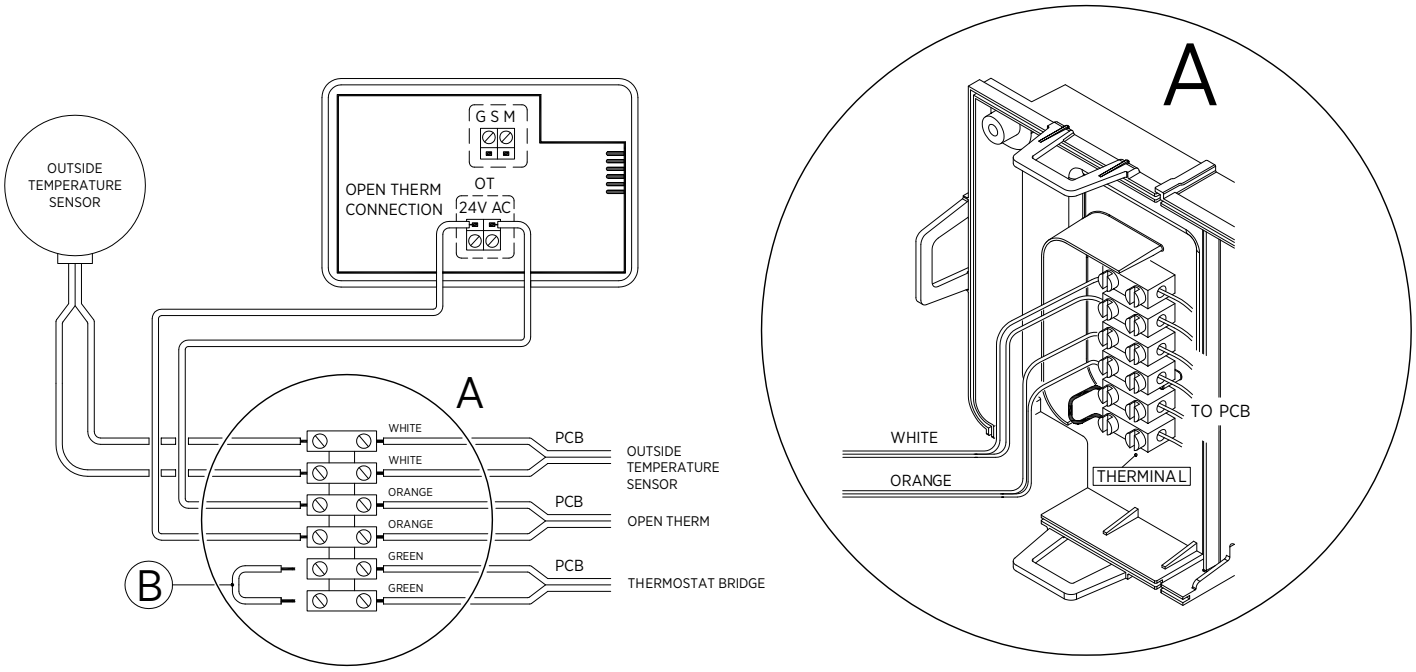


Figure 48 Combi & System boiler room thermostat and Outside Temperature Sensor connections

Wi-Fi Smart Room Thermostat Set

GET IT ON Google Play

Download on the App Store

RECOWA Large Screen, Wi-Fi Internet Access, Wireless room thermostat
Product Code: 15311800000001

2.6.2. Position of thermostat

Instruction for Installation: Installation of the appliance shall be carried out only by Warmhaus Authorized Service. The dual cable required for installation shall be provided by the dealer/customer.

Room thermostat shall be mounted 1,25 to 1,5 m above the ground.

It shall be minimum 30 cm away from any doors or windows allowing airflows.

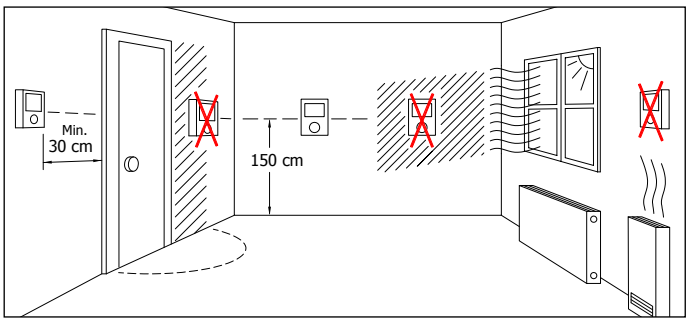


Figure 49 Position of thermostat

2.7. TYPICAL INSTALLATION DIAGRAM

2.7.1. Connection diagrams to the electronic board of electronic auxiliary equipment of boilers and cascade control Enerwa Plus System 24 / Enerwa Plus System 28 / Enerwa Plus System 33

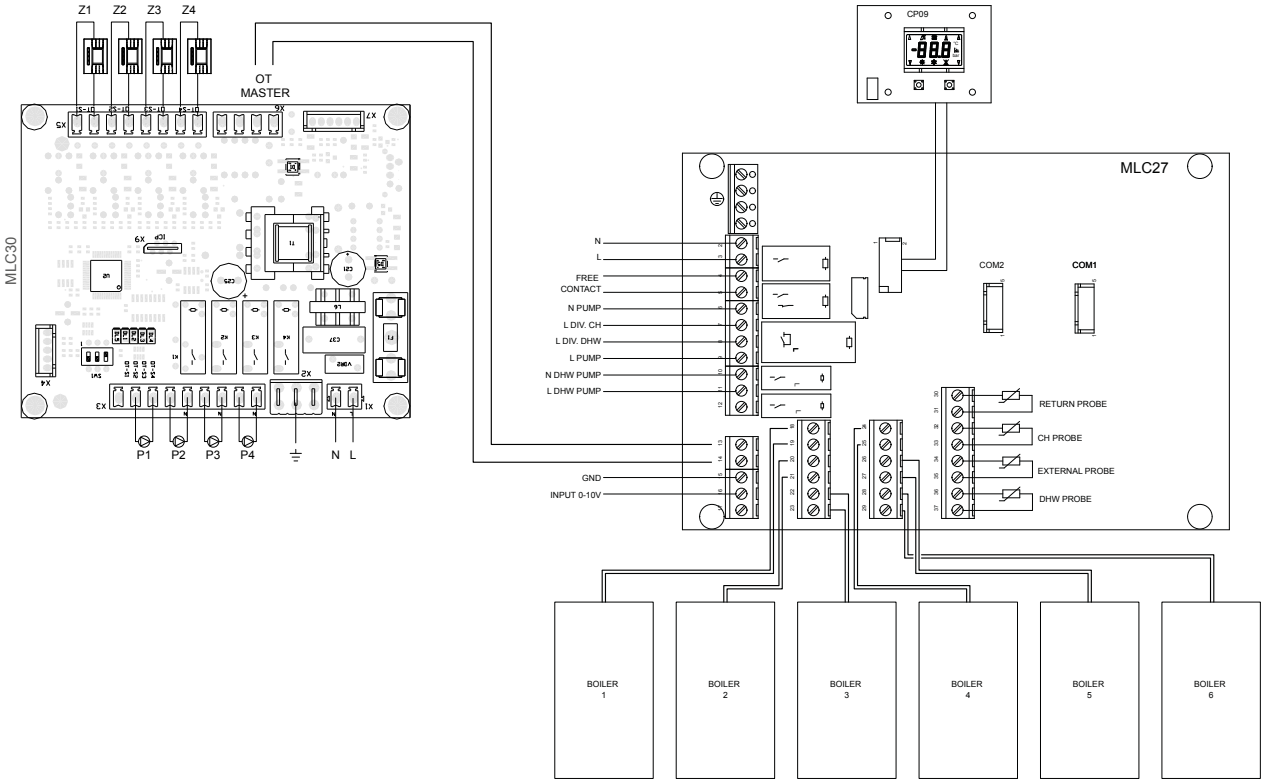


Figure 51 MLC 27 and MLC30 Electrical Connection Diagram for Enerwa System with Cascade System and 4 High Temperature (Radiator) Zone System

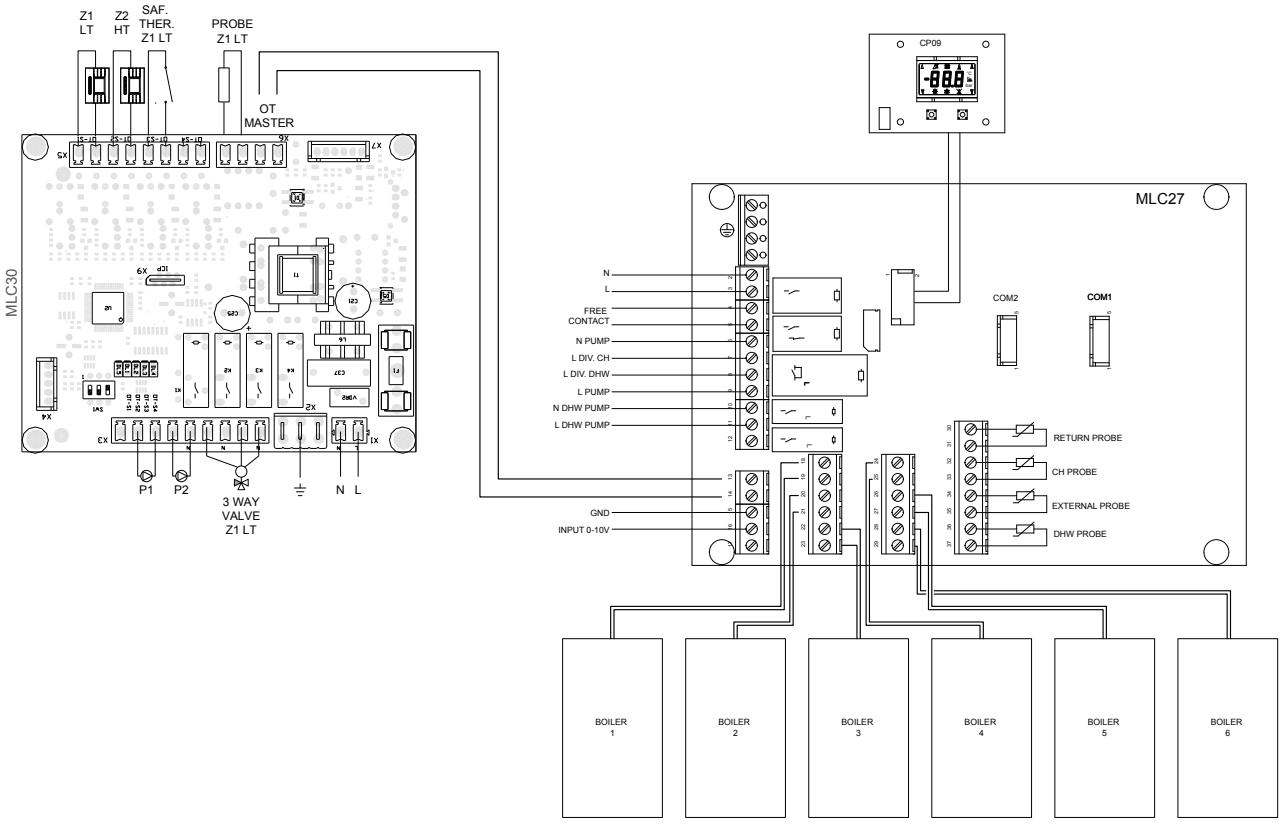


Figure 50 MLC 27 and MLC30 Electrical Connection Diagram for Enerwa System with Cascade System and 1 Low Temperature (Underfloor Heating) Zone System

2.7.2. Scheme with One Boiler: 1 radiator circuit Enerwa Plus System 24 / Enerwa Plus System 28 / Enerwa Plus System 33

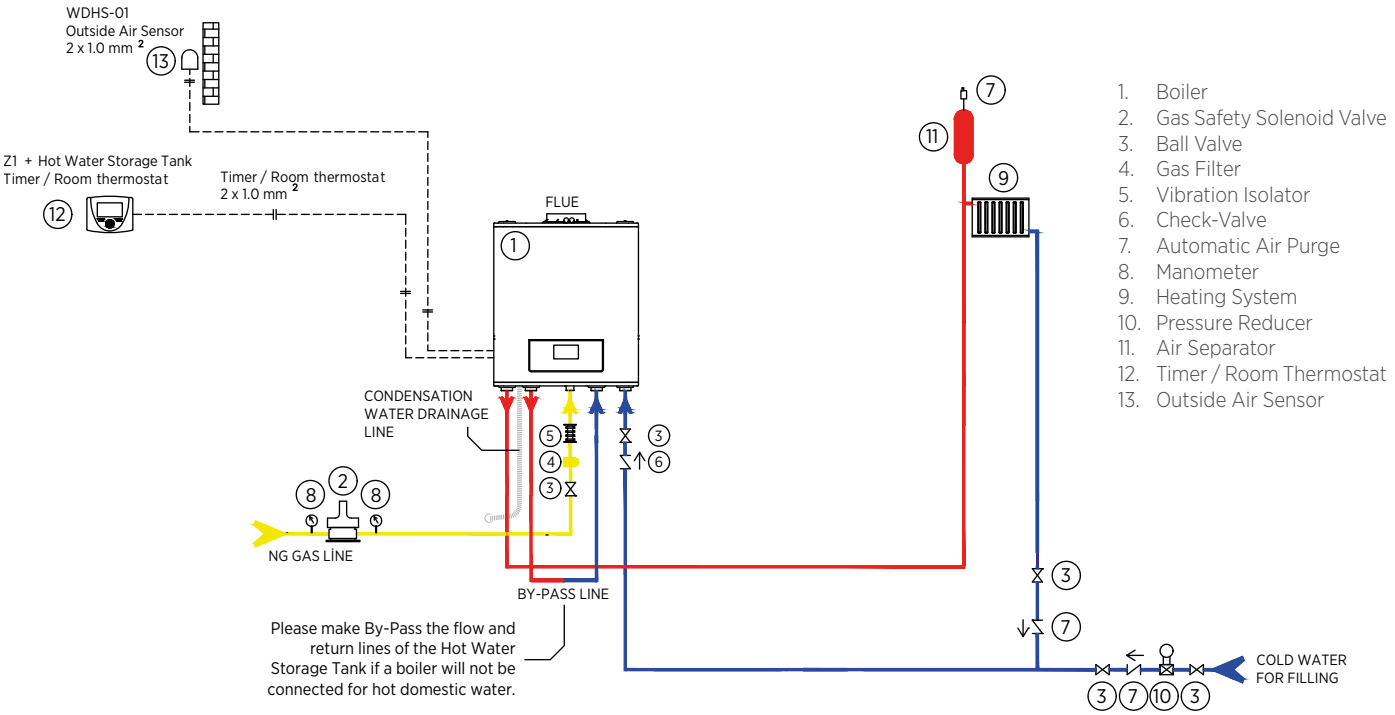


Figure 52 Enerwa System Single Boiler System Diagram (1 HT)

2.7.3. 1 Radiator circuit (high temperature) and Storage tank Enerwa Plus System 24 / Enerwa Plus System 28 / Enerwa Plus System 33

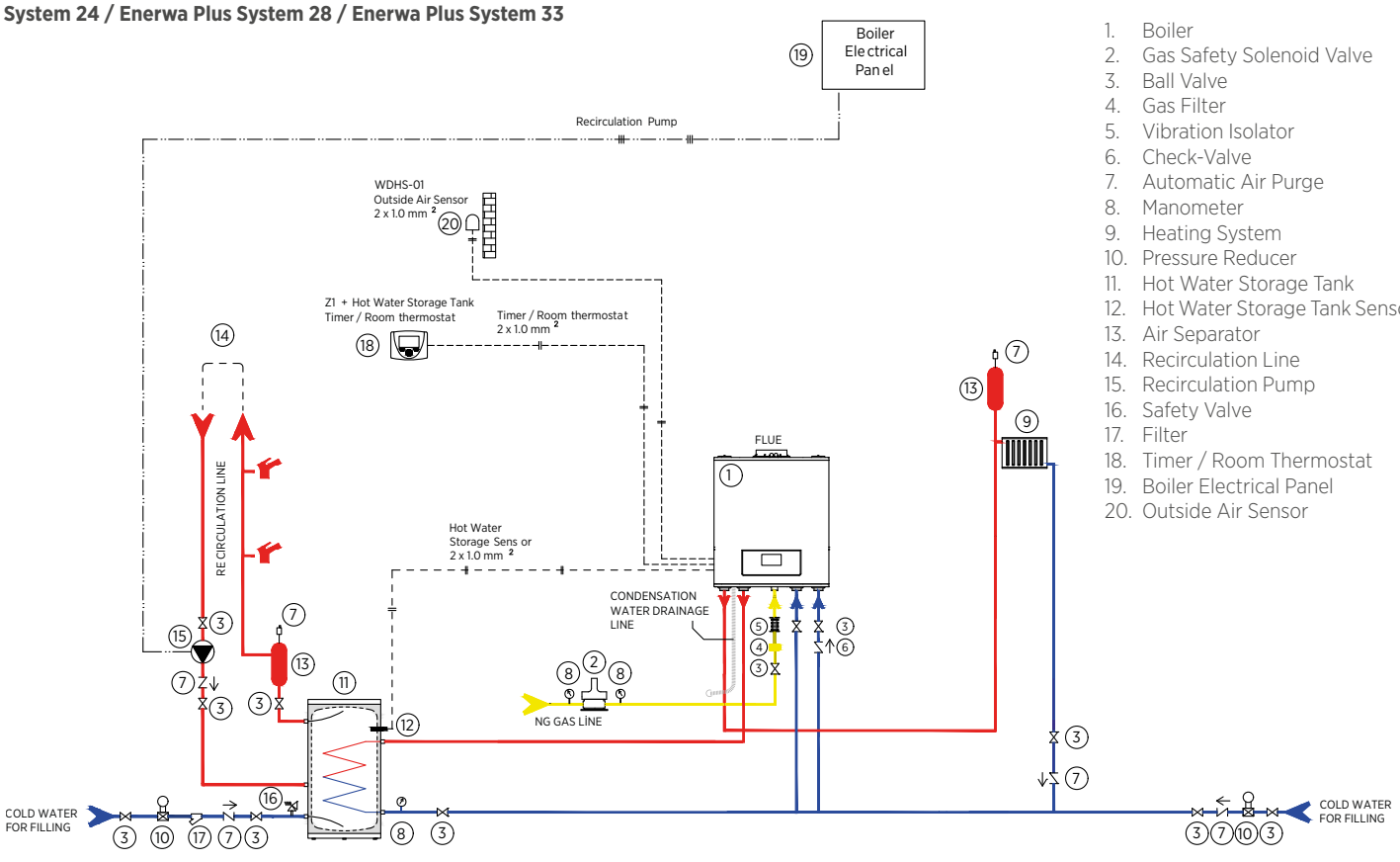
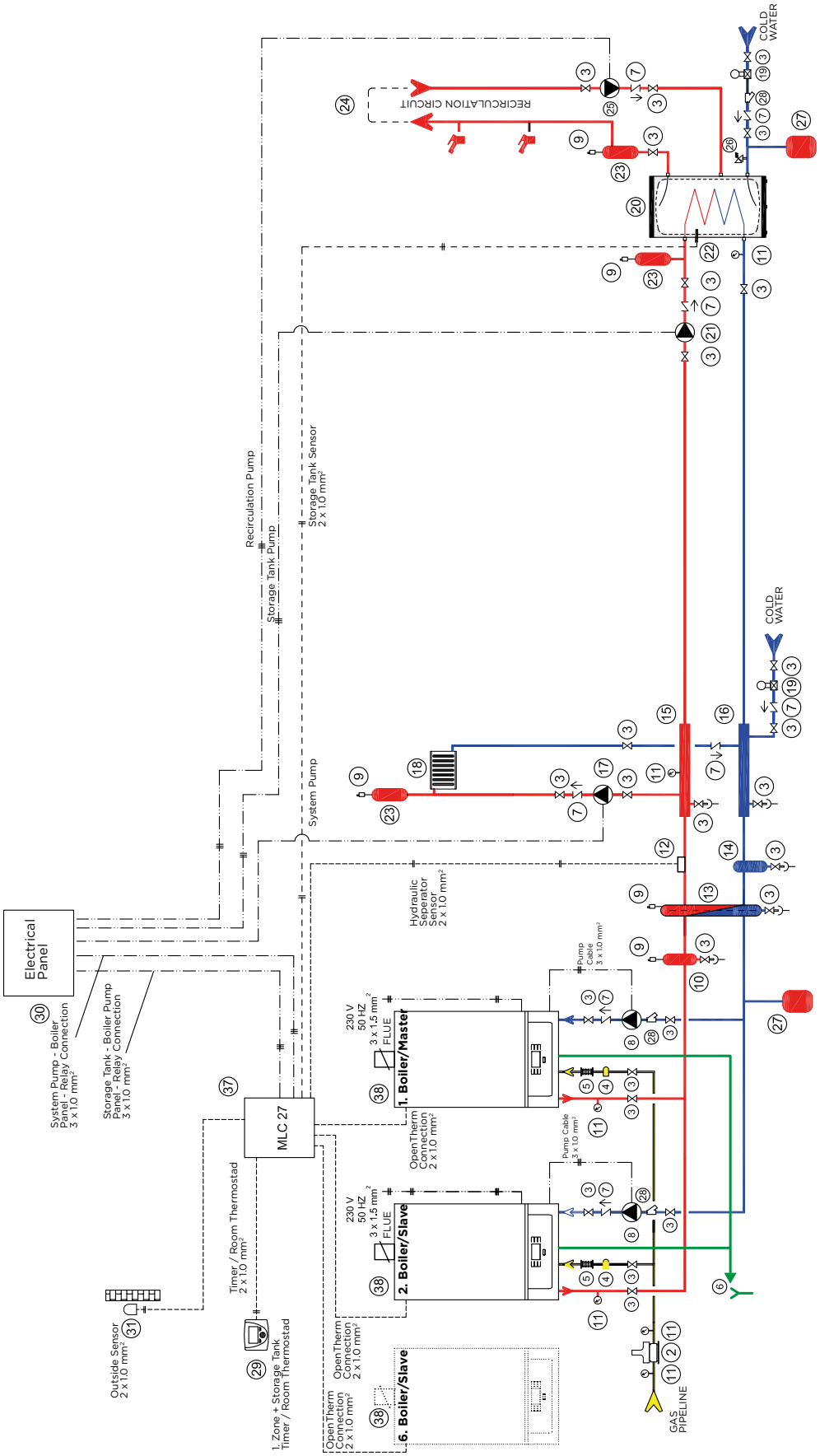


Figure 53 Enerwa System Single Boiler System Diagram (1 HT + Hot Water Storage Tank)

2.7.4. Typical Installation Scheme Cascade System with Enerwa Boilers Plus System 24 / Enerwa Plus System 28 / Enerwa Plus System 33



INSTALLATION EQUIPMENT

1. Boiler
2. Gas Safety Solenoid Valve
3. Ball Valve
4. Gas Filter
5. Vibration Isolator
6. Condensate Water Siphon and Drainage Line
7. Check-Valve
8. Boiler (Return) Pump
9. Automatic Air Vent
10. Sediment-Dirt-Air Separator
11. Manometer
12. Hydraulic Separator Sensor
13. Hydraulic Separator
14. Sediment-Dirt-Separator
15. Heating System Flow Collector
16. Heating System Return Collector
17. Heating System Pump
18. Heating System
19. Pressure Reducer
20. Hot Water Storage Tank
21. Hot Water Storage Tank Pump
22. Hot Water Storage Tank Sensor
23. Air Separator
24. Hot Water Storage Tank Recirculation Circuit
25. Recirculation Pump
26. Safety valve
27. Vessel Tank
28. Filter
29. Timer / Room Thermostat
30. Main Electric Panel
31. Outside Sensor
37. MLC 27 Cascade Module
38. Flue Check Valve

Figure 54 Cascade System with Enerwa System and 1 Radiator (High Temperature) Circuit + Floor Heating (Low Temperature) Circuit and Hot Water Storage Tank Scheme Example

3. USER'S SECTION

3.1. GENERAL WARNINGS FOR USER

3.1.1. Use of Combi & System boiler

If a gas odour is available in the environment, close home entrance line and gas valves of your boiler or close the LPG tank valve or tube valve if bulk gas is used. Do not shut on-off electricity buttons and do not do anything those may create sparks. Call the gas company or Authorized Service. (See 1.3 GAS LEAKAGES)

First start should be performed by the Warmhaus Authorized Service for your safety and preventing void warranty scope. Our Authorized Service will give you required information about use of boiler after performing initial controls of your boiler and starting for the first time.

Perform below given controls prior to starting to use:

- Ensure that radiator/heating system, tap water and gas valves located under your boiler are open, the radiator installation pressure is between 1 - 1,5 bar on the manometer located under the boiler and system air is discharged,
- Gas is available in your gas line (you can control by igniting one of your gas ovens),
- Boiler electrical fuse is open,
- No flammable materials and products are available near to the boiler
- Exhaust gas flue set output is not blocked,
- If a room thermostat or control device is connected, ensure that it is at ON position.

If you will shut-off the boiler for a long period, perform below written operations:

- Discharge the radiator installation water not containing anti-freeze,
- Close boiler electrical fuse, gas valve, radiator and tap water valves!

If you will shut-off the boiler for a short period, perform below written operations:

- Do not close boiler electrical fuse, gas valve, radiator and tap water valves!
- Leave the Combi at Summer position and activate its Frost Protection function,

Shut-off the combi during maintenance and repair operations to be performed around exhaust gas discharge flues. After operations are completed, have the boiler controlled by Warmhaus Authorized Service prior to starting the combi.

Follow below given main rules:

- Do not clean external frame of boiler while boiler is functioning and do not use easily flammable materials.
- Do not hold the boiler with wet hands or feet; also without shoes and with bare feet.
- Do not pick electricity cables.
- In case cables are damaged, shut-off the boiler and fuse switches and do not use the boiler
- Electrical cables of boiler and its accessories should have replaced by the Authorized Service.
- Do not expose the hung boiler to direct vapour those may arise from cooking places.
- Prevent use of boiler by children and inexperienced persons.

3.2. CONTROL PANEL OF ENERWA MODEL COMBI & SYSTEM BOILER DEVICES

Figure 55 Control panel of Enerwa boiler

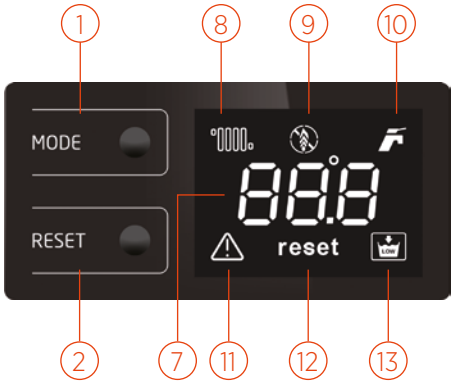


Figure 56 Enerwa boiler control panel screen

BUTTONS and PUSHBUTTONS

1. **MODE**, position adjustment button.
2. **RESET** button.
3. Radiator (CH) water temperature adjustment button.
4. **DHW** temperature adjustment button.
5. Software connection slot.
6. Digital display screen
7. Temperature, data and failure codes display
8. Radiator symbol is seen when combi boiler is functioning in (CH) position. Symbol flashes at heating steps or when radiator temperature adjustment is made.
9. Flame symbol is only seen when boiler is active (burning in combi boiler); when system detects availability of flame. It is seen as symbol in case of failure.
10. **DHW** tap symbol is seen at summer and/or winter position of the combi boiler. Symbol flashes on **DHW** request or when **DHW** adjustment is made.
11. Failure indicator.
12. Failure status **RESET** requirement.
13. Radiator low water pressure.

The temperature value displayed on the combi boiler screen has a ± 3°C tolerance depending on environmental conditions not arising from the combi boiler.

Enerwa boiler screens consist of navy blue coloured backlight LCD screen, 2 buttons, Radiator (3) and Hot Tap Water (4) and 2 pcs, **RESET** (2) and **MODE** (1) pushbuttons.

RESET: It is used for re-starting the combi boiler and eliminating the failure in case of combi boiler failure.

MODE: Winter/Summer/OFF mode is used for position adjustment.

Operating positions and related notifications:

POSITION EXPLANATIONS:

- **CLOSED** or **OFF** (3 digits LCD screen)
- **WINTER»** Radiator temperature + °C + tap + radiator is displayed.
- **SUMMER»** Radiator temperature + °C + tap is displayed.
- **CH ON»** Radiator Temperature + °C + tap + flashing radiator (symbol) is displayed.
- **DHW ON»** DHW temperature + °C + flashing tap (symbol) is displayed.
- **CH FROST PROTECTION»** Radiator temperature
- °C + flashing radiator (symbol) + when boiler is ignited flame (symbol) is displayed.
- **DHW FROST PROTECTION»** CH temperature + °C flashing radiator and tap (symbol) + when boiler ignited flame (symbol)
- **CH/DHW SETTING CHANGE»** CH adjustment change will be activated when radiator symbol rapidly flashes. DHW adjustment change will be activated when tap symbol rapidly flashes.
- Service technician function radiator + tap displayed. (Only for authorized service, wait for the function to end without pressing any button or rotating the button in such case!)

CH: (System) Central Heating **DHW:** Domestic Hot Water

3.2.1. Selection of On/Off/Standby and Summer/Winter Modes

Use V automat switch for interrupting the electrical connection of boiler The temperature value when electricity is supplied to the device is the temperature value of water in the installation.

3.2.2. On/Off/Standby Positions

Use V automat (fuse) switch for shutting ON/OFF the electrical connection of boiler..

When the combi is started for the first time, screen displays nG letter and then a number (for instance 24) indicating kW power of the device

Then, OFF letter is displayed,

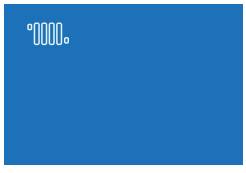
and screenlight is closed. Now, combi is at STANDBY position. The temperature value when electricity is supplied to the device is the temperature value of water in the installation.

3.2.3. Operation at Winter Position

At that position, combi operates both for heating the environment and providing hot tap water.

Radiator temperature is adjusted with button (3) and Domestic Hot Water temperature adjustment is made with button(4) and this temperature is displayed by indicator (7) on the screen.

In order to shuton the combi, hold **MODE** button, whereas a circle starts on the screen, release the button when circle is completed.



In such case, combi initially gets in the Radiator position, its symbol flashes at left top corner of screen and existing radiator installation temperature is displayed on the screen and then screen light turns off. At that position, you can adjust the temperature between 25 – 80 °C with the Radiator temperature adjustment button (3).

You can increase (14) and decrease (15) the temperature with temperature adjustment buttons (see.Figure 48) between 25 – 80 °C, screen lights when buttons are pressed and °C symbol flashes besides the radiator temperature value.

{If you have a ground heating system, as our Authorized Service adjust your combi for **"Low Temperature Operation"**, maximum temperature shall be limited with the Radiator temperature adjustment button (3) (e.g. maximum 47 °C)}.

Domestic Hot Water Adjustment at Winter Position; First press the DHW button (4). At that position, symbol flashes at right top corner of the screen and existing DHW temperature will be seen on the screen and screen light will turn off.

You can adjust the hot tap water temperature value between 35 – 60 °C with (14) and (15) numbered buttons. Screen lights during temperature change, °C symbol flashes besides the DHW temperature value. Screen light turns off after adjustment.

3.2.4. Operation at Summer Position

Combi only operates for heating the Domestic Hot Water at that position. In order to switch to DHW position;

If you are starting the combi for the first time hold **MODE** button, and release the button after the cycle is completed on the screen, initially combi switches to radiator position, its symbol will flash on left top corner of the screen existing radiator installation temperature shall be indicated on the screen and screenlight will be turned-off.

In order to switch to DHW position, hold **MODE** button and release the button after completion of cycle on the screen. At that position, symbol flashes at right top corner of the screen and existing DHW temperature will be seen on the screen and screen light will turn off.

At that position , you can adjust the temperature between 35 – 60 °C with the Domestic Hot Water temperature adjustment button (4). Screen light will be open during adjustment, tap symbol and Domestic Hot Water temperature value will flash. You can adjust the hot tap water temperature value between 35 – 60 °C with (14) and (15) numbered buttons. Screen lights during temperature change, °C symbol flashes besides the DHW temperature value. Screen light turns off after adjustment.

3.2.5. Resetting the Combi (Re-Starting)

In cases that device gives failure/locking errors hold **RESET** button for 3-4 seconds, and release after completing the cycle on the screen. You can reset the device and have it repeated re-start operations

A sample utilisation error; when E81 or E06 failure codes are displayed on the device screen, it has passed to failure since no ignition occurred in your device. In that case, any of gas line valves connected to the combi may be closed, combi will be restarted when closed valve is opened and RESET button is pressed. If combi is not started with resetting, please consult our Authorized Service.

3.2.6. Shutting off the Combi

To bring the combi to OFF position while it is in SUMMER position;

When the **MODE** button is hold, after the cycle is completed while screen light is on,

screen will display **OFF** letter, that means your combi is OFF.

To bring combi in **OFF** position while it is in **WINTER**; hold **MODE** button, after cycle is completed while the screen light is on, combi will be in **SUMMER** position.

Then, upon repeating the same operation, letter will be displayed on screen after completing the cycle and screen light turns off.

Now, your combi is at **STANDBY** position as **OFF**.

3.3. CONTROL PANEL OF ENERWA PLUS COMBI

Figure 57 Control panel of Enerwa Plus boiler

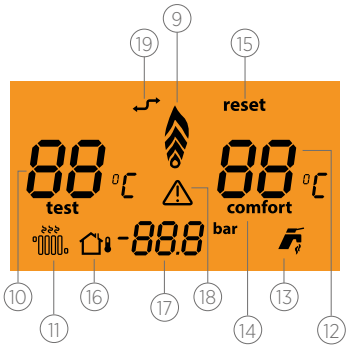


Figure 58 Control panel screen of Enerwa Plus boiler

BUTTONS and PUSHBUTTONS

1. MODE, selection button.
2. RESET button.
3. Radiator (CH) temperature increasing button.
4. Radiator (CH) temperature decreasing button.
5. Software connection slot.
6. Digital display screen
7. Domestic Hot Water temperature increasing button.
8. Domestic Hot Water temperature decreasing button.
9. Flame modulation indicator
10. Radiator (CH) water temperature
11. Radiator (CH) mode operating indicator
12. Domestic Hot Water temperature
13. Domestic Hot Water operating indicator
14. Comfort mode operation
15. Failure status RESET requirement.
16. External Weather Temperature Sensor connection indicato
17. Digital manometer (Radiator pressure 1,3 bar warning symbol; E02 failure code is indicated if the pressure is lower than this value)
18. Failure indicator.
19. OpenTherm (OT) Room Thermostat connection indicator.

The temperature value displayed on the combi boiler screen has a ± 3°C tolerance depending on environmental conditions not arising from the combi boiler. Screen of Enerwa Plus boiler models consist of amber coloured backlight LCD screen and 6 touch sensitive buttons : RESET, MODE, CH (+), CH (-), DHW (+), DHW (-)

RESET: It is used for re-starting the combi boiler and eliminating the failure in case of combi boiler failure.

MODE: It is used for switching between operating modes: Winter / Summer / OFF

CH: (System) Central Heating **DHW:** Domestic Hot Water

Operating modes and related notifications:

OPERATING MODES EXPLANATIONS:

- Service technician function radiator + tap displayed. (Only for authorized service, wait for the function to end without pressing any button in such case!)
- **CLOSED** or **OFF** (3 digits LCD screen)
- **WINTER»** Radiator temperature + °C + tap + radiator is displayed.
- **SUMMER»** Radiator temperature + °C + tap is displayed.
- **CH ON»** Radiator Temperature + °C + tap + flashing radiator (symbol) is displayed.
- **DHW ON»** DHW temperature + °C + flashing tap (symbol) is displayed.
- **CH FROST PROTECTION»** Radiator temperature
- °C + flashing radiator (symbol) + when boiler is ignited flame (symbol) is displayed.
- **DHW FROST PROTECTION»** CH temperature + °C flashing radiator and tap (symbol) + when boiler ignited flame (symbol)
- **CH/DHW SETTING CHANGE»** CH adjustment change will be activated when radiator symbol rapidly flashes. DHW adjustment change will be activated when tap symbol rapidly flashes.
- Service technician function radiator + tap displayed. (Only for authorized service, wait for the function to end without touching any button)

3.3.1. Selection of On/Off/Standby and Summer/Winter Modes

ON/OFF button is not available on the combi boiler panel. Switching on/off should be performed on the V automat switch to be connected to the combi boiler line.

3.3.2. On/Off/Standby Positions

The boiler panel does not have ON/OFF button. The boiler must be turned on/off by using the V circuit breaker connected to the boiler circuit.

When the combi boiler is started for the first time, screen displays nG letter and then a number (for instance 24) indicating kW power of the device.

Then, OFF letter is displayed,

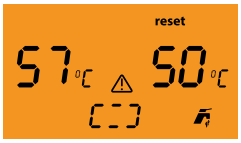
and screenlight is closed. Now, combi boiler is at STANDBY position. The temperature value when electricity is supplied to the device is the temperature value of water in the heating circuit.

3.3.3. Operation at Winter Mode

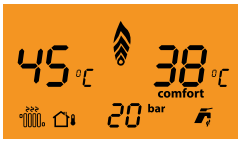
At that position, combi boiler operates both for heating the environment and providing Domestic Hot Water. Radiator (CH) temperature adjustment is made with (3) and (4) numbered buttons in Figure 41, Domestic Hot Water. temperature adjustment is made with (7) and (8) numbered buttons and this temperature is indicated with (10) numbered indicator for Radiator (CH) and with (12) numbered indicator for Domestic Hot Water.

Hold the **MODE** button for switching on the combi boiler when OFF is available on the screen.

A cycle starts on the screen.



release the button when cycle is completed.



In such case, combi boiler initially gets into Radiator position, its symbol flashes on the left bottom corner of screen and tap symbol is seen at right bottom corner. A digital manometer indicating the heating circuit pressure is located at lower middle section of the screen and also actual heating circuit temperature is seen on the screen at the same time and screen light is turned off.

Analogue manometer is located near to right-bottom side of the combi boiler. Installation pressure should be seen in this manometer even in the absence of electricity.

When combi boiler is started, flame modulation symbol is seen at the middle section of the screen. At that position, you can increase [+] and decrease [−] the temperature with radiator (CH) temperature adjustment buttons (see. Figure 40) (3) between 35 – 80 °C, screen lights when buttons are pressed and °C symbol flashes besides the radiator (CH) temperature value.

{If you have a ground heating system, as our Authorized Service adjust your combi boiler for **"Low Temperature Operation"**, maximum temperature shall be limited with the Radiator (CH) temperature adjustment button (3) (e.g. maximum 50 °C)}.

Domestic Hot Water Adjustment at Winter Position; You can adjust the hot tap water temperature value between 35 – 60 °C with (7) and (8) numbered buttons under the RESET button. Screen lights during temperature change, °C symbol flashes besides the DHW temperature value. Screen light turns off after adjustment.

3.3.4. Operation in Summer Mode

Combi Boiler only operates for heating the domestic hot water in this mode.. In order to switch to tap water position;

If you are starting the combi boiler for the first time hold **MODE** button, and release the button after the cycle is completed on the screen, initially combi boiler switches to radiator position, its symbol will flash on left top corner of the screen existing radiator installation temperature and screen light will turn off.

In order to switch to Summer, hold **MODE** button and release the button after completion of cycle on the screen. At that position, symbol flashes at right bottom corner of the screen and actual DHW temperature will be seen on the screen and screen light will turn off.

In this mode, you can adjust the Domestic Hot Water temperature between 35 –60 °C with (7) [+] and (8) [−] numbered buttons below the RESET button.

Screen lights during temperature change, °C symbol flashes besides the DHW temperature value. Adjustment value is confirmed after screen light turned off following the adjustment.

3.3.5. Shutting off the Combi Boiler

To bring the combi boiler to OFF position while it is in SUMMER position;

When the **MODE** button is hold, while screen light is on after the cycle is completed, OFF letter seen on the screen, screen light turns off, now the combi boiler is at **OFF** mode.

To bring the combi boiler to **OFF** position while it is in **WINTER** position;

When the **MODE** button is hold while screen light is on after the cycle is completed, combi boiler will switch to **SUMMER** mode.

Then, when the same transaction is repeated, after cycle is completed OFF is seen on the screen screen light turns off, your combi boiler is now at **STANDBY** position.

3.3.6. Use with Room Thermostat (Optional)

Combi Boiler has initial preparation for remote control connection via environment thermostats being sold as optional sets. All Warmhaus thermostats can be connected with dual-wired cables. Carefully read user's and installation instructions given in the Accessory set. Thanks to control units with room thermostat having program clock, you can control your combi boiler at installation place, operating based on room temperature and also adjust different uses depending on each day of the week.

Important: It is compulsory to have two different lines according to legal regulations being in force regarding electrical installations in case of using a thermostat On/Off on the Remote Control. It is not allowed to use any pipe or hose of the combi boiler as electricity or phone earthing line. That must be ensured prior to making electrical connections of the combi boiler.

General Utilisation Type

- Please consult our authorized services for room thermostats compatible with Warmhaus combi boiler.
- Do not remove device components during operation.
- Do not place at a position allowing direct sunlight exposure or near heat sources.
- Manufacturer company shall not be responsible for below given situations:

  a) Faulty installation

  b) Making intervention on the device by unauthorized persons

  c) Failing to follow instructions given in this book and room thermostat booklets

Maintenance and Service Life: Warmhaus room thermostat should not come into contact with water or excessive humidity. Unless an external damage occurs, the room thermostat does not require any maintenance.

3.3.7. Use of Outside Temperature Sensor (Optional)

Outside Weather Temperature Sensor (optional) can be installed in your boiler by our Authorized Service (see: Installation Section; Accessory Connection Scheme), and you can enable automatic temperature adjustment for the radiator with immediate responses to outside weather temperature changes via smart and comfort operation. Therefore, it maintains an efficient and economic operation by reducing the radiator water temperature when outside weather temperature increases and gradually increasing the radiator water temperature when outside weather temperature decreases and sets you free from making radiator temperature adjustments. This sensor is activated when connected independently from the typology or availability of used thermostat, the relation between output temperature and outside temperature is defined according to curves given in the graphic below based on position of button located on the boiler panel.

After connecting the Outside Sensor, adjustment is made according to average external weather temperature of your province with P04 parameter. Our authorized service will make this adjustment during installation.

3.3.8. Customizing Combi Features

As your combi has an advanced electronic card, operation conditions and certain parameters related with your preferences may be changed by our Authorized Service. Please consult our authorized service when any changes requested in below given parameters.

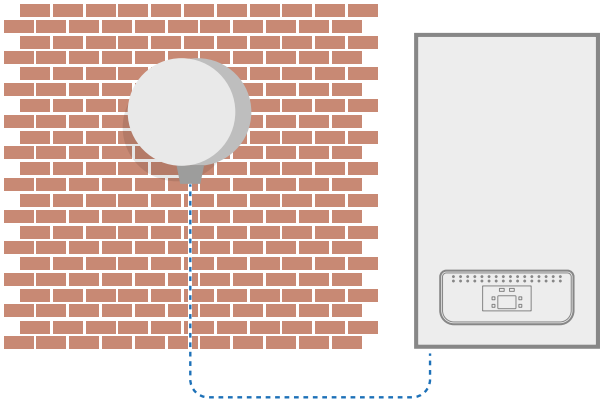


Figure 59 Boiler controlled by Outside Sensor

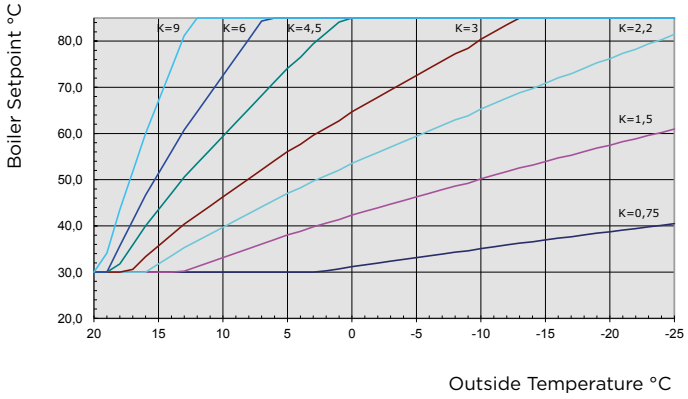


Figure 60 Outside weather temperature sensor operation curves

(P07) Controlled Power Increase Period.

When boiler starts, it uses a controlled period defined for reaching the adjusted maximum heating power. This period is adjusted as 3 minutes as standard and can be increased up to 3 minutes.

(P08) Radiator (Heating) Power.

with actual heat requirement of installation place. Thus, the boiler automatically operates with variable gas flow rates depending on heat load of installation between the minimum and maximum power.

(P21) Lowe temperature region selection.

This parameter should be adjusted as 1 for ground heating or heating systems operating with low temperature. 0 (zero) value is selected for radiator systems to operate at high temperatures as standard.

(P24) Child Protection

This parameter is not active as standard, please consult our Authorized Service for activating the parameter (Protection lock is activated when parameter is adjusted as 1). Buttons are locked after 2 minutes following use of buttons when the function is active. Keylock is opened when the MODE button is hold until cycle is completed for getting off the child protection. Your combi is under control against setting changes upon activation of this feature.

(P40) Radiator ignition delay period.

Boiler device is equipped with an electronic timer for preventing frequent ignition by the boiler during heating stage. This period is adjusted as 2 minutes as standard and can be increased up to 10 minutes.

(P42) Ready Hot Water (Pre-Heating passive/active).

In order to rapidly prepare without waiting for your hot tap water request and reducing the cold water consumption during waiting, grid water is heated in the plate exchanger and ready hot water is stored. This function is displayed on 6 buttons PriwaPlus LCD Screen.

Activation of this function in Enerwa Plus models is performed with parametric adjustment by our Authorized Service depending on your request.

Air Deareation Function

It is possible to activated deaeration function pressing RESET and (–) button for circle time.

The "Air" will be displayed on the screen. Boiler will start the Air Deareation function.

During this function pump and 3-way valve are activated/deactivated in order to have deaeration of the hydraulic plant.

This function ends pushing again RESET and (–) button for circle time or at the end of deaeration time: 12 minutes.

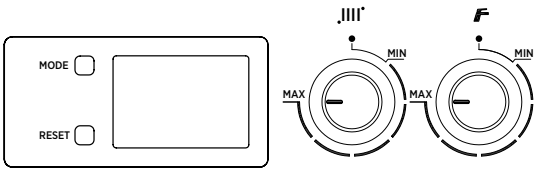


Figure 61 Reset and buttons MAX position

Figure 62 Ending the deairation function

3.4. TROUBLESHOOTING

3.4.1. Failure Codes Table

Error Code	Description of the Error	Malfunction	Probable Cause	Solution(s)
E 01	Intervention of exhaust Thermostat (Open Combustion Chamber boiler)	Boiler does not work, E01 error code flashing on the screen	> Flue Sensor faulty	1-) Reset & Restart boiler 2-) Call for authorised service
E 02	Low water pressure in the system/system parameter wrongly setted	Boiler does not work, E02 error code flashing on the screen	> Water pressure in the boiler not enough	1-) Fill the boiler 1,2-1,5 bar according to manual page 28 or 29 problem will automatically removed 2-) Check if the system pressure 1,2 - 1,5 bar from the manometer located right & bottom of the boiler 3-) Reset & Restart boiler 4-) If problem persist Call for authorised service
E 03	High water pressure in the system	Boiler does not work, E03 error code flashing on the screen	> High Water pressure in the boiler higher than > 2,8 bar	1) First check the filling tap of the boiler and make sure it is closed. 2) During boiler operation, the safety valve may continue to drain water from the drain line, so make sure that this line is connected to a drain line. 3) If your plumbing line has a drain cock; first turn the boiler off and let the pressure drop to 1-1.5 bar, then switch it on again. 4) If the pressure increase occurs again, call an authorized service.
E 04	Domestic heating water temperature sensor faulty	Boiler does not work on DHW mode but still work on Central heating mode, E04 error code flashing on the screen	> Domestic heating water temperature sensor faulty	1-) Call for authorised service at first
E 05	Central heating FLOW temperature sensor faulty	Boiler does not work, E05 error code flashing on the screen	> Central heating FLOW temperature sensor faulty	1-) RESET boiler at first check if problem removed 2-) Check other gas devices if they are working 3-) Check main gas suppy valve is open or not 4-) Check boiler gas suppy valve bellow the boiler is open or not 5-) RESET boiler at first check if problem removed 6-) Call for authorised service
E 06	No ignition	Boiler does not work, E06 error code flashing on the screen	> Gas supply failure	1-) RESET boiler at first check if problem removed 2-) Check boiler central heating valves are open if they are closed open of all 3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open 4-) RESET boiler and check if problem removed 5-) Call for authorised service
E 07	Safety thermostat intervention	Boiler does not work, E07 error code flashing on the screen	> Lack of water on the system > Pump blockage > Pump failiure > Pump harness > Installation blockage	1-) RESET boiler at first check if problem removed 2-) Check boiler central heating valves are open if they are closed open of all 3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open 4-) RESET boiler and check if problem removed 5-) Call for authorised service
E 08	Flame circuit failure	False flame signal from combustion or electrode	> Water blokage on syphon > Electronic board	1-) Call for authorised service
E 09	No water circulation in the system	Boiler does not work, E09 error code flashing on the screen	> Lack of water on the system > Pump blockage > Pump failiure > Pump harness > Installation blockage	1-) RESET boiler at first check if problem removed 2-) Check boiler central heating valves are open if they are closed open of all 3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open 4-) RESET boiler and check if problem removed 5-) Call for authorised service at first
E 11	Gas valve modulator disconnected	Boiler does not work, E11 error code flashing on the screen	> Gas valve harness	1-) Call for authorised service at first 2-) Check gas valve cabeling between board and gas valve
E 13	Exhaust temperature probe over-temperature alarm	Boiler does not work, E13 error code flashing on the screen	> Over temperature flue gas outlet value > 105 C°	1-) Call for authorised service at first
E 14	Exhaust (FLUE) temperature probe fault	Boiler does not work, E14 error code flashing on the screen	> Central heating FLUE temperature sensor faulty	1-) Reset & Restart boiler 2-) Call for authorised service

Error Code	Description of the Error	Malfunction	Probable Cause	Solution(s)
E 15	Fan failure (feedback/ supply)	Boiler does not work, E15 error code flashing on the screen	> Fan harness	1-) Reset & Restart boiler 2-) Call for authorised service at first
E 16	Central heating temperature RETURN sensor faulty	Boiler does not work, E16 error code flashing on the screen	> Central heating RETURN temperature sensor faulty	1-) Reset & Restart boiler 2-) Call for authorised service at first
E 17	Temperature difference between FLOW and LIMIT NTC (Double Heating Probe) faulty	FLOW and LIMIT sensor (DOUBLE NTC) malfunction	> FLOW and LIMIT Sensor (double NTC) faulty	1-) Reset & Restart boiler 2-) Call for authorised service at first
E 19	Water flow selection with water flow meter input reading	Lack of domestic heating water on request	Wrong parameters settled on TsP menu	1-) Call for authorised service at first 2-) Only authorised service must adjust TsP Parameter P01=0 with defalut value
E 20	CH Overtemperature, Temperature Central Heating > TSP 81 value °C	Boiler does not work, E81 error code flashing on the screen	> Lack of water on the system > Pump blockage > Pump failiure > Pump harness > Installation blockage	1-) RESET boiler at first check if problem removed 2-) Check boiler central heating valves are open if they are closed open of all 3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open 4-) RESET boiler and check if problem removed 5-) Call for authorised service
E 21	Delta Temperature Central Heating flow and Return > TSP 82 value °C	Boiler does not work, E21 error code flashing on the screen	> Lack of water on the system > Pump blockage > Pump failiure > Pump harness > Installation blockage	1-) RESET boiler at first check if problem removed 2-) Check boiler central heating valves are open if they are closed open of all 3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open 4-) RESET boiler and check if problem removed 5-) Call for authorised service
E 28	Maximum allowed consecutive lock-out reset reached	Usable RESET number reached.	Too many consecutive lock-out failures (followed by reset) due to other possible causes	1-) Removing power supply reset will be allowed 2-) Check the root cause of Error code to solve 3-) If fault still persists call for authorised service
E 37	Low voltage anomaly	Boiler does not work, E37 error code flashing on the screen	Low voltage < 165 VAC +/- 5% on the supply network operatio mode OR During Au-TO calibration mode < 182 VAC +/- 5%	1-) Call for Electrical supply network provider 2-) Error will remove if supply voltage > 170 VAC +/- 5% 3-) If you seen seen this E37 during calibration calibration can not be complete unless supply voltage > 188 VAC +/- 5%
E 40	Wrong network frequency survey	Boiler does not work, E40 error code flashing on the screen	Wrong frequency survey out of tolererance 50 Hz +/- 5% on the supply net work	1-) Call for Electrical supply network provider 2-) Error will remove if supply frquency 50 Hz +/- 5%
E 41	Loose of flame more than 6 successive times	Boiler does not work, E41 error code flashing on the screen	> Too many domestic heat water request in short period (1 min) > Low gas pressure	1-) Call for authorised service at first
E 42	Buttons anomaly	Boiler does not work, E42 error code flashing on the screen	Wrong parameters settled on TsP menu	1-) Call For service
E 43	Opentherm ommunication error	Boiler does not work, E43 error code flashing on the screen after 1 minute of communucation error	Opentherm line disconnected	1-) Remove energy from boiler and re energised E43 will be removed and boiler & buttons will get back to funcitional 2-) Replace the room unit batteries with the fresh ones and reset from room unit 3-) Check cabeling between boiler and room unit and re connect if any disconnection, if connection set up succesfully then connection symbol page 37 symbol 19 will be activated on the screen 4-) Call for authorised service to re connect openterm connection
rE 44	Cumulated intermittent ignition without reaching burner ignition.	Boiler does not work, E44 error code flashing on the screen	> Intermittent contacts on harness > Hammer effect on water net > Too many request from in shotr time from out side room units or thermosad bridge etc.	1-) Reset & Restart boiler 2-) Call for authorised service
E 62	Calibration request	Boiler does not work, E62 error code flashing on the screen	> Calibration not done > Replacing board but not service key from the board dismantled > Service key damaged or disconnected > Updating Software (probable)	1-) Call For service

Error Code	Description of the Error	Malfunction	Probable Cause	Solution(s)
E 71	Condensate Line / Siphon Clogging	Boiler does not work, E71 error code flashing on the screen	> Blockage in the Condensate Siphon or pipe > Aging, wetting or oxidisation of the electrode. > The electronic board cable entry may be wet.	1-) Check syphone against water blokage. 2-) If fault still persists call for authorised service.
E 72	Delta T heating at ignition not occurred	Boiler does not work, E72 error code flashing on the screen	> FLOW OR RETURN Sensor not on position	1-) Call for authorised service at first 2-) Check RETURN and FLOW sensor on position.
E 74	Second CH temperature Probe faulty	Boiler does not work, E74 error code flashing on the screen	> FLOW and LIMIT Sensor (double NTC) faulty	1-) Reset & Restart boiler 2-) Call for authorised service.
E 77	Absolute current values reached	Boiler does not work, E77 error code flashing on the screen	> Gas inlet pressure > Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Cabeling disconnections > Combustion calibration > Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 78	Max regulation current value reached	Boiler does not work, E78 error code flashing on the screen	> Gas inlet pressure > Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Cabeling disconnections > Combustion calibration > Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 79	Min regulation current value reached	Boiler does not work, E79 error code flashing on the screen	> Gas inlet pressure > Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Cabeling disconnections > Combustion calibration > Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 80	Problem on electronic gas valve driver	Boiler does not work, E80 error code flashing on the screen	> Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 81	Lock-out for combustion problem at starting (1)	Boiler does not work, E81 error code flashing on the screen	> Strong flue blokage > Combustion problem > Wrong flue > Gas inlet pressure > Aging or rust on the electrode > Recirculation on fluegas path > Electrode position > Combustion calibration	1-) Call for authorised service at first
E82	Lock-out for combustion problem on Lawa / Lawa Plus models	Boiler does not work, E82 error code flashing on the screen	> Recirculation on fluegas path > Blokage on flue or wrong flue > Combustion calibration	1-) If there is strong wind (ie.wind storm) wait until the wind storm stop then RESET the boiler 2-) IF problem persist Call for authorised service
E83	Temporary bad combustion fault problem on Lawa / Lawa Plus models	Boiler does not work, E83 error code flashing on the screen	> Recirculation on fluegas path > Blokage on flue or wrong flue > Combustion calibration	1-) If there is strong wind (ie.wind storm) wait until the wind storm stop then RESET the boiler 2-) IF problem persist Call for authorised service
E 84	Capacity reduction for detected (supposed) low gas inlet pressure	Boiler does not work, E84 error code flashing on the screen	> Gas inlet pressure > Combustion problem	1-) If there is strong wind (ie.wind storm) wait until the wind storm stop then RESET the boiler 2-) IF problem persist Call for authorised service
E 87	Problem on electronic gas valve circuit	Boiler does not work, E87 error code flashing on the screen	> Cabeling disconnections > Gas valve failiure	1-) Call for authorised service at first

Error Code	Description of the Error	Malfunction	Probable Cause	Solution(s)
E 88	Fault of electronic gas valve managing circuit	Boiler does not work, E88 error code flashing on the screen	> Cabeling disconnections > Gas valve failiure	1-) Call for authorised service at first
E 89	Problem on combustion feedback signal	Boiler does not work, E89 error code flashing on the screen	> Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Cabeling disconnections > Combustion calibration > Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 90	Unable to regulate combustion	Boiler does not work, E90 error code flashing on the screen	> Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Cabeling disconnections > Combustion calibration > Electronic board > Gas valve failiure	1-) Call for authorised service at first
E 92	Air compensation active	Boiler does not work, E91 error code flashing on the screen	> Possible wind precence > Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Combustion calibration > Min power adjustment	1-) Call for authorised service at first
E 93	Unable to regulate combustion (temporarily)	Boiler does not work, E93 error code flashing on the screen	> Aging or rust on the electrode > Recirculation on fluegas path > Blokage on flue or wrong flue > Electrode position > Combustion calibration > Gas valve failiure > Electronic board	1-) Call for authorised service at first
E 94	Possible low gas pressure or exhaust recirculation	Boiler does not work, E94 error code flashing on the screen	> Gas inlet pressure LOW > Recirculation on fluegas path > Blokage on flue or wrong flue > Aging or rust on the electrode > Electrode position > Combustion calibration > Gas valve failiure > Electronic board	1-) Call for authorised service at first
E 95	Intermittent combustion value	Boiler does not work, E95 error code flashing on the screen	> Harness on electrode and earth > Aging or rust on the electrode > Electrode position > Combustion calibration	1-) Call for authorised service at first
E 96	Flue or air suction way blockage	Boiler does not work, E96 error code flashing on the screen	> Blokage on flue > Blokage on air suction path	1-) Call for authorised service at first
E 98	SW error, board start-up error fault	Boiler does not work, E98 error code flashing on the screen	> Boiler software problem	1-) Call for authorised service at first
E 99	Generic fault	Boiler does not work, E99 error code flashing on the screen	> Boiler electronic hardware problem	1-) Reset & Restart boiler 2-) Call for authorised service at first

(1) Call the Authorized Service if failure continues.

(2) 81 numbered failure corresponds any blocking in the exhaust gas pipe. In such case, you should consult the authorized service technician before re-starting the combi.

3.5. RECOMMENDATIONS FOR ECONOMICAL USE OF BOILER

Your boiler is adjusted at ECO mode for economic use, we recommend not to change.

Correct Capacity Selection

Heat loss calculation of the boiler location should be made correctly and boiler capacity should comply with this calculation. Devices not having adequate capacity shall give late responses to heating requests, devices with higher capacity may cause discomfort and more fuel consumption as they more frequently opened and closed. Therefore, boiler capacities should be selected according to the place used.

Insulation

Insulation of your building is the most important item reducing the heat loss and gas consumption. However, as your boiler has the highest thickness insulation of its class, heat loss is minimized.

Radiators

Ensure balancing our pressure distribution of your radiator installation within the house by making reduction adjustments from radiator valves. Placing furnitures in front of radiators prevents air circulation and causes discomfort and more fuel consumption. Reducing radiator valves of rooms not used for a long period or if thermostatic radiator valve is used, bringing to the lowest position then, closing room doors will provide saving.

Domestic Hot Water

Always adjust the domestic hot water temperature as (38-42 °C). Adjustment of temperature adjuster as low ensures a considerable power saving. In addition, high domestic hot water temperatures cause strong calcification and that negatively affects operation of the device (for instance, longer heating periods, less flow rate).

Thermostatic Radiator Valves

You can both acquire savings and comfort by balancing the heat distribution among the house by using Thermostatic Radiator Valves.

Room Thermostats

Your boiler will operate more economically as you will have the chance to adjust requested room temperature according to comfort and economy timings via room thermostats. Thus, you can adjust temperature of your room as you wish, and also you can acquire approximately 6% power saving with every degree of temperature decrease.

Ventilation

Do not leave windows slightly open for ventilating room/rooms. In such case, continuous heat loss will occur and not having any certain improvement in the room air.

Fully opening windows for a short period provides a better result. Bring thermostatic radiator valves to lowest position when ventilating rooms.

Cleaning And Maintenance

Attention: to preserve the boiler's integrity and keep the safety features, performance and reliability, which distinguish it, unchanged over time, you must at least execute maintenance operations on a yearly basis in compliance with what is stated in the relative point at “annual check and maintenance of the appliance”, in compliance with national, regional, or local standards in force.

We recommend stipulating a yearly cleaning and maintenance contract with an authorised local firm.

3.6. ISSUES REQUIRED TO BE TAKEN INTO CONSIDERATION FOR WARRANTY CONDITIONS

This warranty given by Warmhaus does not cover elimination of failures arising from abnormal use of the product and also out of the warranty scope for below given situations

1. Damages and failures occurring in devices which are not first started by Warmhaus Authorized Services,
2. Damages and failures arising from use of the product contrary to items given in User's Manual and using out of its intended purpose.
3. Damages and failures arising from wrong type selection,
4. Damages and failures arising from maintenance and repairs performed by persons other than our Authorized Services,
5. Damages and failures occurring due to transportation, unloading, loading, storing, external physical (Crushing, scratches, fractures) and chemical factors following delivery of the Product,
6. Damages and failures arising from fire and lightning,
7. Damages and failures arising from false fuel use and fuel characteristics,
8. Low or excessive voltage; unearthed socket usage;
9. Damages and failures arising from faulty electricity installations,
10. Damages and failures arising from failing to perform timely annual maintenance
11. And cleaning, defined periodical maintenance operations by our Authorized Services,
12. Damages and failures those may occur in the device or usage area due to other products and accessories used in a system with the device subject to the Warranty,
13. Damages and failures arising from frost/icing or occurring due to using in the outdoor places (open balcony, etc.).
14. Altering the Registry Label and Warranty Certificate,
15. Damages and failures arising from using water out of the water values defined in device user's guide,

Elimination of above mentioned failures shall be performed against payment.

Our distinguished customer,

we believe the importance of providing good products to you as well as rendering good services.

Recommendations and Data to be Followed:

1. When first start of your boiler is done, please keep the technical service document given by the Aythorized Service and a copy of device invoice and the Warranty Document approved by your Authorized Dealer.
2. Use your product according to principles of installation and operation guide.
3. Keep the "SERVICE DOCUMENT" if received from your service technician following the service taken. The Service Document will be beneficial for you in any problems those may occur in your device in the future.

4. TECHNICAL DATAS

TECHNICAL DATA	UNIT	Enerwa 24 & Enerwa Plus 24 & Enerwa Plus System 24				Enerwa 28 & Enerwa Plus 28 & Enerwa Plus System 28			
Gas Circuit		METHANE	METHANE	BUTAN	PROPANE	METHANE	METHANE	BUTAN	PROPANE
Gas Type		G20	G25	G30	G31	G20	G25	G30	G31
Gas Supply Pressure	mbar	20	25	30	37	20	25	30	37
Gas Consumption at Maximum	m^3/h	2,38*	2,85	0,728	0,92	3,05*	3,47	0,857	1,180
Gas Consumption at Minimum	m^3/h	0,37*	0,43	0,107	0,105	0,397*	0,456	0,109	0,144
Premix System Operating Method		Gas Adaptive				Gas Adaptive			
Modulation Range		1:10				1:10			
Primary / Combustion Heat Exchanger Material		Stainless Steel				Stainless Steel			
Stainless Steel		G20	G25	G30	G31	G20	G25	G30	G31
(80/60 °C) Efficiency at Maximum Heat Output	%	98,03	97,84	97,48	97,76	97,88	98,15	97,57	98,59
(50/30 °C) Efficiency at Maximum Heat Output	%	105,11	105,34	101,95	103,63	105,0	104,26	102,89	104,67
Efficiency at 30% load at (36/30°C)	%	108,29	108,38	104,28	108,29	107,54	107,83	105,37	107,36
Seasonal Space Heating Energy Efficiency (ηs) (Class)	%	92 (Class A)				92 (Class A)			
Useful efficiency at 30% of rated heat output and low temperature regime (1) (η1)	%	97,5			97,7	96,8			96,9
Useful efficiency at rated heat output and high temperature regime (2) (η4)	%	87,6			87,7	88			88,6
Radiator Circuit		G20	G25	G30	G31	G20	G25	G30	G31
Maximum heat input (Qn)	kW	24,25	24,25	24,25	24,25	28,7	29	28,7	29,4
Minimum heat input (Qn)	kW	3,5	3,5	3,5	2,8	3,75	3,82	3,75	3,59
Maximum Heat Output Pn (80/60 °C) (P4)	kW	23,7	23,7	23,6	23,7	28	28	28	28,01
Minimum Heat Output Pn (80/60°C)	kW	3	3	3,2	2,5	3,5	3,5	3,25	3,45
Maximum Heat Output Pn (50/30°C)	kW	25	25	24,33	25	30	30	29,5	28,63
Minimum Heat Output Pn (50/30°C)	kW	3,6	3,6	3,55	2,9	3,90	3,90	3,74	3,59
Temperature selection range (min÷max) high temperature	°C	25÷80				25÷80			
Temperature selection range (min÷max) low temperature	°C	25÷47				25÷47			
Operating Pressure (Maximum)	bar	3				3			
Operating Pressure (Minimum)	bar	0,5				0,5			
Expansion Vessel Volume	bar	8				10			
Pump pressure (at 500 l/h - 1000 l/h flow rate)	m H2O	7.5 / 6,0				7.5 / 6,0			
Max. Pump Flow Rate	l/h	2350-2400				2350-2400			
Pump Energy Efficiency Index (EEI)	EEI	≤ 0,20				≤ 0,20			
Domestic Hot Water Circuit		Enerwa 24 & Enerwa Plus 24				Enerwa 28 & Enerwa Plus 28			
Maximum DHW Heat Input	kW	31,15				35			
Minimum DHW Heat Input	kW	3,5				3,75			
Max. Domestic Hot Water flow rate (Δt: 35 °C)	l/min	12,76				14,33			
Max. Domestic Hot Water flow rate (Δt: 30 °C)	l/min	14,80				16,80			
Max. Domestic Hot Water flow rate (Δt: 25 °C)	l/min	17,86				20,07			
Min. Domestic Hot Water flow rate (for the DHW function activation)	l/min	1,5				1,5			
Maximum Water Pressure	bar	10				10			
Minimum Water Pressure	bar	0,5				0,5			
Temperature Adjustment Range (Max÷Min)	°C	35 - 60				35 - 60			
Electricity Circuit		Enerwa 24 & Enerwa Plus 24 & Enerwa Plus System 24				Enerwa 28 & Enerwa Plus 28 & Enerwa Plus System 28			
Electricity Supply (Frequency: 50 Hz)	V AC	230 V +%10; -%15				230 V +%10; -%15			
Electricity Consumption (Max./Min.)	Watt	98/87				106/87			
Protection Index	IP	IPX5D				IPX5D			
Exhaust Gas Circuit		G20	G25	G30	G31	G20	G25	G30	G31
(80/60 °C) Exhaust Gas Temperature (Min. / Max.)	°C	69,3/70,5	64,6/70,2	57,1/70,0	59,9/69,7	60,8/66,1	55,1/64,6	56,6/67,2	57,6/65,0
(50/30 °C) Exhaust Gas Temperature (Min. / Max.)	°C	48,5/50,5	47,7/49,4	42,8/57,0	47,0/50,5	44,5/44,5	44,0/44,1	42,2/49,8	43,4/44,9
Maximum exhaust Gas Temperature [Maximum DHW mode]	°C	70				70			
NOX	Class	6				6			
Weighted Value of NOx (GCV)	mg/kWh	20	19	42	31	41	31	43	49
Flue mass flow rate (60/80°C - Qn) Nominal/Minimum	g/s	10,32/1,6	10,78/1,62	10,58/1,26	9,91/1,18	13,23/1,72	13,13/1,73	12,29/1,56	12,71/1,62
Flue mass flow rate (60/80°C - Qn) [Maximum DHW mode]	g/s	14,01	14,04	13,58	12,71	15,53	15,82	14,91	14,65
Fan Head Loss	Pa	35 ÷ 140				35 ÷ 140			
General									
Dimensions (Height x Width x Depth)	mm	725 x 420 x 288				725 x 420 x 288			
Sound Level	dB (A)	52				54			
Hydraulic Group Material		Brass				Brass			
Net / Packed Device Weight	кг	32.5 / 34.7				33.7 / 35.9			
Type									
Category									

Enerwa 33 & Enerwa Plus 33 & Enerwa Plus System 33				Enerwa Plus 42				Enerwa Plus 45			
METHANE	METHANE	BUTAN	PROPANE	METHANE	METHANE	BUTAN	PROPANE	METHANE	METHANE	BUTAN	PROPANE
G20	G25	G30	G31	G20	G25	G30	G31	G20	G25	G30	G31
20	25	30	37	20	25	30	37	20	25	30	37
3,402	4,127	0,992	1,302	4			1,61	4,19			1,66
0,434	0,524	0,133	0,168	0,7			0,70	0,72			0,28
Gas Adaptive				Gas Adaptive				Gas Adaptive			
1:10				1:06				1:06			
Stainless Steel				Stainless Steel				Stainless Steel			
G20	G25	G30	G31	G20	G25	G30	G31	G20	G25	G30	G31
98,00	98,23	97,61	98,04	97,41			97,29	97,41			97,29
105,4	105,53	103,06	105,43	105,0			104,67	105,4			105,43
107,2	107,06	104,62	106,98	107,37			105	107,37			105
92 (Class A)				92 (Class A)				92 (Class A)			
96,9			96,6	96,6			96,6	96,6			96,6
88,2			88	87,87			88,71	87,87			88,71
G20	G25	G30	G31	G20	G25	G30	G31	G20	G25	G30	G31
33,7	33,7	33,7	33,7	39,25			39,25	42,50			42,50
4,35	4,35	4,35	4,35	7,2			7,2	7,2			7,2
33,02	33,02	32,8	33,02	38,2			38,2	41,4			41,3
4,1	4,1	4,1	4,1	7			7,0	6,95			6,95
35,5	35,5	34,7	35,5	42			42	45			44
4,60	4,60	4,60	4,60	7,6			7,5	7,6			7,5
25÷80				25÷80				25÷80			
25÷47				25÷47				25÷47			
3				3				3			
0,5				0,5				0,5			
10				10				10			
7.5 / 6,0				7.5 / 6,0				8.0 / 8.0			
2350-2400				2400				2800			
≤ 0,20				≤ 0,20				≤ 0,20			
Enerwa 33 & Enerwa Plus 33				Enerwa Plus 42				Enerwa Plus 45			
38,8				39,5				42,5			
4,35				7,2				7,2			
15,89				15,69				16,88			
19,00				18,31				19,7			
22,25				20,07				22,25			
1,5				1,5				1,5			
10				10				10			
0,5				0,5				0,5			
35 - 60				35 - 60				35 - 60			
Enerwa 33 & Enerwa Plus 33 & Enerwa Plus System 33				Enerwa Plus 42				Enerwa Plus 45			
230 V +%10; -%15				230 V +%10; -%15				230 V +%10; -%15			
115/90				149 / 90				154 / 90			
IPX5D				IPX5D				IPX5D			
G20	G25	G30	G31	G20	G25	G30	G31	G20	G25	G30	G31
56,8/62,3	56,9/62,2	54,4/66,7	58,2/67,4	59,5/65,3			54,4/66,10	60,5/66,3			55,4/67,10
46,8/44,2	46,7/44,5	40,6/48,4	48,7/48,9	33,5/41,7			34,2/43,2	34,5/42,7			35,2/44,2
70				62				64			
6				6				6			
34	32	43	53								
14,76/1,88	15,54/1,97	14,28/1,97	14,03/1,81	19 / 3			19 / 3	19 / 3			19 / 3
18,36	18,54	17,00	16,65								
35 ÷ 140											
725 x 420 x 288				725 x 420 x 385				725 x 420 x 385			
50				58				58			
Brass				Brass				Brass			
34.5 / 36.7				37.5 / 39.5				38.0 / 40.0			
C 13, C 33, C53, C63, C83, C93, C103, B23, B23P, B33											
I2H, I2E, I2E(S) - (G20=20 мбар), I2E+, I2L, I2ELL - (G25=25 mbar) I3P - (G31=37 mbar)											
II2ELL3B/P, II2H3B/P - (G30=30 mbar)											

4.1. PRODUCT FICHE & ERP DATA

All information in the ERP Data Sheet & Product Data Sheet is based on the test results of the SZU Test / BRNO laboratories.

Product Data Sheet (according to EU regulation No 811/2013 and 814/2013)

Boiler Models		Enerwa 24 Enerwa Plus 24	Enerwa 28 Enerwa Plus 28	Enerwa 33 Enerwa Plus 33	Enerwa 33 Enerwa Plus 33	Enerwa Plus 42	Enerwa Plus 45
Space heating - Temperature application		High / Medium / Low	High / Medium / Low	High / Medium / Low	High / Medium / Low	High / Medium / Low	High / Medium / Low
Water heating - Declared load profile		XL	XL	XL	XXL	XL	
Seasonal space heating energy efficiency class		A	A	A	A	A	A
Water heating energy efficiency class		A	A	A	A	A	A
Rated heat output (Prated or Psup)	kW	24	28	33	33	38	41
Space heating - annual energy consumption	GJ	42	49	55	55	70	75
Water heating - Annual energy consumption	kWh (*)	37	34	39	42	38	38
	GJ (**)	18	18	18	23	18	18
Seasonal space heating energy efficiency	%	92	92	92	92	92	92
Water heating energy efficiency	%	84	83	84	82	81	81
Sound power level LWA indoors	dB	52	54	50	50	58	58
Option to only operate during low demand periods						—	—
Specific precautions for assembly, installation and maintenance		Before any assembly, installation or maintenance the user and installation manual has to be read attentively and to be followed					

All the data that is included in the product information was determined by applying the spesifications of the relevant European directives. Differences to product information listed elsewhere may result in different test conditions. Only the data that is contained in this product information is applicable and valid.

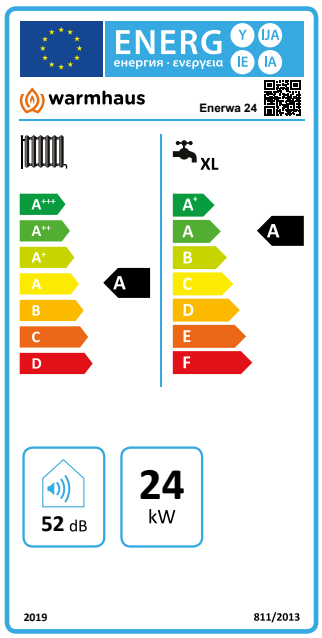
(*) Electricity (**) Fuel

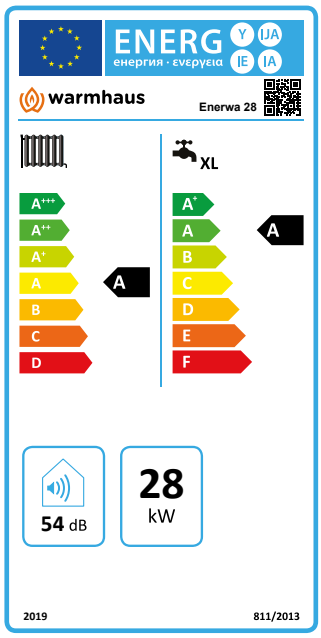
ErP DATA (according to EU regulation No 813/2013 and 814/2013)

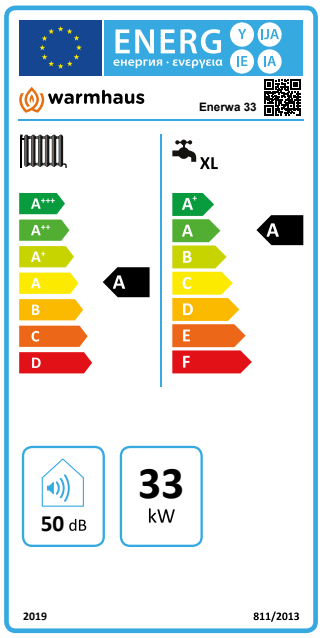
Boiler Models			Enerwa 24 Enerwa Plus 24	Enerwa 28 Enerwa Plus 28	Enerwa 33 Enerwa Plus 33	Enerwa 33 Enerwa Plus 33	Enerwa Plus 42	Enerwa Plus 45
Water heating - Declared load profile			XL	XL	XL	XL	XL	XL
Reated Heat Output	Prated	kW	24	28	33	33	41	38
Useful heat output at rated heat output and high temperature regime (2)	P4	kW	23,7	28,0	33	33	41	38
Useful heat output at 30% of rated heat output and low temperature regime (1)	P1	kW	4,16	4,87	5,71	5,71	7,91	7,91
Seasonal Space Heating Energy Efficiency	ηs	%	92	92	92	92	92	92
Useful efficiency at rated heat output and high temperature regime (2)	η4	%	87,57	88,02	88,21	88,21	87,87	87,87
Useful efficiency at 30% of rated heat output and low temperature regime (1)	η1	%	97,48	96,82	96,87	96,87	96,75	96,75
Auxiliary Electricity Consumption								
Full load	elmax	kW	0,43	0,46	0,54	0,54	0,083	0,083
Part load	elmin	kW	0,11	0,12	0,13	0,13	0,01	0,01
Standby mode	PSB	kW	0,005	0,005	0,005	0,005	0,004	0,004
Other Items								
Standby heat loss	Psıby	kW	0,057	0,057	0,057	0,057	0,043	0,043
Ignition burner power consumption	Pign	kW	0,000	0,000	0,000	0,000		
Space heating - annual energy consumption	QHE	GJ	42	49	55	55	75	70
Sound power level, indoors	LWA	dB	52	54	50	50	58	58
Emissions of nitrogen oxides	NOx	mg/kWh	20	41	34	34	27	25
Domestic Hot Water Parameters								
Declared Load Profile			XL	XL	XL	XXL	XL	XL
Daily electricity consumption	Qelec	kWh	0,169	0,157	0,177	0,190	0,174	0,174
Annual electricity consumption*	AEC	kWh	37	34	39	42	38	38
Water Heating Energy Efficiency	hwh	%	84	83	84	82	81	81
Daily fuel consumption	Ofuel	kWh	23.152	23.615	23.078	29.317	24,191	24
Annual fuel consumption	AFC	GJ	18	18	18	23	18	18
Condensing boiler			Yes	Yes	Yes	Yes	Yes	Yes
Low temperature boiler			Yes	Yes	Yes	Yes	Yes	Yes
Combination boiler			Yes	Yes	Yes	Yes	Yes	Yes
B1 Boiler			No	No	No	No	No	No
Room boiler with combined heat and power			Yes	Yes	Yes	Yes	Yes	Yes
Auxiliary boiler			No	No	No	No	No	No
Brand Name	WARMHAUS							
Manufacturer adress	Warmhaus ısıtma ve Sogutma Sistemleri San. Tic. A.Ş. Taşpınar Mahallesi, TEKNOSAB 1. Cadde No: 12, 16700, Karacabey / Bursa / Türkiye							
Warnings	All spesific precautions for assembly, installation and maintanance are described in the operating and installation manual. Read and follow the operating and installation manual.							
	Read and follow the operating and installation manual regarding assembly, installation, maintenance, removal, recycling and/or disposal.							

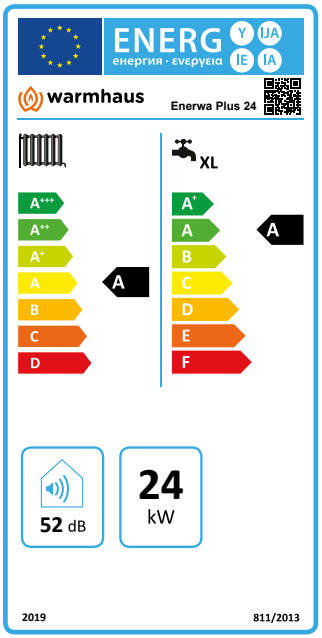
* for avarage climatic conditions
(1) Low temperature means for condensing boilers 30 oC, for low temperature boilers 37 oC and for other heaters 50 oC return temperature (at heater inlet).
(2) High temperature regime means 60 oC return temperature at heater inlet and 80 oC feed temperature at heater outlet.
All information in the ErP data sheet and the SZU Test/ BRNO Laboratories product data sheet is based on test results.

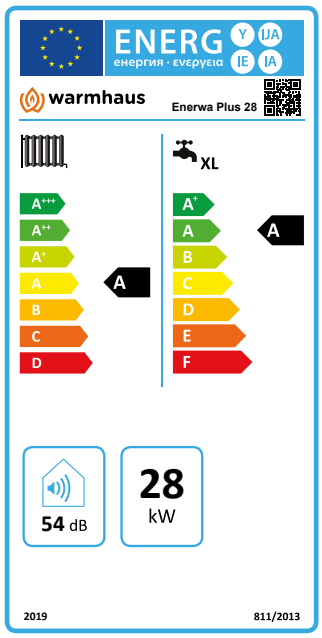
4.2. ENERGY LABEL

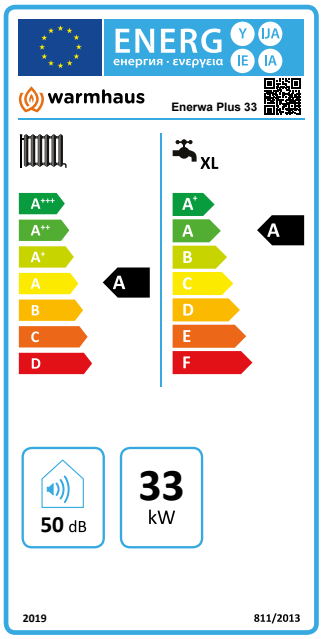


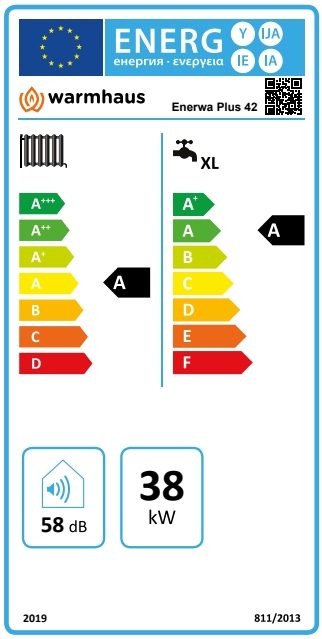


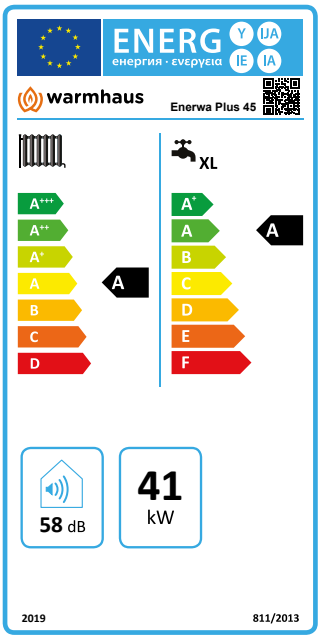












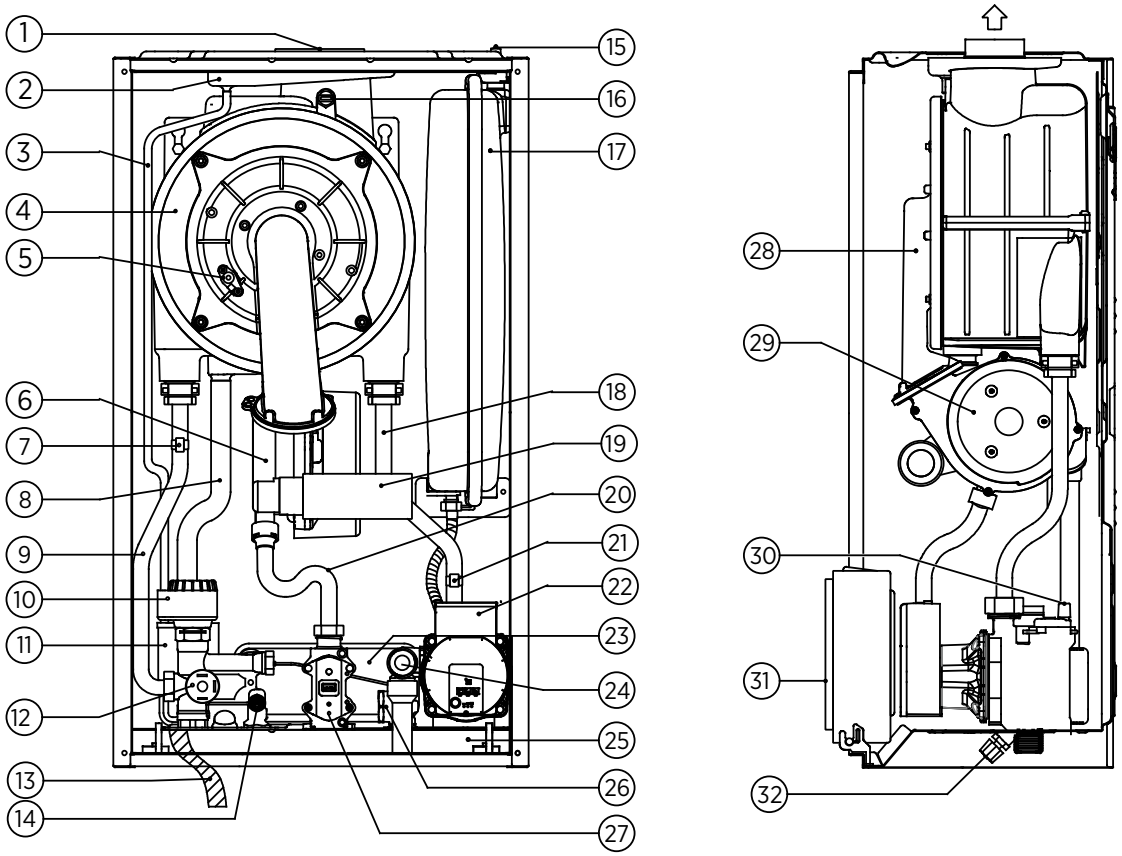
5. FIRST STARTING OF BOILER

5.1. CONTROLS FOR INITIAL OPERATION OF BOILER

In order to keep the boiler within scope of warranty; first start must be performed by Warmhaus Authorized Service. Below given initial preparations should be performed prior to authorized service appointment request:

- Gas opening approval certificate should be taken from the local gas company for your gas line,
- Boiler electricity connection should be made via 2 or 3 Amps fuse.
- Ensure that no electricity interruption is available at your home.
- Ensure that no grid water interruption is available at your home.
- Ensure that water is supplied to radiator installation and 1,2 - 1,5 bar pressure is seen in the boiler manometer.

5.2. PARTS COMPRISING THE COMBI BOILER PART

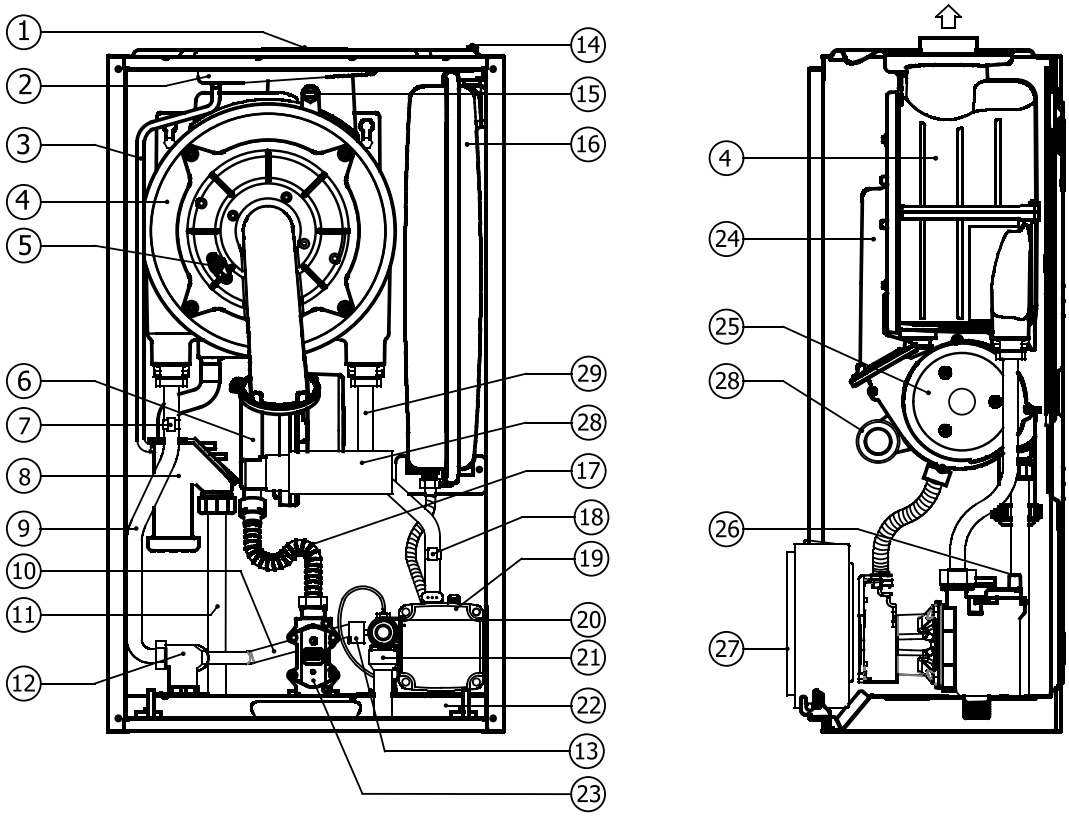


1- Flue Outlet
2- Flue condensation Pan
3- Condensation Water Discharge Hose
4- Main Heat Exchanger
5- Ignition Electrode
6- Air gas Mixing Unit (AGM)
7- CH Flow NTC Sensor
8- Condensation water Discharge Hose
9- CH Flow Pipe
10- Three Way Motorized Valve
11- Condensation Water Trap (Siphon)
12- Low Pressure Sensor
13- Condensate Discharge Hose
14- DHW NTC Sensor
15- Expansion Tank Air Valve
16- Flue Gas NTC Sensor
17- Expansion Vessel
18- CH Return Pipe
19- Slincer
20- Gas Inlet Pipe
21- CH Return NTC Sensor
22- Pump
23- DHW Plate Heat Exchanger
24- 3 Bar safety Valve
25- Manometer
26- Tap Water Flow (Turbine) Sensor
27- Gas valve
28- Burner Gas Manifold
29- Fan
30- Automatic Air Relief Valve
31- Control Panel
32- Filling Tap

Figure 63 Components of combi boiler

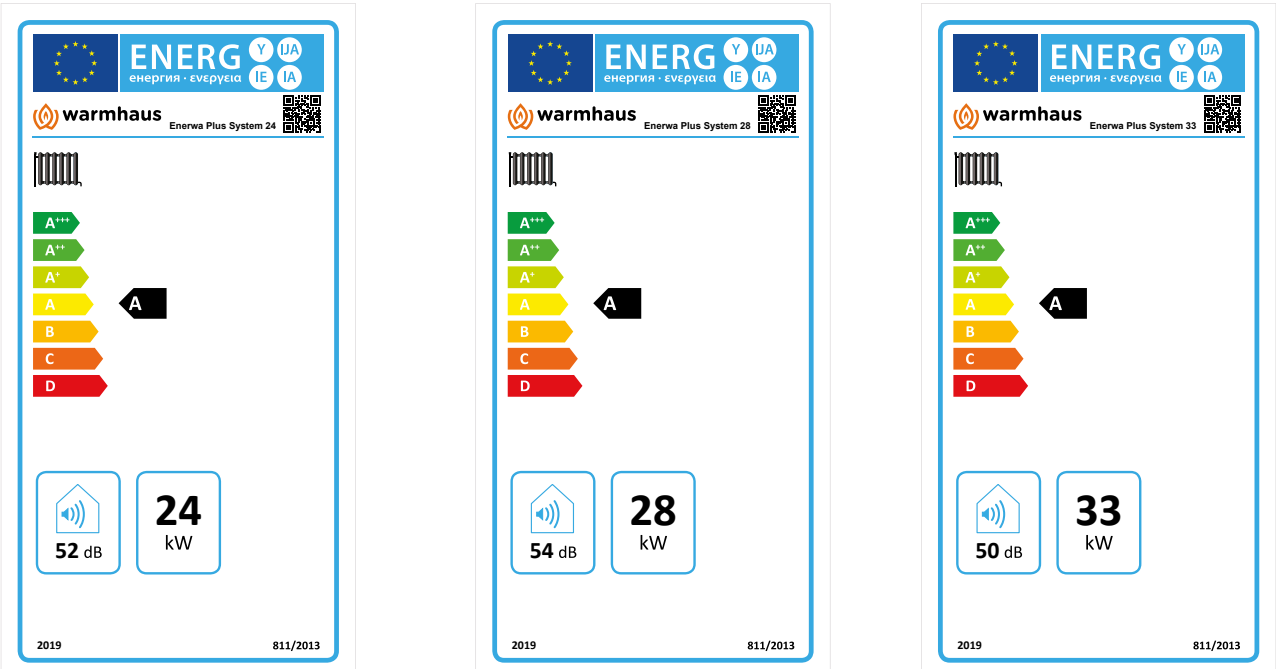
5.2.1. Comprising The Heat Only Boiler

ENERWA PLUS SYSTEM 24 / ENERWA PLUS SYSTEM 28 / ENERWA PLUS SYSTEM 33



1. Flue Outlet
2. Flue Condensation Pan
3. Condensat Water discharge Hose
4. Main Heat Exchanger
5. Ignition Electrode
6. Air Gas Mixing Unit (AGM)
7. CH NTC Sensor
8. Condensation Water Trap (Siphon)
9. CH Flow Pipe
10. By Pass Pipe
11. Condensation water Discharge Hose
12. Flow Manifold
13. Water Pressure Sensor
14. Expansion Tank Air Valve
15. Flue Gas NTC Sensor
16. Expansion Valve
17. Gas Inlet Pipe
18. CH Return NTC Sensor
19. Pump
20. Input Manifold
21. 3 Bar safety Valve
22. Manometer
23. Gas valve
24. Burner Gas Manifold
25. Electronic Fan
26. Automatic Air Relief Valve
27. Control Panel
28. Silencer
29. Radiator Inlet (Return) Pipe

Figure 64 Components of System Boiler



5.3. BOILER FIRST START-UP CONTROL LIST

The following form will be filled in by the Warmhaus Authorised Service during the first start-up of the appliance and, if deemed appropriate, it will be operated within the warranty.

warmhaus

BOILER
COMMISSIONING CONTROL FORM

Form NO: SSH-FR 00 -000-01 R.T:13.04.2021
Date: ..... /..... /.....

A	BOILER INSTALLATION, HEATING AND HOT WATER INSTALLATION CONDITIONS	Yes	No
1	Does the boiler installation and installation connections comply with the instructions and regulations specified in the "Installation and Operation Manual"?		
2	If the boiler is installed on an open balcony; it must be placed in a protective cabinet.		
3	Between the boiler and the cabin; (minimum) 5 cm from the top, 3 cm from the front and sides, 30 cm from the bottom.		
4	Boiler; oven, hob, etc. (heat generating devices) should be mounted in such a way that it does not come on it.		
5	Is the system filled with city mains water at 1.5 mbar (minimum 1 mbar)?		
6	Is a 3/4" ball valve installed on the return line of the boiler heating installation before the filter?		
7	Is there a dirt trap-filter suitable for the pipe diameter in the heating return line? (Magnetic filter, sediment separator should be used in places with underfloor heating or oxygen permeability. Heating circuit should be separated by plate heat exchanger)		
8	A dirt trap must be installed in the cold water inlet line.		
9	A ½" ball valve must be installed on the cold water inlet line before the strainer. (It can be mini ball.)		
10	Where the mains inlet pressure is high (≥ 6.5 bar), a pressure reducing regulator and a check valve against ramming must be installed.		
11	Check the hardness of the installation water; If it is greater than 10 F hardness, is there a softening system?		
12	In the hot water installation, if there is a water heater, a valve should be installed at the cold water inlet and if there is a water heater, a valve should be installed at the hot water outlet. (Where not possible, it should be closed with a blind plug.) Solar energy system connections should be separate from hot water and heating installations with ball valves.		
*	NOTE-1: The water to be pumped to the heating system should be between 1-1,5 bar. It is recommended to have a drain tap connected on the installation to drain the system water. In environments with parquet and wooden floors that may be damaged if water flows to the floor, it is recommended to attach a drain hose to the end of the overpressure safety valve and give it to the drain. If the boiler is in the cabin; It is recommended to have ventilation grilles at the top and bottom of the cabin. It is recommended that the old heating installation be washed.		
B	**NATURAL GAS AND LPG INSTALLATION**		
1	In case of use with natural gas; Is the gas opening approval certificate obtained from the gas distribution company? If not, DO NOT OPERATE		
2	If the device is being changed, an approval certificate must be obtained from the gas organisation. (If the gas distribution company has an application)		
3	Is the gas on the boiler type label the same as the gas connected? If not, is it suitable for conversion?		
4	If the boiler will be operated with LPG; Is the location, number, regulators and connection hoses of the cylinders suitable?(Photo 11)		
5	Gas leakage test must be performed. If there is no gas leakage, the inlet of the device, gas valve and burner internal connections shall be checked and sealed by the Authorised Service.		
*	"NOTE-2: For use with LPG, at least 2 12 kg or 1 24 kg cylinder and detector must be used. Detantors and connection hoses must be TSE certified. (Industrial detantors must never be used.) 30 mbar (300 mmSS) in 20 and 24 kW devices 1.6 kg / h capacity detenters; In 28, 33, 42, 45 kW devices, 30 mbar (300 mmSS) 2 kg / h capacity detenters should be installed accordingly. In the use of LPG; 300 mmSS detector, in the use of propane, 370 mmSS detector should be used. (500 mmSS detector cannot be used)"		
C	**CHIMNEY AND CONDENSATION INSTALLATION**		
1	Is the boiler chimney and components (elbow, extension pipe, etc.) Warmhaus branded? Non-original chimneys will NOT be operated		
2	Are the chimney connections strong and fully condensation sealed? Is the upward slope given as 1.5-3%?		
3	If the original chimney set and extensions were used in horizontal / vertical hermetic chimney application; Has the distance parameter (TSP 22) been adjusted? Has the height (altitude) parameter (TSP 25) been adjusted where necessary?		
4	Are condensate drains connected to a suitable drain line? Is there a slope that prevents the accumulation of condensation water and a ventilated connection piece at the boiler outlet? Systems that are not connected in this way will NOT be operated.		
D	**COMBUSTER ELECTRICAL INSTALLATION and COMPONENT FUNCTION CONTROL**		
1	Is the electrical supply voltage appropriate? 220 V. measured?		

2	There is an earthed socket at a maximum distance of 50 cm from the device or a 2-4 Amp (N or W) automaton mounted on the electrical phase connection must be connected. If there is no earthed socket, a 3x1.5 TTR cable must be drawn from the nearest junction box and a grounded socket must be installed or a (N or W) automaton mounted on the electrical phase connection must be installed (The device must not be activated with a mobile extension cable)		
3	"Is the grounding of the device made in accordance with the standards? In places where there is no earthing, zeroing will not be made from the neutral line. In such cases, grounding line must be drawn again. ""No Grounding"" must be written on the service form."		
4	The location of the earthed socket outlet or N vending machine must be selected so that it does not come below the lower level of the device.		
5	Where there is a residual current relay, the residual current relay function test shall be performed by the service during commissioning. The electrical installation of the building must comply with the electrical internal installation regulations.		
6	In the installation of room thermostats other than WT-RF 03 (Wireless) Model, 2 x 0.75 cables must be used between the device and the boiler. (The Service Technician will connect the cable ends of the Room Thermostat and the device)		
7	Room thermostat installation and thermostat cables were drawn in accordance with the points specified in the installation specification. (Cable ends will be connected by the Service Personnel) (It is recommended not to install a thermostatic valve in the room where the room thermostat is located).		
8	Has it been checked that the pneumatic air duct on the gas valve is open and the cable connection is tight?		
9	Are the components inside the boiler, electrical cable connections, pump top rector, heat exchanger cover, electrodes, three- way valve motor, silencer and cover in place? Is there excessive noise in operation? Are there water leaks inside and outside the boiler?		
*	NOTE-3: The above-mentioned items may vary according to the legislation applied by the relevant natural gas distribution company that will approve the installation and first start-up of the boiler. When applying the items, the conditions determined by the natural gas company are PRIORITY.		
*	NOTE-4: (Put (X) sign in the boxes next to the appropriate items in the form above) This form will be left with the customer. In order for the system to be commissioned; there must be no deficiency in the above mentioned items. In case of deficiency; the product cannot be commissioned. When the service is provided for the device for the second time; If there are incomplete items above and the product cannot be commissioned, the relevant installer is charged DEALER FEE; If the deficiency is caused by the customer, CUSTOMER FEE is applied.(Repeated service fee is charged)		
*	"NOTE-5 : The manufacturer cannot be held responsible for malfunctions caused by non-compliance with the warranty conditions or lack of maintenance. ** The manufacturer cannot be held responsible for subsequent non-conformities in heating, hot water, chimney or condensation installations. *** For heating systems, it is recommended to have cleaning with magnetic filter, installation cleaning and protective maintenance products. **** In the event of an electrical voltage imbalance (low-high voltage) (E 37 Fault condition), it is recommended to have a voltage regulator installed."		

Authorised Service Notes:

Boiler Model:	Boiler Serial No:	Gas Opening Certificate No:
Customer Name Surname:	**Authorised Service Name:**	**Dealer Name Title:**
Telephone:	Authorised Service /Name and Surname:	Authorised Person /Name Surname
Address:		Dealer Telephone:
e-mail :		
Customer Signature	Authorised Service Stamp / Signature	

CONDENSING COMBI & SYSTEM BOILERS
INSTALLATION & USER MANUAL

ENERWA 24 / 28 / 33
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ENERWA PLUS SYSTEM 24 / 28 / 33

ENERWA & PLUS Combi & System Boilers Installation & User Manual Code-ENG: 150116060000214
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