

**VIWA S 90**

**VIWA S 100**

**VIWA S 125**

**VIWA S 150**

**WALL MOUNTED CONDENSING BOILER  
INSTALLATION & USER MANUAL**

**Viwa S 90**  
**Viwa S 100**  
**Viwa S 125**  
**Viwa S 150**



# TABLE OF CONTENTS

<b>1. DEAR WARMHAUS CUSTOMER .....</b>	<b>4</b>	2.7.4. Mounting with Concentric Flue Sets in The Attic.....	15
1.1. GENERAL WARNINGS.....	4	<b>2.8. MOUNTING TO PARTIALLY PROTECTED OUTER SPACES .....</b>	<b>16</b>
1.2. GENERAL WARRANTY CONDITIONS .....	4	<b>2.9. ELECTRICAL CONNECTIONS .....</b>	<b>16</b>
1.3. GAS LEAKS.....	5	<b>2.10. OPTIONAL CONTROLS: ROOM THERMOSTAT, EXTERIOR TEMPERATURE SENSOR AND OTHERS.....</b>	<b>16</b>
1.4. BOILER GAS CATEGORIES & REGIONS .....	6	<b>2.11. HYDRAULIC INSTALLATION MOUNTING RULES.....</b>	<b>18</b>
<b>2. INSTALLATION PERSONNEL SECTION .....</b>	<b>7</b>	2.11.1. Structure of Radiator (Heating) Water and Preventive Water Treatment Procedure for Heat Exchangers.....	18
2.1. SAFE HANDLING .....	7	2.11.2. Filling / Emptying Heating System.....	19
<b>2.2. CONTENTS OF PACKAGE .....</b>	<b>7</b>	2.11.3. Discharge of Condensing Water.....	21
2.2.1. Sizes and Connections .....	8	2.11.4. Circulation Pump (Optional).....	21
<b>2.3. MOUNTING RULES FOR BOILER .....</b>	<b>8</b>	2.11.5. Controls For The First Operation of The Boiler.....	30
2.3.1. General Rules for Places for Mounting The Boiler .....	8	<b>2.12. REQUIRED INSTALLATION ELEMENTS FOR BOILER AND HEATING SYSTEM OPERATION .....</b>	<b>30</b>
2.3.2. Places Where Hermetic Boilers Cannot Be Mounted.....	8	2.12.1. Parts of boiler.....	30
2.3.3. Boilers With Air Intake From Boiler Room.....	9	<b>3. USER SECTION .....</b>	<b>31</b>
2.3.4. Wall Mounting of Boiler and Selection of Mounting Location.....	9	<b>3.1. GENERAL WARNINGS FOR USER .....</b>	<b>31</b>
2.3.5. Air Supply, Ventilation and Flue Terminal Positioning Quick Reference Guide for; BS 6644: 2011, IGE / UP / 10 (ed4) 2014 & BS 5440-1: 2008, BS 5440-2: 2009, .....	9	3.1.1. Use of Boiler.....	31
2.3.6. Room Sealed Appliances Installed within an Enclosure (Natural Ventilation Requirements Direct to Outside Air) .....	9	<b>3.2. SELECTION OF SWITCHING ON / OFF / STAND-BY AND SUMMER / WINTER MODES .....</b>	<b>31</b>
2.3.7. Ventilation.....	9	3.2.1. On / Off / Summer and Winter Modes.....	31
2.3.8. Ventilation requirements for Viwa S 90 -150 boilers and cascade systems. ....	9	3.2.2. Resetting the Boiler (Re-operate) .....	33
<b>2.4. NATURAL GAS CONNECTION (DEVICE CATEGORY I<sub>2H</sub>) .....</b>	<b>10</b>	3.2.3. Operating in Winter Mode.....	33
2.4.1. Flammable Gas Quality .....	10	3.2.4. Operating in Summer Mode (if a hot water tank is connected) ...	33
<b>2.5. HEATER AND HOT DOMESTIC WATER INSTALLATIONS.....</b>	<b>10</b>	3.2.5. Use with Room Thermostat (Optional).....	39
<b>2.6. FILLING THE SIPHON FOR CONDENSATION LINE.....</b>	<b>11</b>	3.2.6. Use of Outside Temperature Sensor (Optional).....	39
<b>2.7. CONNECTION OF WASTE GAS CHIMNEY PIPE SET AND ACCESSORIES .....</b>	<b>11</b>	3.2.7. Customization of Boiler Features.....	39
2.7.1. Peripheral Distances of Flue Outlet Connections.....	11	<b>3.3. SOLVING FAULTS AND FAILURES .....</b>	<b>40</b>
2.7.2. Connection of ( 100/150 mm) Horizontal Concentric Flue Sets and Mounting Horizontal Concentric Flue Set to The Boiler.....	14	3.3.1. Error Codes Table.....	40
2.7.3. Mounting with Vertical Concentric Flue Sets .....	14	<b>3.4. SUGGESTIONS FOR USING BOILER ECONOMICALLY .....</b>	<b>42</b>
		<b>3.5. POINTS TO CONSIDER BY USERS FOR WARRANTY CONDITIONS.....</b>	<b>42</b>

# 1. DEAR WARMHAUS CUSTOMER

We congratulate and thank you for choosing Warmhaus wall mounted boiler which shall provide you heating and domestic hot water comfort for years. State-of-art Warmhaus boilers, being manufactured in compliance with standards of the European Union, are also exported to many countries. You can benefit from our Authorized Technical Service network with professional competence certification for any ordinary maintenance requirements for this product manufactured meticulously with hard work. Our Authorized Services assure sustaining performance of the appliance as they shall always provide original spare part services. Please read this manual thoroughly to use your boiler economically, comfortably and efficiently, and store to refer when needed. It is recommended for efficient use to have assembly done by an authorized dealer approved by the local gas authority and which has the competence and experience for assembly.

## 1.1. GENERAL WARNINGS

This manual is an integral and complementary part of the product, and must be delivered to the new user in case of handover of the appliance. This manual should be protected properly and kept in the way to be referred as it contains significant information about use as well as the installation of the appliance.



Heating and Domestic Hot Water installations should be projected and implemented by a competent and approved engineering company meeting the criteria prescribed by laws, by observing the current legislation in force.



Installation and maintenance processes should be carried out by the competent personnel having sufficient knowledge in the installation industry and professional competence certification in accordance with the legislation in force and in accordance with the directions of the manufacturer. Hazards that may cause injury of persons, other living beings (animals, plants) and damage to goods may be caused by wrong installation and the manufacturer cannot be held responsible for this.

### Attention!

Please pay attention to the warnings on the boiler. Incorrect operation of the boiler can cause significant damages. When faults occur in the heating system, the plant must be stopped. Damaged parts should only be replaced by an authorized service. The accessories used must correspond to the technical rules and the relevant parts must be approved by the manufacturer in connection with the Warmhaus wall mounted boiler. Only APPROVED & ORIGINAL spare parts should be used. Connections sealed with bolt paint must not be opened or replaced by anyone other than a specialized and approved service! These seals provide evidence that the bolts, which are required for faultless and secure operation, are not replaced. If the seals are damaged, the guarantee of the appliance will be terminated!



The boiler must not be used by children younger 8 years or invalid persons without supervision.

## 1.2. GENERAL WARRANTY CONDITIONS



The manufacturer may not be held responsible for any faults caused by non-compliance to the legislation and standards in force and information provided in this manual (and information and instructions provided by the manufacturer in any case) during the installation, use or maintenance processes, within or out of the scope of the contract, and this also constitute reason for termination of warranty of the appliance.



Only Warmhaus Authorized Service is authorized to carry out electrical connection of the boiler and to energize the boiler. No alteration should be made inside the appliance unless approved by the manufacturer.

In case of any material, design or installation faults occurred within the warranty period, maintenance and operation shall be carried out without any charge of labour or spare parts.

The warranty term of your boiler is 2 years and the first operation is carried out by the authorized service.

(Also see: 3.5 MATTERS TO BE CONSIDERED BY USERS FOR WARRANTY CONDITIONS)



This device should only be used for the purposes for which it was designed (to be used in closed circuit heating installation and for the production of open circuit domestic hot water with an external hot water tank). All kinds of other uses are not suitable as well as may create a potential hazard.



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 an appliance having heating system, domestic hot water, natural gas/LPG and electrical connections, do not make and have any interventions made without the authorized service



In order to avoid adverse effects on the product in case of freezing, Warmhaus suggests customers to drain the installation water if the boiler will not be operated after testing or use; in case of freezing, the expansion of water may cause cracking, opening, deformation, and deterioration in boiler equipment and may lead to leaks.



Appliance maintenance operations should be performed by the authorized and competent technical personnel, and Warmhaus Authorized Technical Service Centres constitute assurance for quality. WARMHAUS is not responsible for damages arising from repairs, part replacements and maintenance performed by third persons and companies and the boiler will be out of the warranty scope under such conditions.



This appliance has been manufactured to be installed in the country specified on its technical registration label. Installing the appliance in any other country than those specified on the plate may cause damage or injury to persons, animals and goods. WARMHAUS declares that Viwa S 90, Viwa S 100, and Viwa 125 boilers comply with the essential requirements of the following directives:

- Gas Appliances Regulation (EU) 2016/426
- Efficiency Directive 92/42/EEC
- Electromagnetic Compatibility Directive 2014/30/UE
- Low Voltage Directive 2014/35/UE
- Ecodesign Directive 2009/125/EC
- Regulation (EU) N. 813/2013 - 811/2013

**Manufacturer:** Warmhaus Isıtma ve Soğutma Sistemleri Tic. A.Ş. Bursa Organize Sanayi Bölgesi Park Cad. No:10 16140 Nilüfer-Bursa / Turkey

WARMHAUS A.Ş. reserves the right to make all kinds of technical and commercial modifications without notice, and disclaims any liabilities arising out of printing and spelling mistakes.



### IMPORTANT INFORMATION

It is a statutory requirement that all gas appliances are installed by competent persons, in accordance with the gas safety (installation and use) regulations (current edition). The manufacturer's instructions must not be taken as overriding any statutory requirements, and failure to

comply with these regulations may lead to prosecution. No modifications to the appliance should be made unless they are fully approved by the manufacturer. Gas leaks: do not operate any electrical switch, or use a naked flame. Turn off the gas supply and ventilate the area by opening doors and windows contact the gas emergency service.

### WARMHAUS



### 1.3. GAS LEAKS

#### NATURAL GAS EMERGENCY LINE

#### HOW TO ACT IN CASE OF DETECTING NATURAL GAS ODOR?

**In case of gas leaks:** Do not operate any electrical switch, or use a naked flame. Turn off the gas supply and ventilate the area by opening doors and windows, contact the gas emergency service.



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 anyone use the doorbell.



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



Immediately evacuate the place with gas odor.



Call the Natural Gas Emergency Line from your neighbor or another 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.

### IN EMERGENCY CASES



NATURAL GAS EMERGENCY



FIRE DEPARTMENT



AMBULANCE



POLICE

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

**Advice:** Please take note local emergency phone numbers.

## 1.4. BOILER GAS CATEGORIES & REGIONS

Manufacturer		Conformity Markings			
Boiler Gas Categories & Regions		granted			
Gas categories for Warmhaus boilers are implemented on the CE certificate given below by SZU Test / BRNO;- appliance categories according to direct destinations are determined in accordance with EN 15502-1. According to-EN ISO 3166-1 destination countries;- millibar gas supply pressures can be used for several gas groups if it is under normal pressure. They are specified with numerical values and "mbar" unit.					
Countries of Destination	Appliance Categories	Gas Inlet Supply Pressures			Flue Application Types
		G20	G31	G30	
AT, BG, CH, CY, CZ, DK, EE, ES, FI, GB, GR, HR, IE, IT, LT, LU, LV, NO, PT, RO, SE, SI, SK, TR	I <sub>2H</sub>	20	-	-	B <sub>23</sub> , B <sub>23P</sub> , C <sub>15</sub> , C <sub>33</sub> , C <sub>43</sub> , C <sub>53</sub> , C <sub>63</sub> , C <sub>83</sub>
DE, NL, PL, RO	I <sub>2E</sub>	20	-	-	
HU	I <sub>2H</sub>	25	-	-	
BE, FR	I <sub>2E+</sub>	20	-	-	
BE, CH, CZ, ES, FR, GB, GR, HR, IE, IT, LT, NL, PL, PT, SI, SK, TR	I <sub>3P</sub>	-	37	-	
CH, CZ, ES, GB, GR, HR, IE, IT, LT, PT, SI, SK, TR	II <sub>2H3P</sub>	20	37	-	
CH, CY, CZ, ES, GB, GR, IE, IT, LT, PT, SI, SK, TR	II <sub>2H3+</sub>	20	37	-	
EN ISO 3166-1: 2006, Codes for the representation of names of countries and their subdivisions - Part 1: Country codes (ISO 3166-1: 2006)					

## 2. INSTALLATION PERSONNEL SECTION

### 2.1. SAFE HANDLING

This boiler may require 2 or more persons to move it into its installation site, remove it from its packaging and during movement into its installation location. Pulling and pushing the boiler may require the use of a stacker truck.

Attention must be paid during these operations. Operators should be knowledgeable in hand techniques when performing these tasks and the following precautions should be considered:

- Grip the boiler at the base
- Ensure that you are physically capable
- Use personal protective equipment as appropriate e.g. gloves, safety footwear.

During all manoeuvres and handling actions, we advise complying with the following when lifting heavy appliances.

- Keep your back straight
- Avoid twisting at the waist
- Always grip with the palm of the hand
- Keep load as close to the body as possible
- Always use assistance

### WARNING

Attention must be paid when performing any work on this appliance.

- Using protective gloves and safety glasses are recommended.
- Avoid direct contact with sharp edges.
- Avoid contact with any hot surfaces.

### NOTICE

Please be aware that due to the wet testing of the appliance, there may be some residual water in the hydraulic circuit.

- Protect any surfaces, carpets, or floorings.
- Use a suitable container to collect any water that leak when removing the protective caps from the connections.



### INSTALLATION

The boiler must be installed in a fixed location by qualified engineers in compliance with all instructions contained in this manual. Furthermore, the installation must be in accordance with current standards and regulations.

### 2.2. CONTENTS OF PACKAGE

The following listed materials are available in the boiler box. In the Viwa S 90-125 boiler group, exhaust gas flue sets are not supplied with the boiler and must be ordered separately.

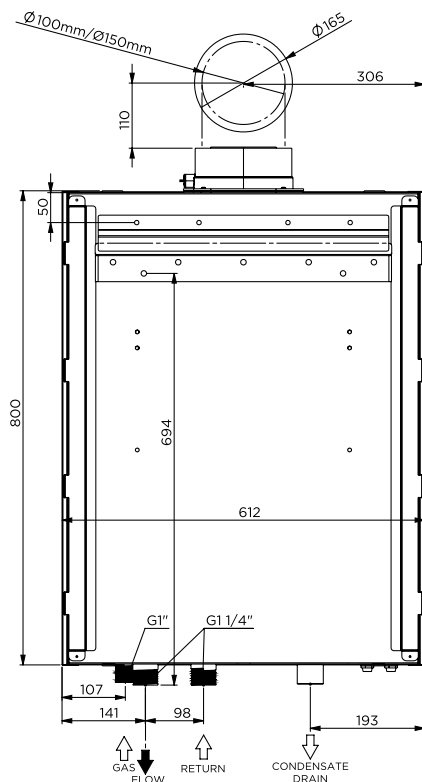


Figure 2.1 Mounting template

#### I. Mounting Template (Figures 2.1 and 2.2)

#### II. User Manual (Figure 2.3)

#### III. Connection Accessories (Figure 2.4)

- 1 x Throttle Screw (mounted on the flue outlet.)
- 2 x Hanger Screw
- 2 x Dowel

#### IV. Rod-fastening Plate (Figure 2.5)

#### V. Condensing Siphon (Figure 2.6)



In order not to create a health hazard, do not leave the packaging material (plastic bag, nylon, etc.) in a place where children can reach it.



Figure 2.3 Mounting and User Manual



Figure 2.4 Connection accessories



Figure 2.5 Rod-Fastening Plate



Figure 2.6 Siphon part for discharging condensate

## 2.2.1. Sizes and Connections

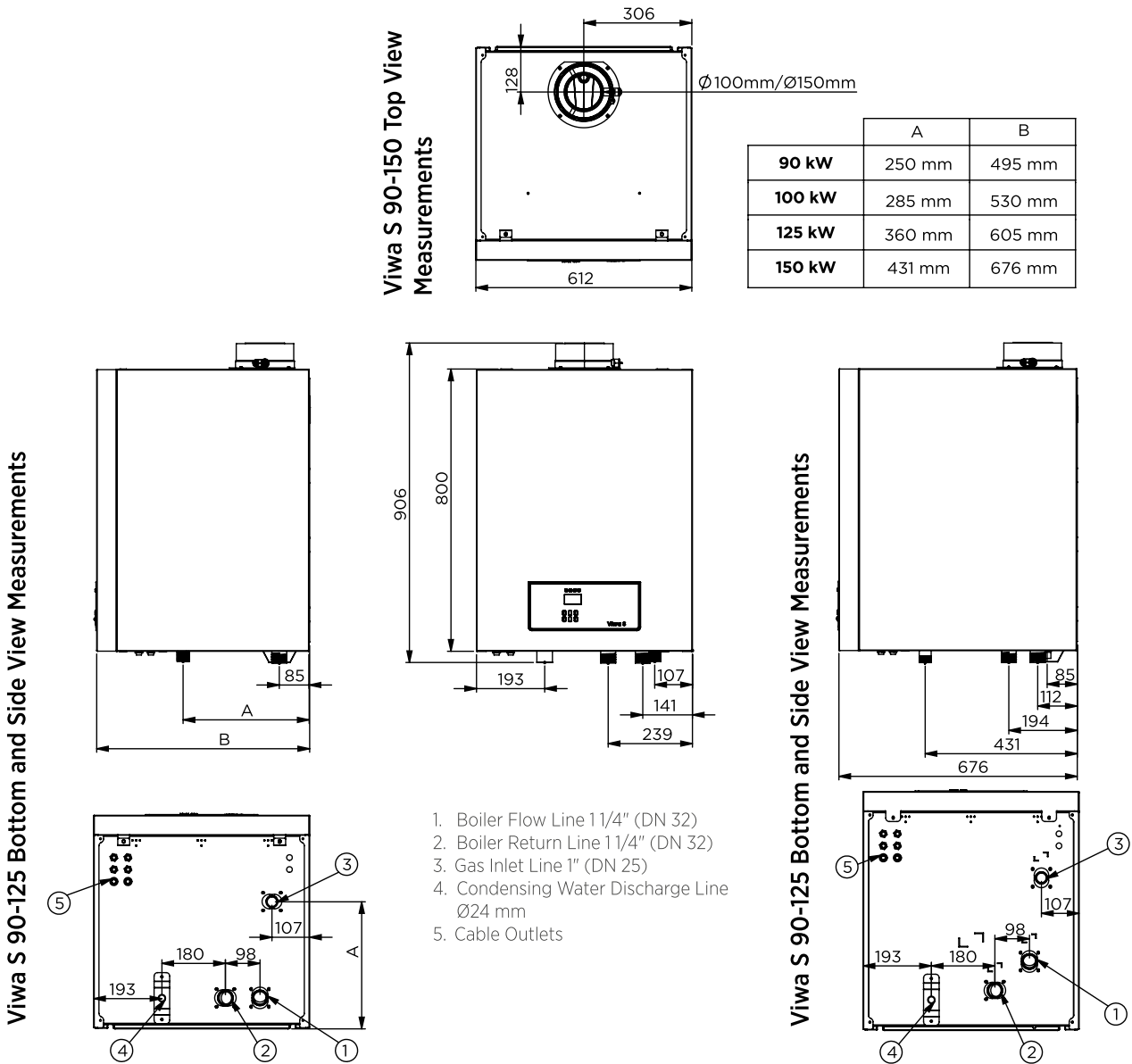


Figure 2.7 Viwa S boiler sizes and connections

## 2.3. MOUNTING RULES FOR BOILER

### 2.3.1. General Rules for Places for Mounting The Boiler

There is no ventilation limitation for places where the hermetic (C type) boiler is mounted (the appliances can be mounted regardless of the volume and ventilation form of the room). Furthermore, it can be mounted in partially protected areas such as balconies and terraces provided that it is in the protective cabin and necessary measures are taken against freezing in the installation water. However, the installation requirements of the local gas company in the area to be mounted must also be taken into consideration, and attention should be paid for the mounting locations for over a certain capacity!

The boiler should be mounted firmly on the building's wall. A flexible connection element must be used between the boiler and the gas line. Flexure lengths to be used on A, B and C type appliances shall not exceed the permissible limits of local gas companies. The flue outlets of the hermetic boilers must be connected directly to the outdoor with open air circulation. The gas outlet conditions of exhaust gas installation of these appliances should be in accordance with the rules set out in TS 12514 standard (positions of the pipe outlets in relation to various forms, vertical, horizontal minimum distances, cross-sectional areas of the ducts, if connected to ducts).

### 2.3.2. Places Where Hermetic Boilers Cannot Be Mounted

- It is forbidden to mount hermetic boilers (type C) to the stairwells of buildings,
- To the common spaces of the buildings which are open to general use, air wells and day spaces, attic, under the roof, emergency exit doors, and similar places such as cellar, hall, etc.
- To the yards between buildings,
- To narrow eaves gaps
- On flue walls,
- To closed balconies,
- To open balconies (except for being in a cabin and permitted by appliance company and local gas company),
- Underneath the protruding parts of the structure which prevent the release of exhaust gas,
- To places where can be exposed to direct wind pressure,
- In openings that provide fresh air to other units!



### 2.3.3. Boilers With Air Intake From Boiler Room

In this type of installation, boiler and heat exchanger contamination is more susceptible to particulate accumulation. Boilers should only be operated in boiler rooms that are clean and not used for other purposes. In both cases, it is recommended to use air filtration (G4) Cassette Filter when the air inlet will be very dusty.

Combustion air should avoid ingredients including, but not limited to, chlorine, ammonia, alkaline agents, halogenated hydrocarbons, freon, drywall particles, lint, dirt, or dust installations of a boiler near a swimming pool, washing machine, or laundry room.

### 2.3.4. Wall Mounting of Boiler and Selection of Mounting Location

- It must be checked and guaranteed that the wall-mounting of boiler is sound and safe.
- The hanger plate supplied as standard with the boiler should be mounted on a full or half-full brick wall in accordance with the connection screws and mounting template and in compliance with its technique and should not be used for any other purposes.
- If different materials are used for mounting, the boiler will be out of warranty.
- If the wall to be mounted on is not a brick wall, the robustness of the support system must initially be checked.
- The boiler must be mounted on a fire-resistant wall.
- It is recommended to mount the boiler between 1.8 - 2.2 m length of hanger plate from the ground.
- In places where mounting area is limited, the boiler must be mounted minimum 30 cm above the ground, with a space of minimum 5 cm from the sides and 90cm from the front for easy intervention of service technician.
- The boiler is not mounted in places with explosive, flammable material, and acid vapour.
- It is not mounted on sides or above oven, furnace, radiator or heating appliances.
- Hermetic boilers can be mounted inside the furniture as well, but at least 5 cm spacing should be left on their sides.
- It is advisable to connect the outlet of the boiler to the outlet line by means of a transparent hose to prevent the possibility of water coming from safety valve of boiler after mounting. If this is not possible; do not place electronic appliances, tools, parts and equipment that can breakdown, rust, etc. under the boiler.
- Due to the above reasons, it is not recommended to place / have any furniture under the boiler.

### 2.3.5. Air Supply, Ventilation and Flue Terminal Positioning Quick Reference Guide for; BS 6644: 2011, IGE / UP / 10 (ed4) 2014 & BS 5440-1: 2008, BS 5440-2: 2009,

#### BS6644: 2011 Specification for the Installation of gas-fired hot water boilers of rated inputs between 70 kW (net) and 1.8 MW (net) (2nd and 3rd family gases) & IGE/ UP/10 2014 Edition 4 Installation of Gas Appliances in Industrial and Commercial Premises

For BS 6644 and IGE UP 10 Installations the ventilation openings might need to be increased if the following air temperatures are exceeded. (@15°C Ambient)

High-Level (100 mm Below Ceiling Level)	40°C
Mid-level (1500 mm Flow Floor Level)	32°C
Low-Level (100 mm Above Floor Level)	25°C

As a guidance, reduction of air temperature may be achieved by increasing the inlet and outlet air supply by 0.15 m<sup>3</sup>/h or 0.2 cm<sup>2</sup>/kW of net heat input per each °C of temperature reduction required.

### 2.3.6. Room Sealed Appliances Installed within an Enclosure (Natural Ventilation Requirements Direct to Outside Air)

All air intake and exhaust fans must be equipped with automatic controls (interlocked) that ensure the safety or interlocking of closed gas appliances in the event of an inlet or outlet airflow failure. The document is for quick guidance purposes only. Absolute guidance should be sought directly from BS6644 & IGE/UP/10 Edition 4.

'Low Level (low as possible within 1 metre from floor natural gas ) - 4 cm<sup>2</sup>/kW of net heat input a single Viwa S 125 (120 kW net input) boiler would require 232 cm<sup>2</sup> at high level and 464 cm<sup>2</sup> at low level.

Installed in a compartment or enclosure High level (within 15% of the room height from ceiling) - 5 cm<sup>2</sup>/kW of net heat input Low level (low as possible within 1 metre from floor natural gas) -10 cm<sup>2</sup>/kW of net heat input. A single Viwa S 125 (120 kW net input) boiler would require 580 cm<sup>2</sup> at high level and 1160 cm<sup>2</sup> at low level.

When installed as a class C appliance (room sealed). Installed in a room High level (within 15% of the room height from ceiling) - 2 cm<sup>2</sup>/kW of net heat input Low level (low as possible within 1 metre from floor natural gas) - 2 cm<sup>2</sup>/kW of net heat input A single Viwa S 125 (120 kW net input) boiler would require 232 cm<sup>2</sup> at high level and 232 cm<sup>2</sup> at low level.

### 2.3.7. Ventilation

"Viwa S 90 - 150" boilers can be installed in boiler rooms whose size and requirements meet current regulations. The following is provided for your guidance only, and assumes the ventilation air is taken directly from outside. The sizes of the vents may need to be increased irrespective of other appliances installed in the same area, and seasonal use. Take care that the position of low level vents would not be subject to adverse weather conditions, i.e. flooding.

### 2.3.8. Ventilation requirements for Viwa S 90 -150 boilers and cascade systems.

BS6644 has a requirement that the temperatures in a room or compartment do not exceed certain levels:

- +25 °C at floor level (0-100 mm)
- +32 °C at mid level (1.5 m above the floor level)
- +40 °C at ceiling level (0-100mm from ceiling)

#### When installed as a class B appliance (open flued, not roomed sealed).

Installed in a room High level (within 15% of the room height from ceiling) - 2 cm<sup>2</sup>/kW of net heat input Low level (low as possible within 1 metre from floor natural gas ) - 4 cm<sup>2</sup>/kW of net heat input A single Viwa S 125 (116 kW net input) boiler would require 232 cm<sup>2</sup> at high level and 464 cm<sup>2</sup> at low level. Installed in a compartment or enclosure High level (within 15% of the room height from ceiling) - 5 cm<sup>2</sup>/kW of net heat input Low level (low as possible within 1 metre from floor natural gas) -10 cm<sup>2</sup>/kW of net heat input.

A single Viwa S 125 (116 kW net input) boiler would require 580 cm<sup>2</sup> at high level and 1160 cm<sup>2</sup> at low level. When installed as a class C appliance (room sealed). Installed in a room High level (within 15% of the room height from ceiling) - 2 cm<sup>2</sup>/kW of net heat input Low level (low as possible within 1 metre from floor natural gas) - 2 cm<sup>2</sup>/kW of net heat input A single Viwa S 125 (116 kW net input) boiler would require 232 cm<sup>2</sup> at high level and 232 cm<sup>2</sup> at low level.

Grille Location 600m from any obstruction	System Type	If heating and/or Hot Water Supply operation < 50% during summer months	If heating and/or Hot Water Supply operation > 50% < 75% during summer months	If heating and/or Hot Water Supply operation > 75% during summer months
High Level (Free Area/kW)		5 cm <sup>2</sup>	6 cm <sup>2</sup>	7 cm <sup>2</sup>
Low Level (Free Area/kW)		5 cm <sup>2</sup>	6 cm <sup>2</sup>	7 cm <sup>2</sup>

#### Room Sealed Appliances Installed within an Enclosure (Natural ventilation requirements via an internal Space)

Grille Location 600m from any obstruction	System Type	If heating and/or Hot Water Supply operation < 50% during summer months	If heating and/or Hot Water Supply operation > 50% < 75% during summer months	If heating and/or Hot Water Supply operation > 75% during summer months
High Level (Free Area/kW)		10 cm <sup>2</sup>	11 cm <sup>2</sup>	12 cm <sup>2</sup>
Low Level (Free Area/kW)		10 cm <sup>2</sup>	11 cm <sup>2</sup>	12 cm <sup>2</sup>

#### Room Sealed Appliances Installed within a Boiler Room / Heated Space (Natural ventilation requirements direct to Outside Air.)

Grille Location 600m from any obstruction	System Type	If heating and/or Hot Water Supply operation < 50% during summer months	If heating and/or Hot Water Supply operation > 50% < 75% during summer months	If heating and/or Hot Water Supply operation > 75% during summer months
High Level (Free Area/kW)		2 cm <sup>2</sup>	8 cm <sup>2</sup>	4 cm <sup>2</sup>
Low Level (Free Area/kW)		2 cm <sup>2</sup>	8 cm <sup>2</sup>	4 cm <sup>2</sup>

Maximum Operating Pressure < 100mbar, Room Air Change Rate > 0.5/hour = No Additional Ventilation. If the air change rate is less than 0.5/hour then the following must be applied.

#### Appliances without air diffusers or air stabilisers

Grille Location 600m from any obstruction	System Type	If heating and/or Hot Water Supply operation < 50% during summer months	If heating and/or Hot Water Supply operation > 50% < 75% during summer months	If heating and/or Hot Water Supply operation > 75% during summer months
High Level (Free Area/kW)		1.35 +/- 0.18 (m <sup>3</sup> /h/kW)	1.35 +/- 0.18 (m <sup>3</sup> /h/kW)	1.35 +/- 0.18 (m <sup>3</sup> /h/kW)
Low Level (Free Area/kW)		2.6 (m <sup>3</sup> /h/kW)	3.32 (m <sup>3</sup> /h/kW)	4.04 (m <sup>3</sup> /h/kW)

Where high level / discharge openings are not mechanically supported, the free area should be calculated as 2 cm<sup>2</sup>/kW net input

## 2.4. NATURAL GAS CONNECTION (DEVICE CATEGORY I<sub>2H</sub>)

Our boilers were manufactured to operate with methane gas (G20). Gas supply pipes must be equal to or greater than 1" G boiler connections. Before making the gas connection, a careful internal cleaning of the pipe laying of the entire fuel (flammable gas) supply installation must be carried out, since possible waste will damage the best performance and efficiency of the boiler. It must be checked that the gas distributed from the main line is in the type stipulated for the boiler (see the label on the boiler).

Furthermore, the network dynamic pressure (methane) to be used in feeding the boiler and in case it is inadequate, that may affect the power of the boiler and cause difficulties for the user should be checked. Make sure the gas valve connection is made correctly. The flammable gas supply pipe must be designed and dimensioned according to the applicable MMO and local gas company's specifications and instructions to ensure that the boiler can deliver sufficient gas to the burner when operating at maximum power and to ensure the efficiency of the appliance. The connection system must comply with legal regulations.

### 2.4.1. Flammable Gas Quality

It has been designed to be used with pure fuel that does not contain foreign matter in the boiler; therefore, it is absolutely necessary to add the necessary filter systems (in order to ensure the purification of the fuel) in the gas supply line.

The gas used must have sulphur ratios conforming to European and/or North American standards (i.e. a maximum annual peak 150 mg/m<sup>3</sup> for a short period of time for Europe and an annual average of 30 mg/m<sup>3</sup>. For propane gas, an annual average sulphur content of 200 mg/m<sup>3</sup> is accepted for the US market.)


## 2.5. HEATER AND HOT DOMESTIC WATER INSTALLATIONS

Radiator and floor heating installations should be performed according to TSE and MMO technical specifications and heat loss calculation. The type and quantity of the radiator and the quantity of piping of the floor heating installation should also be appropriate for the calculation of heat loss.

- The heating installation must be installed at a pressure resistant up to at least 6 bar.
- If the city pressure is higher than 6.5 bar, the pressure reducer must be assembled.
- It is recommended that the heating installation be performed as (at least) double or mobile line and to avoid the elbows and joints as much as possible.
- A strainer filter must be definitely installed in return line of heater and if a hot water tank will be used, in inlet line of domestic water (City).
- An additional expansion tank of at least 50 litres should be used depending on the volume of the heating water and the working temperature of the heating circuit (closed circuit).
- If room thermostat and thermostatic radiator valve will be used together; the thermostatic valve should not be installed in radiators in places where the room thermostatic is available!
- Radiators longer than 1.5 m must be cross-connected for efficient operation.
- Sheaths should be used in the passages of the heating and hot water from the walls and they should be fixed with wall clamps as not to allow inclination in the expansion due to heating.
- For Domestic Hot Water supply, an external hot water tank must be connected to the boiler. In case of use with a hot water tank, the three-way valve and hot water tank sensor in the product accessory group must be used.
- The heating installation must be washed and cleaned of dirt before filling!

## 2.6. FILLING THE SIPHON FOR CONDENSATION LINE

The condensation siphon must be filled with water after completing wall-hanging of the condensation boiler, electrical connections, heating lines, domestic hot water connections, and condensate drainage line (Figure 10).

 The sealing of the condensation line outlet connection must be ensured. However, against the risk of exhaust gas leak in the first operation, pour about 1 litre of water into the flue before flue-mounting of siphon in the boiler. Thus, the water in the siphon will prevent the leakage of exhaust gas possibility.

The inclination of the condensation water hose and line must always be downward.

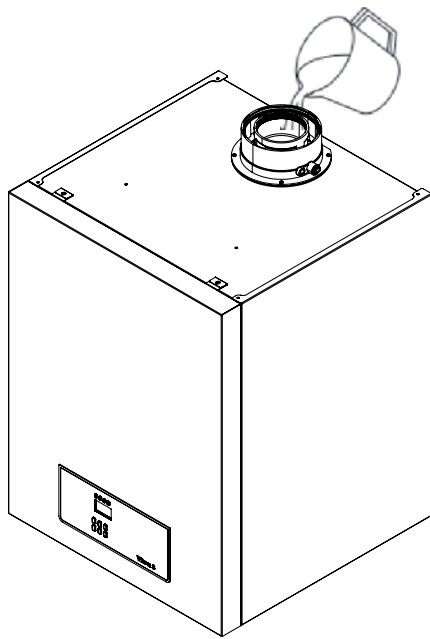



Figure 2.9 Filling the condensation siphon

## 2.7. CONNECTION OF WASTE GAS CHIMNEY PIPE SET AND ACCESSORIES

 Flue accessory sets of hermetic boilers that will be used in the exhaust gas installation should be original Warmhaus flue sets and they should be used by taking the sizes and restrictions given in the mounting instructions into consideration.

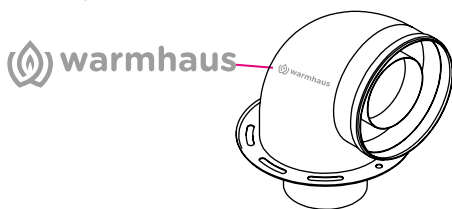




Figure 2.10 There is a Warmhaus logo in the flue elbow.


 If different exhaust gas pipes and/or accessories are used other than original Warmhaus exhaust gas flue pipes and accessories, then the boiler will not be commissioned by the Authorized Service and therefore no warranty is granted!

The boiler should only be mounted with plastic material and the original Warmhaus air intake and waste degazing appliance.

Plastic ducts cannot be installed outdoors, at intervals over 40 cm, and without proper protection against UV and weather conditions. Each pipe is identified by a promoting and distinctive  Warmhaus sign in the notes.

 **In cases where more than one Viwa S boiler is connected in parallel to the same flue collector and operated as a cascade, there is no need to use an additional damper since the boilers have an internal damper.**

### IMPORTANT

 The following must be checked during starting the boiler:

- Make sure that there is no liquid or combustible materials near the boiler.
- Ensure that the electrical connections are made correctly and that the ground wire is connected to a good grounding system.
- Turn on the gas valve and check the durability of connections including the burner, burner exchangers, and heat exchangers.
- Ensure that the boiler is adjusted for operating for the supplied gas type.
- Check that the flue pipe in outlet of combustion products is not blocked and is properly mounted.
- Make sure that any (safety) shut-off valve is open.
- Ensure that the system is filled with water and thoroughly ventilated.
- Check that the circulation pump is not congested.
- Discharge the air that may be in the gas line, discharge the air in the gas pipe by operating the pressure discharge valve at the gas pipe inlet.

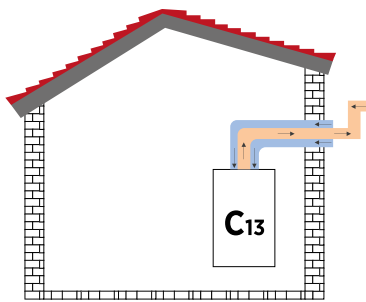
### 2.7.1. Peripheral Distances of Flue Outlet Connections

The flue must be mounted in accordance with national and local regulations.

Any part of the outlet pipe should not be blocked and should not interfere with other connections. If the outlet pipe is passing 1000 mm near a plastic or painted conduit or 500 mm near the painted eaves, an aluminium guard of at least 1000 mm in length should be placed under the conduit or eaves. The outlet pipe should be at least 2 m above the surface that people can reach. In some weather conditions, the outlet pipe may emit water vapour, therefore it should not be mounted in places where this vapour may cause irritation.

It should be ensured that combustion products (exhaust gas) do not enter into the roof ventilation openings. The boiler's flue system can be installed inside the room without the need to intervene on the outside wall. For this, particularly in thick walls, a bed must be used in the wall for lining the inner surface of the duct through which the outlet pipe passes through the wall.

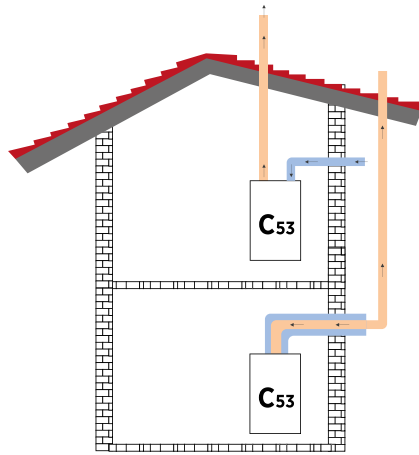
→ Air  
→ Waste Gas



Discharge with Concentric Flue Connection

**Caution:** In use of C13 type flue, a 90° cantilever flue gas directing set must be installed on the cage end.

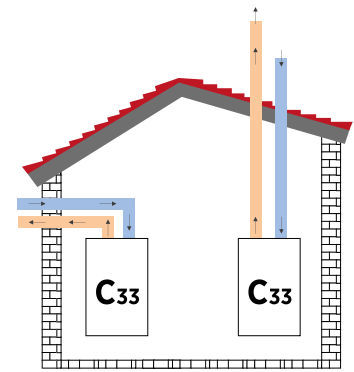
**Figure 2.11** Hermetic (concentric) and Flue (Split Flue type)



Exhaust Gas Discharge and Fresh Air Intake with Concentric Flue

**Caution:** Terminals should not be mounted against building walls for supply of combustion air of C5 type sealed boilers with combustion chambers and discharge of combustion products.

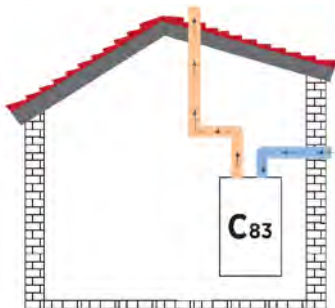
**Figure 2.12** Hermetic concentric and vertical split flue connection.



Exhaust Gas Discharge Fresh Air Intake with Split Flue Sets

**Caution:** In case of using C33 type split flue set (for horizontal and vertical types), the distance between the exhaust gas outlet and the clean air intake should be minimum 50 cm and maximum 100 cm.

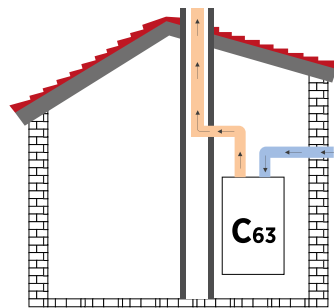
**Figure 2.13** Vertical Type Hermetic Use with Split Flue Set



Exhaust Gas Discharge from Building Flue with Split Flue Sets and Fresh Air Intake From The Inside

For C8 type sealed boilers with combustion chamber;  
a) overheating combustion products temperature; <math><105\text{ }^\circ\text{C}</math>  
b) CO<sub>2</sub> content; 9.00% (tolerance +0.5%/-0.5%)  
c) Flue characteristics to which the boiler can be connected depend on Figure 2.14.  
d) Condensate isn't allowed to flow into appliance.

**Figure 2.14** Hermetic vertical split flue connection.



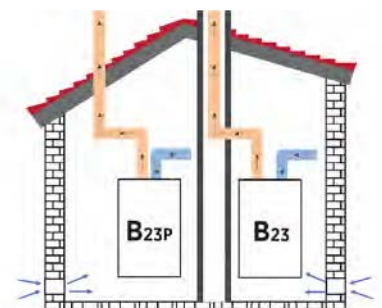
Discharge to Building Flue with Split Flue Connection and Fresh Air Intake

For C6 type sealed boilers with combustion chamber  
a) for flue, overheating combustion products temperature <math><105\text{ }^\circ\text{C}</math>  
b) CO<sub>2</sub> content in nominal operating conditions; 9.00% (tolerance + 0.5% / -0.5%)  
c) difference of the maximum permissible draught and the maximum permissible differential pressure between combustion air inlet and flue gas outlet (including wind pressures): 120 Pa.  
d) characteristics and applications of the duct system to which the boiler can be connected;

- 1) flow of condensation water into appliance is not allowed.
- 2) maximum permissible temperature of the combustion air; 40°C
- 3) maximum permissible recirculation rate in wind conditions is 10%.

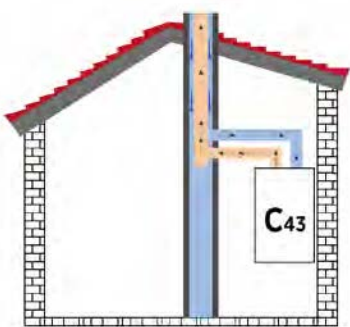
**Caution:** Terminals should not be mounted against building walls for supply of combustion air and discharge of combustion products.

**Figure 2.15** Connection of hermetic split flue and building flue.



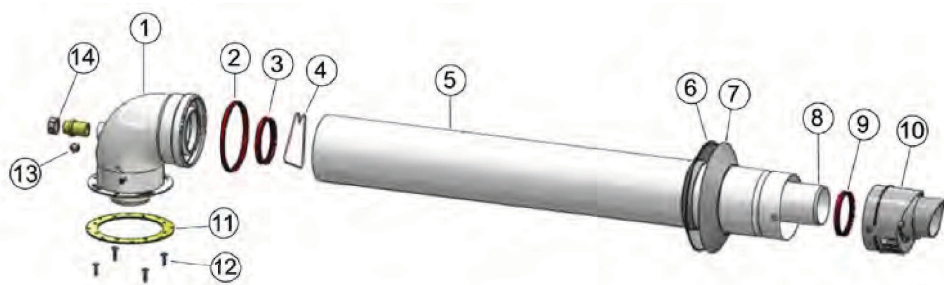
Exhaust Gas Discharge from Building Flue with Split Flue Sets and Fresh Air Intake From The Outside

**Figure 2.16** Flue use with split flue set



Here, separate channels are used for combustion air supply and flue gas discharge, and fresh combustion air is supplied to each appliance. These types of air/flue systems are available in both parallel and concentric duct configurations.

**Figure 2.17** Gas device with combustion air supply and flue gas evacuation, designed for connection to a Fresh Air/Fuel Gas system.



1. 90° elbow
2. Sealing gasket
3. Sealing gasket
4. Centring wire
5. Exterior flue pipe
6. Inner wall blind flange
7. Outer wall blind flange.
8. Interior flue pipe
9. 60 Sealing gasket
10. Protection cage
11. Flange gasket
12. Flange connecting screws
13. Control measurement stopper
14. Fresh air control cover

Figure 2.18 Ø 100/150 mm Eccentric Flue Set

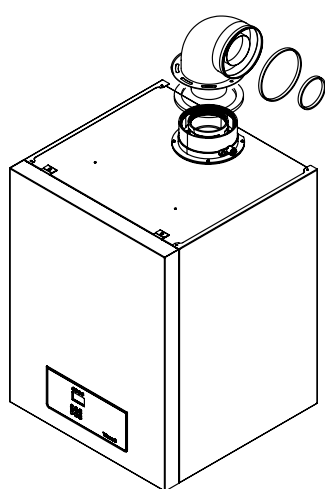


Figure 2.19 Installation of flue set parts

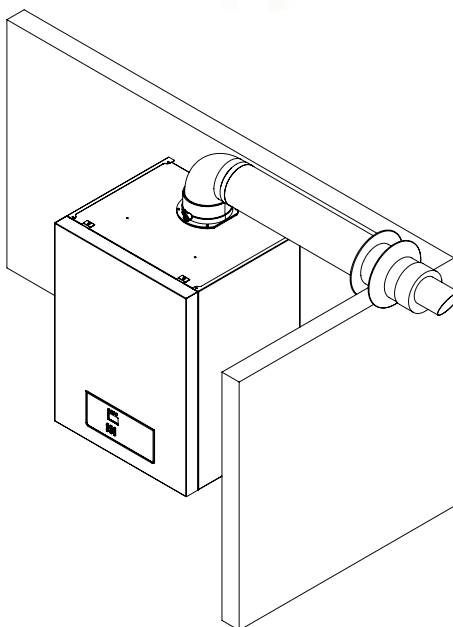





Figure 2.20 Combi concentric flue wall outlet for hermetic use.

• Concentric extension pipes and plug-in type seal for elbows. To connect the possible extension connections of the exhaust gas flues to other elements of flues: Connect the male (straight) side of concentric pipe or concentric elbow to the female side (sealed side) of the previous part, in this case make sure you have fitted the required washer, thus the connection will be tight and integrity of parts of the set will be ensured.

 In case the discharge flue and/or its extension must be shortened, keep in mind that the inner pipe must always protrude by 5 mm relative to the outer pipe.

 For safety reasons, the suction/discharge flue of the boiler should not be blocked, even if it is for short-term and temporary.

 During installation of the horizontal pipes, the pipe tilt must be kept upwardly a minimum of 3%, dowelled in every 3 m and a retaining clamp must be used.

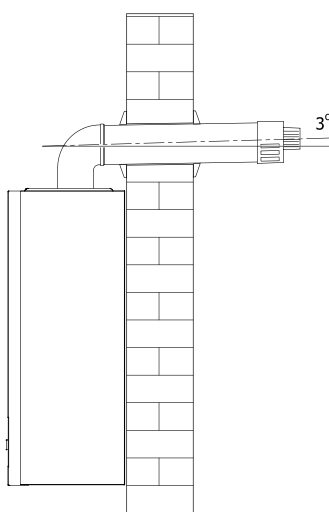


Figure 2.21 Condensed boiler flue tilt

Ø100/150 mm  
 L<sub>max</sub>= 18 m (Viwa S 90)  
 L<sub>max</sub>= 17 m (Viwa S 100)  
 L<sub>max</sub>= 17 m (Viwa S 125)  
 L<sub>max</sub>= 15 m (Viwa S 150)

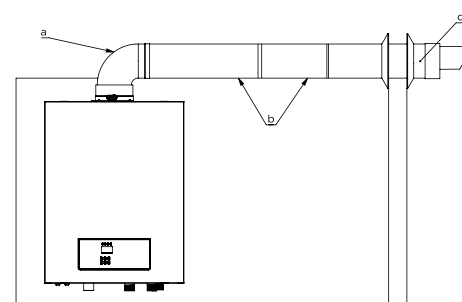



Figure 2.22 I. Single 90° angled sample flue installation

 The total length of the concentric flue set must not exceed L<sub>max</sub> value (Figure 2.23) horizontally with a single elbow. Furthermore, this total length is reduced by 1m for each 90° elbow use and 0.2m for each 45° elbow use. Up to 3 x 90° elbows can be used.

Ø100/150 mm  
 $a + b + c + d \leq L1 + L2$   
 Viwa 90 = 14,6 m  $\leq L1 + L2$   
 Viwa 100 = 13,6 m  $\leq L1 + L2$   
 Viwa 125 = 13,6 m  $\leq L1 + L2$   
 Viwa 150 = 11,6 m  $\leq L1 + L2$

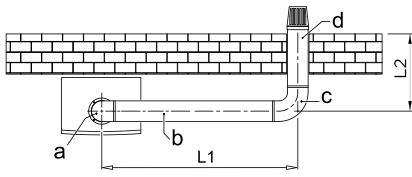


Figure 2.23 II. Two 90° cantilever sample flue

a- Horizontal Flue Set Elbow (90°)  
 b- Flue Extension Pipe  
 c- Additional 90° Elbow  
 d- Horizontal Flue Set Pipe

Ø100/150 mm  
 $a + b + c + d + e + f \leq L1 + L2 + L3$   
 Viwa 90 = 14 m  $\leq L1 + L2 + L3$   
 Viwa 100 = 13 m  $\leq L1 + L2 + L3$   
 Viwa 125 = 13 m  $\leq L1 + L2 + L3$   
 Viwa 150 = 11 m  $\leq L1 + L2 + L3$

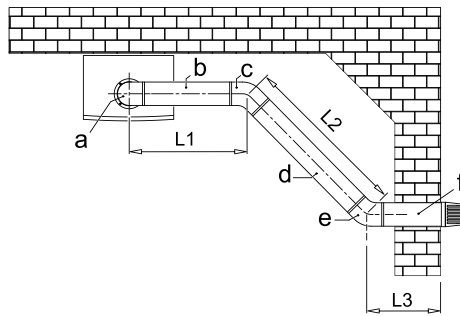


Figure 2.24 III. Single 90° and two 45° angled sample flue installation

a- Horizontal Flue Set Elbow (90°)  
 b- Flue Extension Pipe  
 c- Additional 45° Elbow (equivalent length = 2.0m)  
 d- Standard Flue Set Pipe  
 e- Additional 45° Elbow (equivalent length = 2.0m)  
 f- Horizontal Flue Set Pipe



**Equivalent Length of Elbows:**  
 45° Elbow equivalent length = 2.0 m  
 90° Elbow equivalent length = 3.4 m

### 2.7.2. Connection of ( 100/150 mm ) Horizontal Concentric Flue Sets and Mounting Horizontal Concentric Flue Set to The Boiler

Since your boiler is hermetic model, if it is used with concentric flue sets, it takes the air that it uses from the outside and emits exhaust gases due to combustion to the outside from the same flue group. The use and installation of the flue is very important to avoid emission of exhaust gases which are extremely harmful, therefore attention should be paid when making flue connections.

- Select the flue necessary for the flue connection from the mounted place of your boiler and outside. If the horizontal/vertical flue set is insufficient, select the most appropriate elements from our list of connection accessories by taking the warnings mentioned in our operating manual into consideration.
- Fix the flange under Elbow part (1) in Figure 17 on holes on the boiler by using the Flange Seal (10) and screwing with the flange connection screws (11).
- Two Sealing Gaskets (2) came with the concentric flue set are placed in the inner pipe slots at both ends of the 90° elbow.

- To group the flue outlet terminal, intertwine the outer wall (EPDM) gasket with flue terminal as seen in Figure 17. After intertwining the flue outlet terminal from the outer side of wall and previously opened holes insert the Internal Wall Connection Gasket (7) in flue terminal. Insert the other end of EPDM connection gasket you have already inserted in 90° flue elbow, into the flue outlet terminal. Pay attention to have the gaskets placed properly.

### 2.7.3. Mounting with Vertical Concentric Flue Sets

The boiler also has the possibility to connect vertically to the flat and sloped roof by means of the accessories it has according to the situation of the environment you will mount on. In straight connections, ( 100/150 mm ) vertical flue set should not exceed 11m.

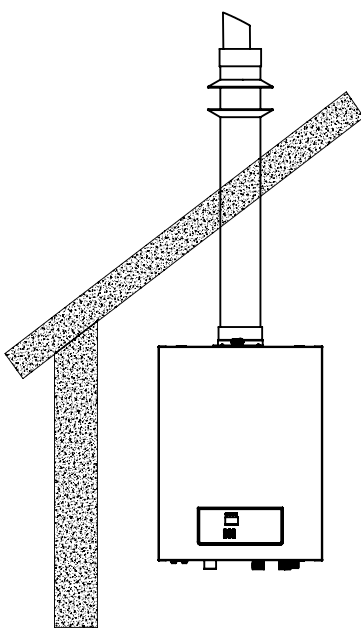


Figure 2.25 Vertical flue set mounting

#### In practice

- L1** = 0.3 m.
  - L2** = 2.0 m. (45° elbow equivalent length)
  - L3** = 4.5 m.
  - L4** = 2.0 m. (45° elbow equivalent length)
  - L5** = 4.7 m.
  - L6** = 1.0 m.
- L Toplam** = 14.5 m.

Correct in practice for Viwa 90, Viwa 100, Viwa 125.

However, it is not suitable for Viwa S150, according to this example the maximum length of the flue pipes should not exceed 13 m.

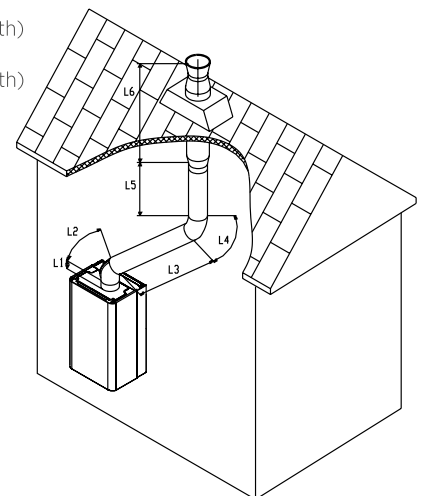
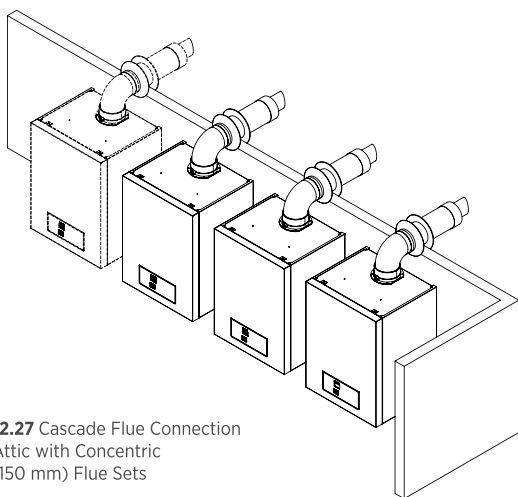


Figure 2.26 Vertical flue set mounting application



**Figure 2.27** Cascade Flue Connection in the Attic with Concentric (Ø100/150 mm) Flue Sets

#### 2.7.4. Mounting with Concentric Flue Sets in The Attic

In the cascade installations in the attic, exhaust gas flue connection of each boiler can be done with concentric (Ø100/150 mm) Horizontal or Vertical Flue Sets. This is in accordance with TS 7363.

#### Concentric (Optional) Flue Accessories ( 100/150 mm) for Viwa S 90, 100, 125 and 150 Wall Type Condensing Boilers

Flue accessories can be mounted to each other by tight fit method and therefore no additional parts are required for connection.

Product Code	Product Name	Description	Product View
15311014000007	Ø 100/150 Horizontal Flue Set	Maximum Flue Distances L <sub>max</sub> = 18 m (Viwa S 90) L <sub>max</sub> = 17 m (Viwa S 100) L <sub>max</sub> = 17 m (Viwa S 125) L <sub>max</sub> = 15 m (Viwa S 150)	
15311660600042	Ø 100/150 Extension Flue L=500mm	Can be used with Horizontal Flue Set and Vertical Flue Set.	
15311660600043	Ø 100/150 Extension Flue L=1000mm	Can be used with Horizontal Flue Set and Vertical Flue Set.	
15311660600044	Ø 100/150 Elbow 90°	Can be used with Horizontal Flue Set and Vertical Flue Set. Each 90° elbow use requires a reduction of 100cm from the maximum horizontal/vertical distance.	
15311660600138	Ø 100/150 Elbow 45°	Can be used with Horizontal Flue Set and Vertical Flue Set. Each 45° elbow use requires a reduction of 50 cm from the maximum horizontal/ vertical distance.	
15311660600142	Ø 100/150 Condensate Discharge Adaptor	It is used in all vertical flue connections to discharge the condensate or rain water that may come from the flue before it reaches the boiler. If this part is used, it is necessary to reduce the maximum horizontal/vertical flue distance by 100 cm.	
15311660600041	Ø 100/150 Vertical Flue Set	Maximum Flue Distances L <sub>max</sub> = 20 m (Viwa S 90) L <sub>max</sub> = 20 m (Viwa S 100) L <sub>max</sub> = 19 m (Viwa S 125) L <sub>max</sub> = 17 m (Viwa S 150)	
15311660600124	Straight Roof Passage Apparatus	It is the apparatus that provides a leak-proof passage of the Vertical Flue Set flue from straight roofs.	
15311660600125	Sloped Roof Passage Accessory	It is the apparatus that provides a leak-proof passage of the Vertical Flue Set flue from sloped roofs.	

## 2.8. MOUNTING TO PARTIALLY PROTECTED OUTER SPACES

**Installation instructions:** This boiler can be installed in partially protected outer spaces. Partially protected space means that the boiler is located at spaces where it is not directly exposed to atmospheric factors and precipitation (rain, snow, hail, etc.).

**Protection Against Freeze:** The boiler is equipped with a system that automatically prevents the freezing by putting the pump and the burner into operation when the water in the boiler falls below 5°C. The protection against freeze depends on the following conditions:

- If the boiler is correctly connected to gas and electricity sources;
- If the boiler is supplied constantly from gas and electricity sources (if main switchgear is on)
- If the boiler does not come to the fault condition due to lack of ignition;
- In order to ensure the circulation of the installation water, the installation valves and radiator valves under the boiler must be in the open position. Under these conditions, the boiler is protected against freeze up to an ambient temperature of -5°C.

The lowest temperature is -5°C. If the temperature of the boiler is mounted in an environment that may be below -5 °C and if the gas inlet is cut off or the ignition fails, the Anti-Freeze System will not be put into practice and freezing/icing will occur in the appliance. The following instructions must be followed to prevent freeze risk:

- Protection of the heating circuit against freeze by placing filling it with an antifreeze (special for heating appliances) in a percentage of the required minimum storage temperature for the heater by a well-known antifreeze producer, and by carefully following the instructions.

The materials from which the boilers are made are resistant to ethylene glycol and propylene-based icing inhibitor liquids. Please observe the warnings of the supplier about their life and possible disposal methods.

**Protecting the boiler against freeze/icing is only guaranteed on these conditions:**

Damages that are caused by failure to comply with the foregoing and interruption of electrical energy shall be excluded in the effectiveness of the guarantee. If the boiler is mounted in places where the temperature falls below 0°C (both for domestic use and for heating purposes), then both the heating installation and the domestic water pipes must be insulated.

## 2.9. ELECTRICAL CONNECTIONS

The electric safety of the boiler takes place only if it is fully connected to an effective grounding system applied as envisaged by the applicable safety directives. The grounding shall not be made on the socket through neutral line if there is no grounding! The use of gas and water connection pipes for grounding is dangerous and unacceptable.

*WARMHAUS A.Ş. shall not be held responsible for any damage or loss that may occur to a person or property due to the absence of grounding connection of the boiler and the failure of an authorized electrician to comply with the applicable regulations and standards during grounding.*

Furthermore, check that the electrical installation meets the maximum power that can be pulled as specified in the technical specifications label on the boiler. Boilers should be connected with "X" type special power supply cables without socket. The Warmhaus boilers have a protection level of IPX5D. Power supply cable must be connected to a 230 V + 10%; - 15% 50Hz network with L-N polarity and grounding connection, and on the same network, a high voltage category III class multi-pole contact cutter should be installed. When it is necessary to replace the cable, be sure to contact our Authorized Warmhaus Service.

The power supply cable must follow the specified route. If the fuses on the adjustment card are to be replaced, use a 2A or 3.15A quick-type fuse.



For the supply of the appliance over the general electric network, the use of adapters, multiple sockets, and extension cables is not permitted.

## 2.10. OPTIONAL CONTROLS: ROOM THERMOSTAT, EXTERIOR TEMPERATURE SENSOR AND OTHERS

The control devices such as Room Thermostat, Exterior Temperature Sensor, etc. must always be connected to Warmhaus boilers by an authorized service personnel, if the connections are made by unauthorized persons, the boiler will be out of warranty.



Control devices such as Room Thermostat, Exterior Temperature Sensor, etc. are provided to Warmhaus boilers as optional accessories and must be Warmhaus-approved.

See user manual for placing the Exterior Temperature Sensor.

This sensor that can be directly connected to the electrical installation of the boiler automatically reduces the maximum flow temperature in the installation when the exterior temperature increases so that the temperature sent to the heating installation works in compliance with the exterior temperature changes. The Exterior Temperature Sensor is actuated when connected independently of the typology of the room thermostat used and operates in conjunction with room thermostats. The relationship between the installation inlet temperature and the exterior temperature is determined according to the curves given in the diagram from the position of the button on the boiler panel (or on the control panel if connected to the boiler) (Figure 3.2).

The electrical connection of the Exterior Temperature Sensor should be made on pins no. 3-4 in the Low Voltage range where terminal pins 1-14 are located on the boiler electronic board (Figure 2.28).



**Figure 2.28** RC21.13 Room Unit with Heating Area Programming and Hot Water Tank Programming for Temperature Control and Domestic Hot Water

### TECHNICAL INFORMATION

Sizes and Weight:

128 x 99 x 36mm (compatible with box 503) 130g

Power Supply: Bipolar and nonpolar cable

Power consumption: Max 18V (normal use)

Max 23mA (max 250mW)

Charging capacity: Max 24h (after at least 3 hours charge)

Room sensor sensitivity: +/- 0.5°C at 25°C

Time accuracy: +/- 15 min/year (maximum deviation)

Operating temperature: 0 to 50°C

Protection classes:

EN 60730: II

IP EN 60529: IP20 (if wall-hanged)

**Installation Instruction:** Installation of the appliance should only be carried out by a Warmhaus Service Partner. The dual cable required for installation is supplied by the dealer/consumer.



Electrical Diagram			
Designation : Viwa and Viwa S 90 / 150 commercial boilers			
<b>Object</b>	<b>Manufacturer</b>	<b>Type-model / Technical data</b>	<b>Mark (s) of conformity</b>
Burner Control	Bertelli	HDIMS50	granted

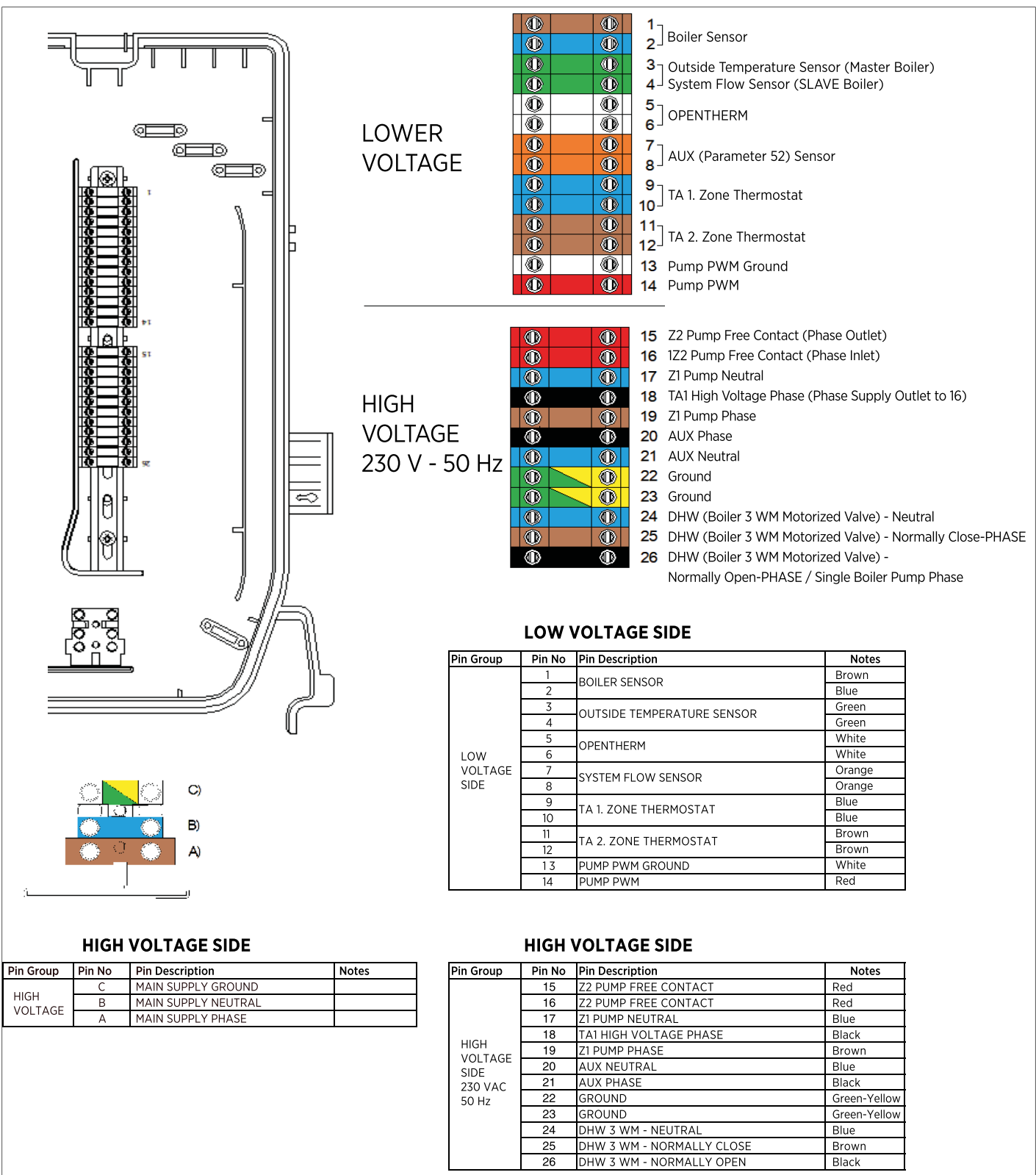


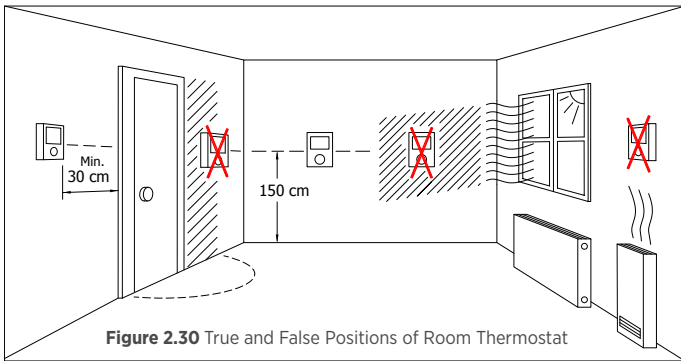
Figure 2.29 Connections for the boiler room thermostat and exterior temperature sensor and other installation elements.



The room thermostat should be installed at a distance of 1.25 to 1.5 m from the floor.



It should be at least 30 cm away to air flow from the open door and window edges.



## 2.11. HYDRAULIC INSTALLATION MOUNTING RULES

### 2.11.1. Structure of Radiator (Heating) Water and Preventive Water Treatment Procedure for Heat Exchangers

Before and during assembly, the system must be cleaned of foreign matter, construction dust, sand, copper dust, grease, carbon deposits, etc., as well as welding powder residues.



**Caution:** Before making the connection to the boiler, make sure that any residues in the main heat exchanger (pipes, heating appliances, etc.) are removed using solvents or similar substances so that the appliance warranty does not lose its validity, otherwise it will have a negative effect on the operation of the boiler. follow the rules

stipulated by the standards for domestic water and heating installations.

In order to prevent the accumulation of lime in the heating system and the malfunctioning of the installation, The following descriptions describe the quality of water required for heat exchangers. In order to obtain the required heat transfer, the installation water must be of good quality. Parameters such as PH, hardness, conductivity, oxygen, flux residues, oil residues, and corrosion products due to installation may cause negative effects on the heat exchanger. Before filling (old and new) the installation, it should be thoroughly rinsed in accordance with EN 14336 with clean running water from the tap. Central Heating units are exposed to chemical effects when they are filled with water.

Therefore, it is important to consider the following installation recommendations to not worsen the corrosion phenomenon.

The heat exchanger will be used and operated as filled with water within the temperature and pressure limits given in its technical data. Warmhaus recommends using a dirt separator, filter, etc. in order to prevent any residue and dirt (plastic particles, soldered circuit particles, dirt...) from forming inside the heat exchanger, even after preventing water cleaning before the first commissioning.

The pH of the water should be within the following limit:  $7.5 < \text{pH} < 9.5$  and if the system contains aluminium parts, it should be less than 8.5. This pH value can be reached after stable conditions following the filling and the discharge of the main water supply in the installation (pH around 7) and the air (dead water condition).

The water hardness must be within the following limits:

$5^{\circ}\text{f} < \text{TH} < 15^{\circ}\text{f}$  (French unit)

3 Grains/US gal < TH \* < 9 Grains/US gal (US units)

\*(TH stands for "Total Hardness").

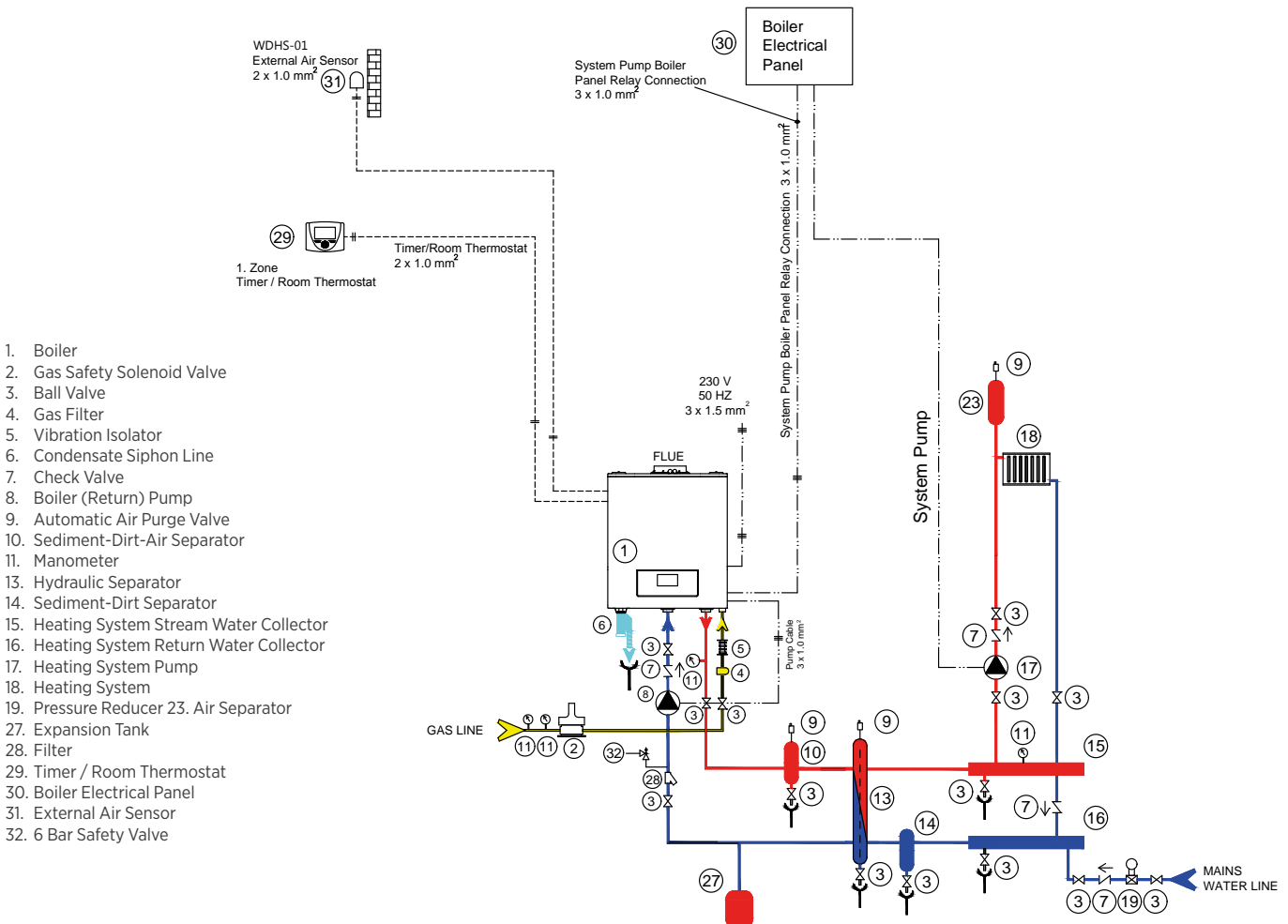


Figure 2.31 Single Boiler and 1 High Temperature Zone Connection Scheme

In order to avoid maximum oxygen in the system, it is recommended to avoid air ingress and water leak as much as possible during the installation. The ordinary points where air is most likely to leak in include the suction gasket, pump, air valve acting as the vent pipe, O'ring gaskets in the stuffing box.

### Water treatment

In any system that is not protected by an inhibitory (preventive/protective) chemical, black oxide sludge (magnetite - Fe<sub>3</sub>O<sub>4</sub>) is formed as a result of continuous electrolytic corrosion. During oxygenation, iron oxide (Fe<sub>2</sub>O<sub>3</sub>) (red oxide sludge) is produced. Limescale is composed of the most dispersed water-based limescale that settles on the hottest surfaces of the system.

Sludge and lime mix and this is the cause of major site problems encountered in heating installations.

The presence of these substances means that standard measures are not applied. In this case, the product warranty cannot be applied.

The chemical compatibility of many products for the treatment of heating water equipment has been tested in Warmhaus heat exchangers.

Warmhaus recommends the use of these corrosion inhibitors in preventive and remedial treatment for boilers equipped with heat exchangers.

The control and control frequency of the inhibitor product mixed with the heating water shall be in accordance with the requirements of the suppliers of the inhibitor products, and if such requirements of these products are not met, then the heat exchanger shall not be under warranty. (For example: A mixture of water and antifreeze ratio must be examined. Indeed, a striking corrosive effect occurs in case the very low concentration of antifreeze in the heating water is around 10%.

Warmhaus has focused its analysis particularly on the material and sealing, as well as thermochemical compatibility of treatment products.

There are many products in the market that claim to be clean and protect the heating systems. Unfortunately, there are a few products that have actually proved this in practice. For this reason, Warmhaus only allows the products with following quality for water treatment;

#### Manufacturer : Fernox ([www.fernox.com](http://www.fernox.com))

- Cleaner F3 : Removes corrosion, lime and sludge
- Protector F1 : Protects against corrosion, lime and sludge
- Alphi-11 : Prevents freezing and provides protection against corrosion and lime

#### Manufacturer : Sentinel ([www.sentinelprotects.com](http://www.sentinelprotects.com))

- X 100 : General inhibitor protection
- X 200 : Noise reduction
- X 300 : System cleaner for new installations
- X 400 : System renewing sludge cleaning for old installations
- X 500 : Protective antifreeze and general protection

#### Manufacturer : Clariant ([www.antifrogen.clariant.com](http://www.antifrogen.clariant.com))

Antifrogen-L : Antifreeze (mono ethylene glycol) (Note: Antifrogen-N is toxic, using Antifrogen-L is recommended)

### Corrosion/Sediment Inhibitors and Recommended Suppliers

Manufacturers	Fernox	Sentinel	Sotin	ADEY
Inhibitors	Protector F1 / Alphi 11	X100, X500	Sotin 212	MCI+
Noise reduction		X200		
General cleaners	Restorer	X300		
Mud remover	Protector F1, Cleaner F3	X400	Sotin 212	
Protection against freezing	Alphi 11	X500		
Impermeability		Leaker Sealer F4		

Application Program	Protector	Improver
Protector F1	X	
Cleaner F3	X	X
X100	X	
X200	X	
X300		X
X400		X
X500	X	
Alphi 11	X	
Anti-leak F4	X	
Sotin 212		X
MCI+	X	

Do not forget that all these products must be used strictly in accordance with the instructions of the water treatment manufacturers.

### We also strongly advise the implementation of the following recommendations:

- Use a logbook to record water fill, refill, top fill, water quality measurements, and water treatment.
- Use only non-diffusing material, particularly for floor heating.
- Always install air discharge appliances at the highest point in the installation.
- In order to avoid filling, refilling, and underfilling as much as possible, place ball valves in the plumbing close to the boiler and at strategic locations (anticipating future expansions of the system).
- In case an automatic water filling system is used, install a water meter to control the amount of filled, refilled, and fully filled water (any fresh water brings fresh oxygen to the system).
- Install a filter in the return line of the boiler.
- In case of any doubt, install a plate heat exchanger to hydraulically separate the boiler from the installation.
- Prevent leaks; if there is a leak, repair it as soon as possible.

We recommend that you add this description of the preventive water treatment to your installation and user manual. The above-mentioned water quality requirements apply to aluminium heat exchangers.

The requirements of other parts in the installation have not been taken into consideration.

### ABD Conversion:

- 1 litre = 0,264 USA gallon
- 1 °dH = 0,959 gpg
- 1 kW (NCV) = 3,792 MBTU/s (GCV)
- 1 litre/kW = 0,0697 USA gallon/BTU/s

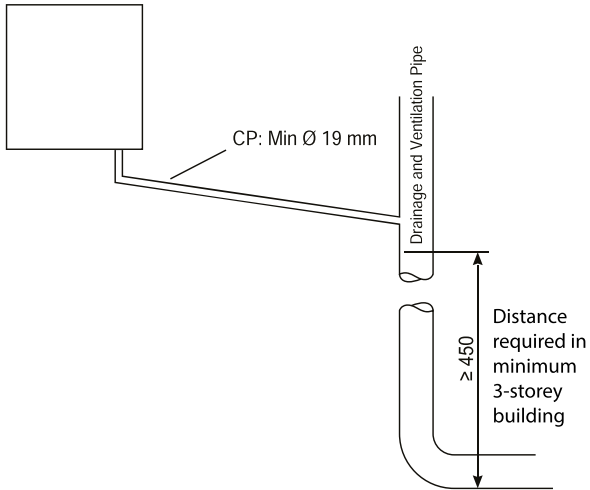
All information contained in the above descriptions are associated with reasonable research, but does not guarantee any result.

### 2.11.2. Filling / Emptying Heating System

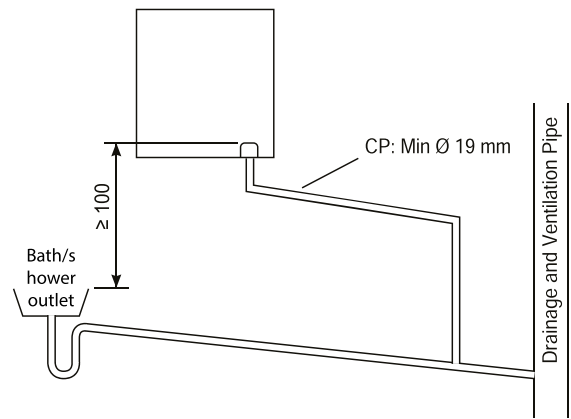
Following the installation of the boiler, a supply connection from the network line must be made with a ball valve with the purpose of filling in heating installation line in order to fill the closed-circuit heating installation. By turning this valve on, ensure that the pressure in the Manometer reaches up to a maximum of 2.5 bar and turn the Filling Valve off by turning it clockwise and bleed the air of the radiators again with the air vent valves.

**According to the operating conditions, it must have been calculated and designed accordingly that the installation will be operated at full capacity and the boiler will be operated at maximum temperature under conditions not exceeding 6 bar pressure!**

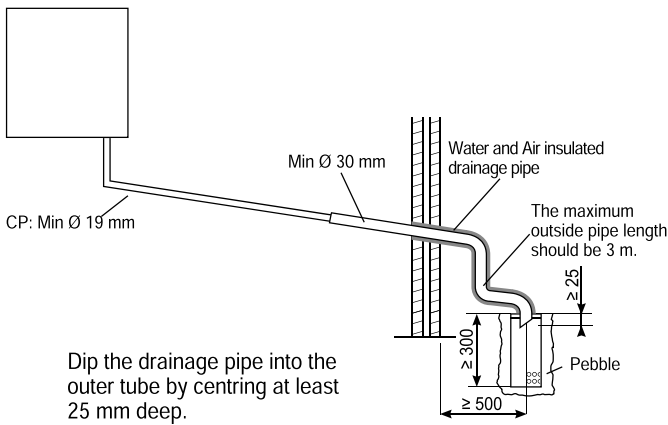
The pressure setting of the expansion tank to be used in the installation must also be checked and made appropriate for the operating conditions. The boiler safety valve discharge must be connected to a discharge funnel. Otherwise, the safety valve will be activated and the manufacturer cannot be held responsible for water discharge to the place where the appliance is located.



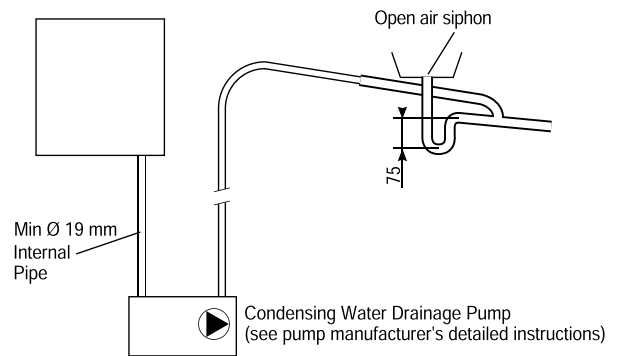
**Figure 2.32** Connection of a Condensate Drainage Pipe to an Interior Drainage and Ventilation Pipe



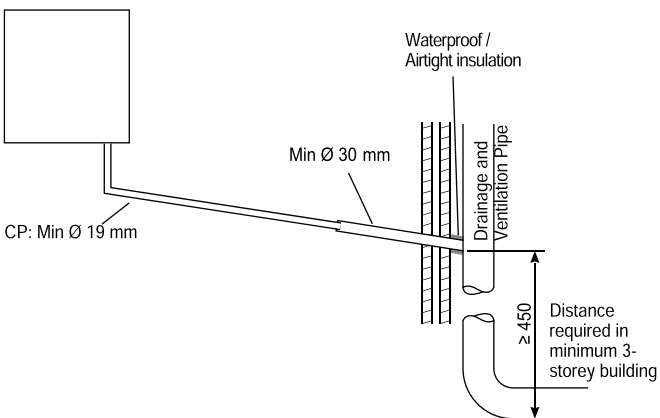
**Figure 2.33** Connection of Condensate Drainage Pipe to Bottom Level of Interior Bath Outlet Siphon



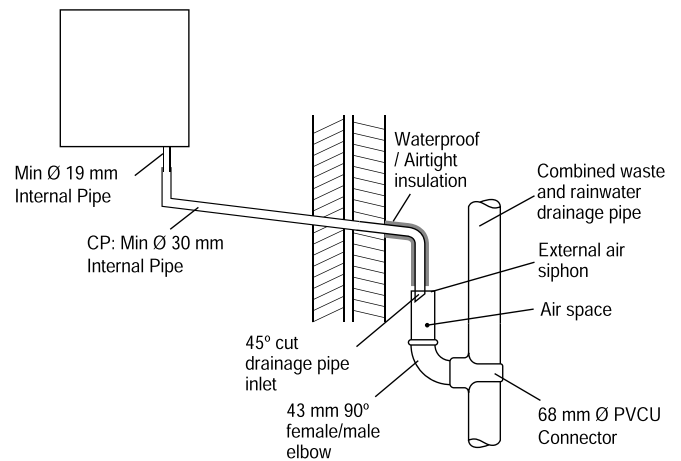
**Figure 2.34** Outdoor Connection of a Condensate Drainage Pipe



**Figure 2.35** Typical Connection Method of a Condensate Drainage Pump (see detailed instructions of the pump manufacturer)



**Figure 2.36** Connection of Condensation Drainage to Drainage and Ventilation Pipe



**Figure 2.37** Connection of Condensation Drainage to Rainwater Pipe

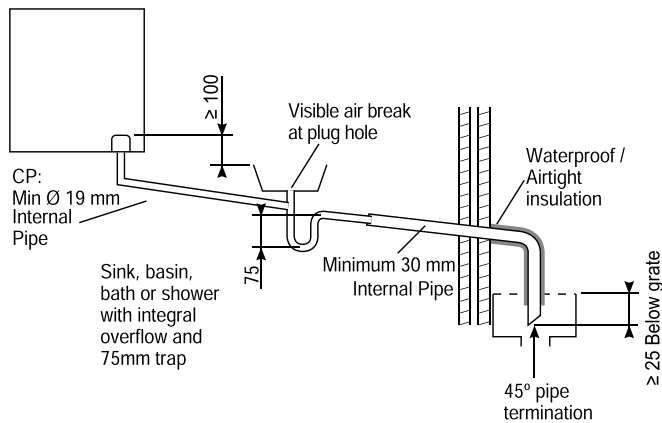


Figure 2.38 Connection of Condensation Drainage Pipe to External Rain Water Drainage from outlet of Sink, Bathtub or Shower Waste Water

### 2.11.3. Discharge of Condensing Water

In order to discharge the condensate generated by the appliance, it must be connected to the waste water network by means of pipes with at least  $\varnothing 24$  mm inside it and resistant to acidic condensate. The connection of the appliance to the waste water network must be carried out in a way to prevent the liquid contained in the connection installation from freezing. Before operating the appliance, it must be ensured that the condensate can be drained correctly; afterwards, verify that the siphon is filled with condensation at the first start-up. Furthermore, it is necessary to pay attention to the applicable regulations, national and local regulations in the discharge of waste water.

### 2.11.4. Circulation Pump (Optional)

Since Viwa boilers are provided without a pump, it must be used with a pump that will provide the required flow rate for the critical line pressure loss for the heating system. Warmhaus recommends the frequency converter pump that is in compliance with European Energy efficiency directives (ErP) for good performance and energy saving and provided as OPTIONAL in Figure 2.29.

## Viwa Boilers Optional Pump Sets

### WH-90/125 & WH-150

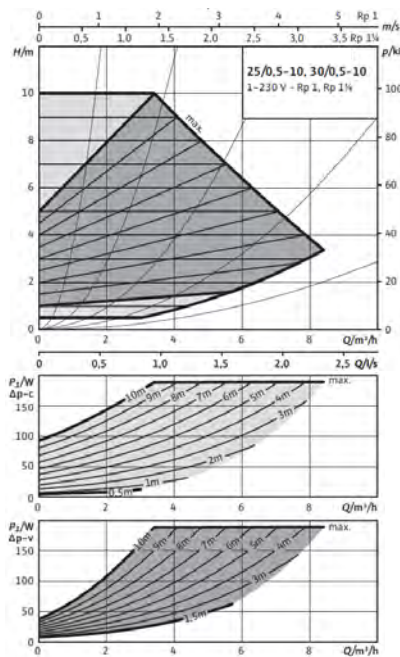
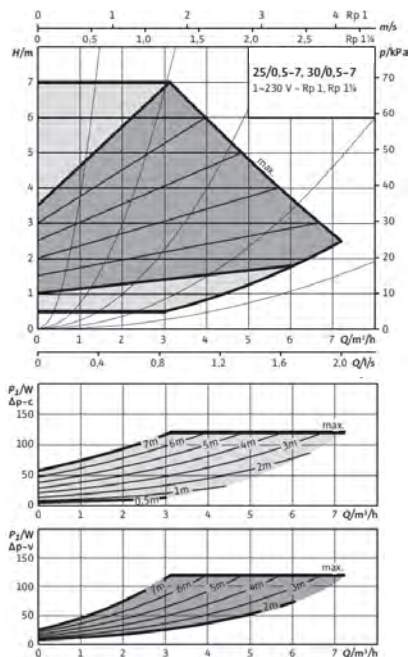
YP HF 25/7 & YP HF 25/10 Pump Sets



Boiler Pump Selection Table			
Boiler Model	Product Name	Description	Pump Code
Viwa S 90 Viwa S 100 Viwa S 125 Viwa 90 Viwa 115 Viwa 125	WH-90/125 YP HF 25/7 Pump Set	WH-90/125 YP HF 25/7 pump set to be used for Viwa S 90, Viwa S 100, Viwa S 125, Viwa 90, Viwa 115, and Viwa 125 boilers, modulating pump, 2 unions, check valve and gasket set.	15211003000002
Viwa 150	WH-150 YP HF 25/10 Pump Set	WH-150 YP HF 25/10 pump set to be used under Viwa 125 boiler, modulating pump, 2 unions, check valve and gasket set.	15211003000003



Pump Set Image for Viwa S and Viwa boiler series





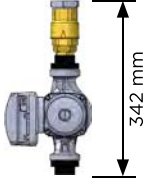
### Hydraulic Operating Area $\Delta p-v$ / $\Delta p-c$

Figure 2.39 High-pressure and high-flow pump connection set accessories for wall-mounted boilers.



Viwa S 90, Viwa S 100, Viwa S 125, Viwa S 150, Viwa 90, Viwa 115, Viwa 125 and Viwa 150 Boilers Boiler Pump Set

## Viwa Boilers Optional Pump Sets

Boiler Pump Selection Table				
Boiler Model	Product Code	Product Name	Description	Pump Set
Viwa S 90, Viwa S 100, Viwa 90, Viwa 115	15211003000012	WH-90/115 UPML 25-105 Auto130 Pump Set	It is <b>WH-90/115 UPML 25-105 Auto130</b> pump set that will be used as a boiler pump in the return line for the boiler models Viwa S 90, Viwa S 100, Viwa 90 and Viwa 115, and it is comprised of a modulating pump, 2 x unions, check valve, and gasket set.	
Viwa S 125, Viwa 125	15211003000013	WH-125 UPMXL 25-125 Auto130 Pump Set	It is <b>WH-125 UPMXL 25-125 Auto130</b> pump set that will be used as a boiler pump in the return line for the boiler models Viwa S 125 and Viwa 125, and it is comprised of a modulating pump, 2 x unions, check valve, and gasket set.	
Viwa S 150, Viwa 150,	15211003000014	Viwa 150 Pump Set- Grundfos	UPMXXL 25-120 Auto 180 Pump Set to be used under Viwa 150 boiler, modulating pump, 2 unions, check valve and gasket set.	

Part No.	Image No	Part Name	Quantity	Material
1	150110190000076	1 1/2" Fixing Gasket	3	Fixing BA 203
2	150110190000081	1 1/2" 1/4" Pump Sleeve	1	Brass
3	150110070000002	1 1/4" Check Valve	1	Brass
4	150110190000128	1"- 1 1/4" Pump Reduction	1	Brass
5	150110190000079	1" Nipple	1	Brass
6	150110190000077	1" 1 1/2 Pump Sleeve	2	GG25 Cast
7	150110100000024	Viwa 150 Pump	1	UPMXXL 25-120 Auto 180
7	150110100000023	Viwa 125 Pump	1	UPMXL 25-125 Auto 130
7	150110100000022	Viwa 90-115 Pump	1	UPML 25-105 Auto 130

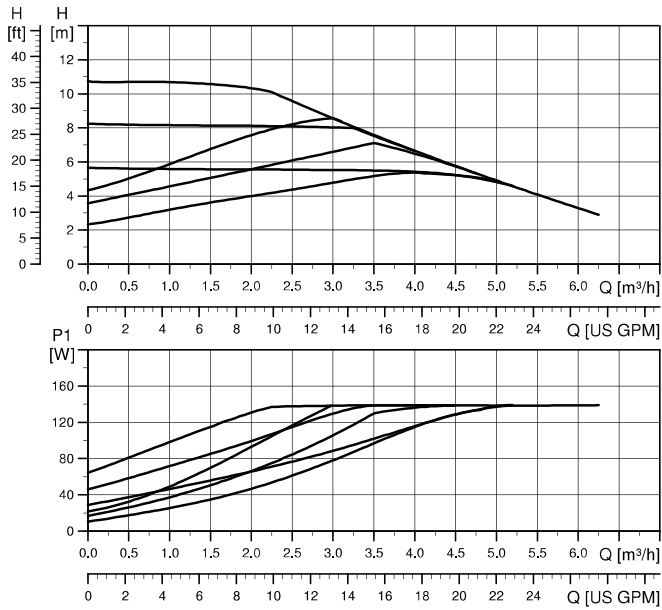


Position of  
Control Box

Technical Data			
System pressure	Max. 1.0 MPa (10 bar)	Protection class	IPX2D
Minimum input pressure	0.01 MPa (0.10 bar) at 95 °C temperature of fluid	Insulation Class	H
temperature of fluid	-10 °C to +95 °C (TF 95)	Equipment class	I
Motor protection	Overload protection	Approval and marking	VDE. CE

## Viwa S 90, Viwa S 100, Viwa 90 and Viwa 115 Boiler Pump Set

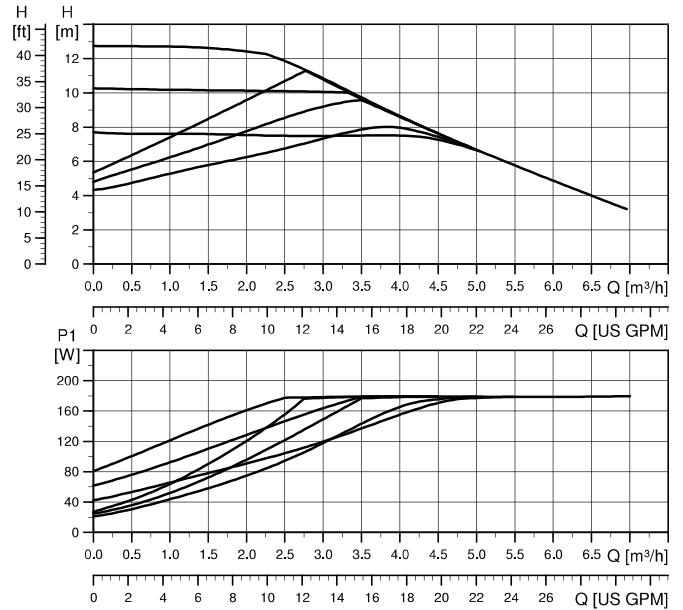
WH-90/115 UPML 25-105 Auto130



Electrical Data, 1 x 230 V, 50/60 Hz		
Speed	P <sub>1</sub> [W]	I <sub>V1</sub> [A]
Min.	12	0.1
Max.	140	1.1

## Viwa S 125 and Viwa 125 Boiler Pump Set

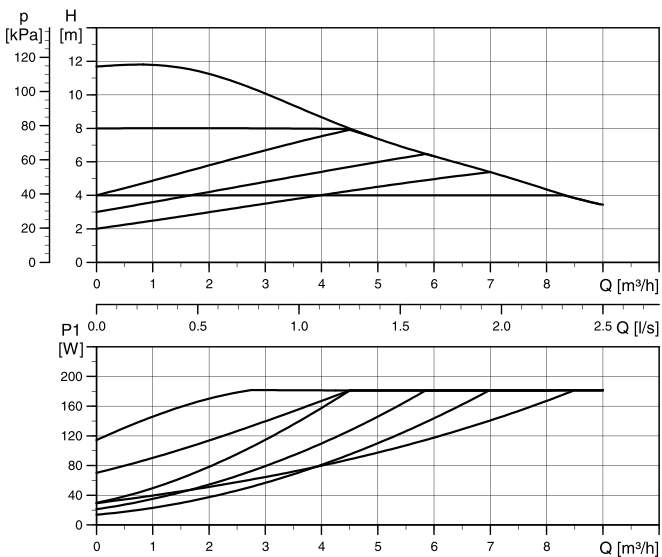
WH-125 UPMXL 25-125 Auto130



Electrical Data, 1 x 230 V, 50/60 Hz		
Speed	P <sub>1</sub> [W]	I <sub>V1</sub> [A]
Min.	20	0.2
Max.	180	1.4


## Viwa S 150 and Viwa 150 Boiler Pump Set

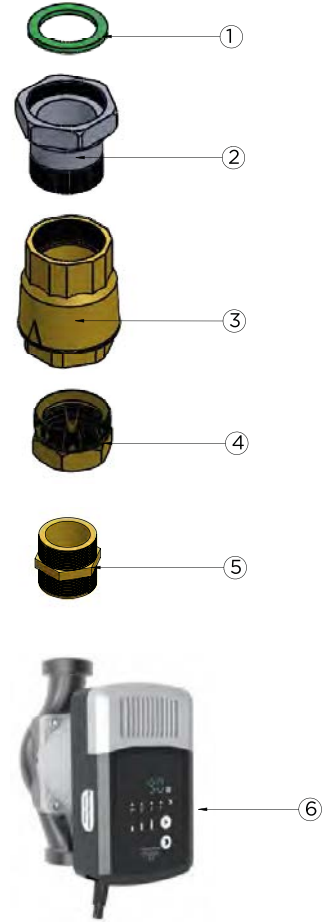
WH-150 UPMXXL 25-120 Auto 180



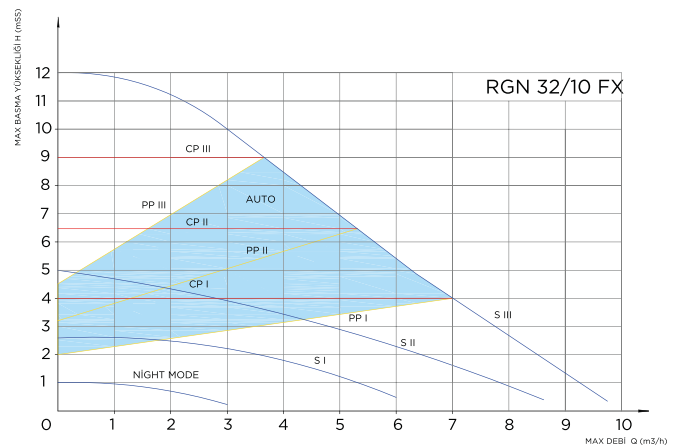
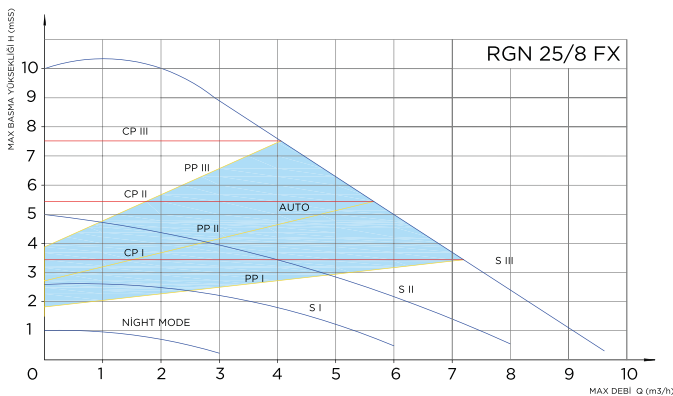
Electrical Data, 1 x 230 V, 50/60 Hz		
Speed	P <sub>1</sub> [W]	I <sub>V1</sub> [A]
Min.	18	0.1
Max.	180	0.4

# Viwa Boilers Optional Pump Sets

Boiler Pump Selection Table				
Boiler Model	Product Code	Product Name	Description	Pump Set
Viwa S 90, Viwa S 100, Viwa 50, Viwa 65, Viwa 90, Viwa 115	15211003000015	Viwa 50-65-90-115 Pump Set - Regen	It is <b>VVH-50/115 RGN 25/8 FX</b> Pump Set that will be used as a boiler pump in the return line for the boiler models Viwa S 90, Viwa 115 Viwa 50, Viwa 65, Viwa 90, Viwa 115, and it is comprised of a modulating pump, 2 x unions, check valve, and gasket set.	 342 mm
Viwa S 125, Viwa 125, Viwa 150	15211003000016	Viwa 125-150 Pump Set - Regen	It is <b>VVH-125/150 RGN 32/10 FX</b> pump set that will be used as a boiler pump in the return line for the boiler models Viwa S125, Viwa 125, Viwa 150, and it is comprised of a modulating pump, 2 x unions, check valve, and gasket set.	

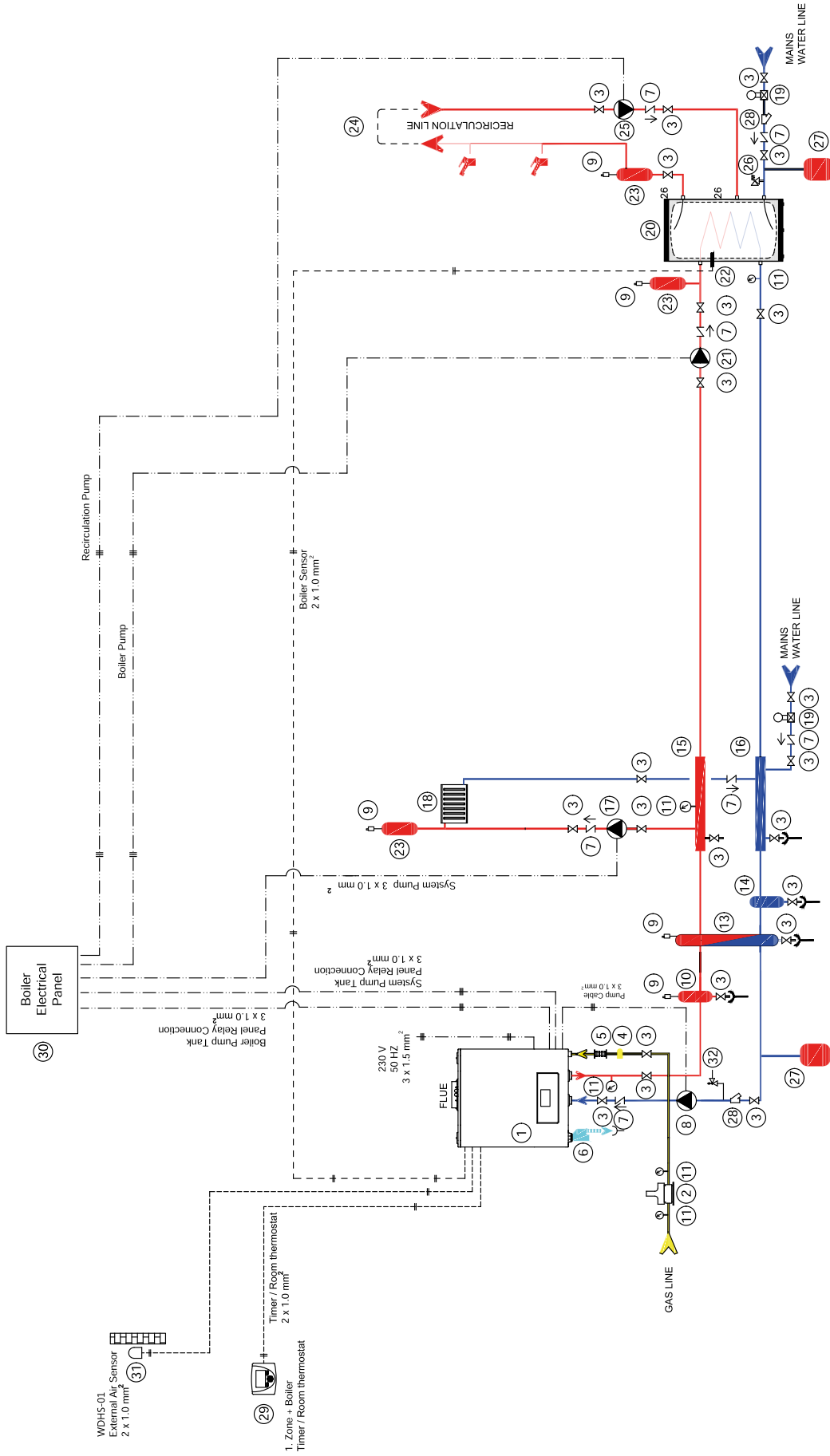


Part No.	Image No	Part Name	Quantity	Material
1	15011019000076	1 1/2" Fixing Gasket	3	Fixing BA 203
2	15011019000081	1 1/2" 1/4" Pump Sleeve	1	Brass
3	15011007000002	1 1/4" Check Valve	1	Brass
4	15011019000128	1"-1 1/4" Pump Reduction	1	Brass
5	15011019000079	1" Nipple	1	Brass
6	15011010000026	Viwa 125-150 Pump	1	RGN 32/10 FX
6	15011010000025	Viwa 50-65-90-115 Pump	1	RGN 25/8 FX



Electrical Data, 1 x 230 V, 50/60 Hz		
Pump Model	[W]	Connection
RNG25/8FX.	120	1 1/2"
RGN32/10FX	180	2"



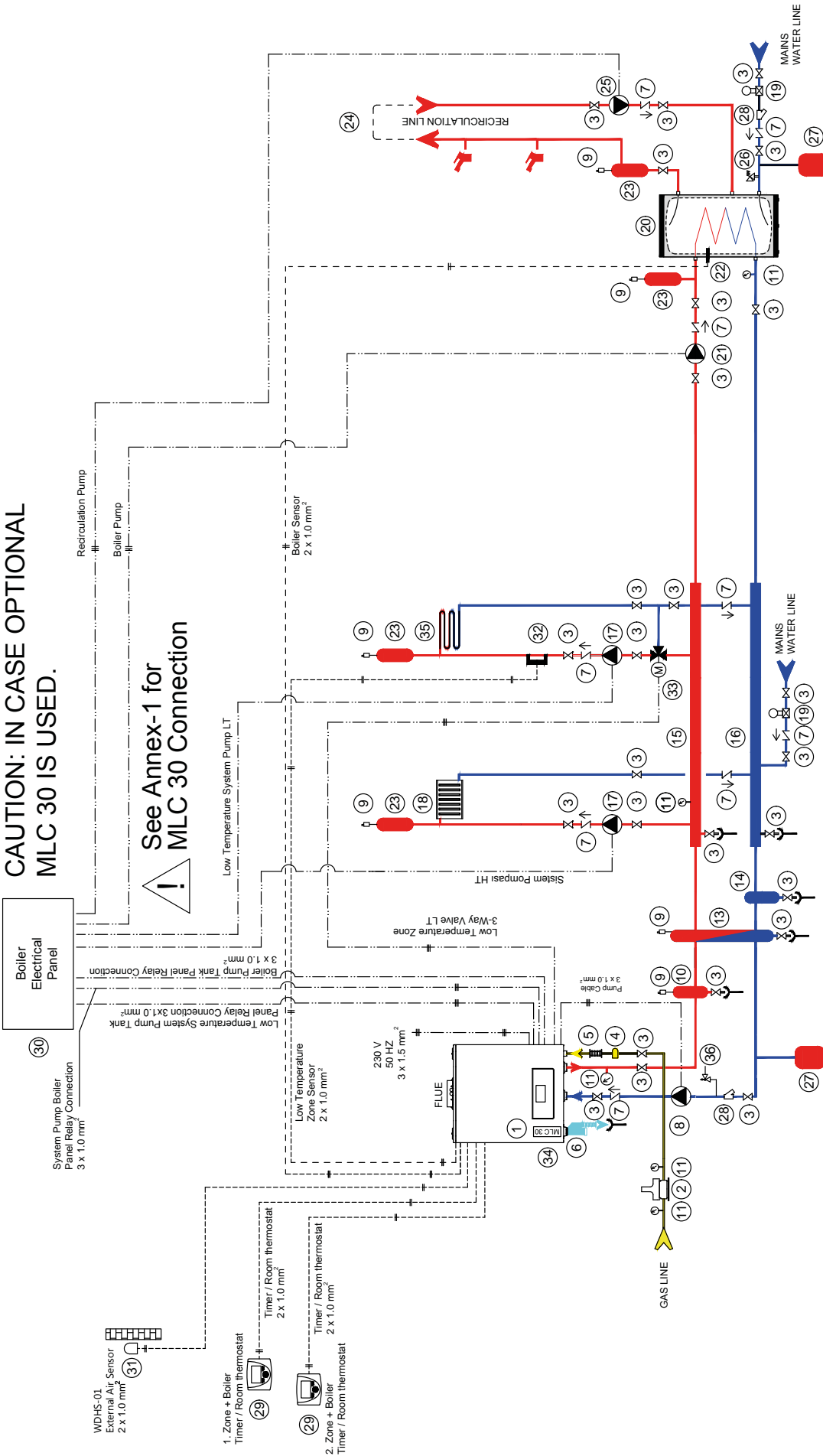


**INSTALLATION EQUIPMENT**

- |   |                             |
|---|-----------------------------|
| 1. Boiler                                 | 26. Safety Valve            |
| 2. Gas Safety Solenoid Valve              | 27. Expansion Tank          |
| 3. Ball Valve                             | 28. Filter                  |
| 4. Gas Filter                             | 29. Timer / Room Thermostat |
| 5. Vibration Isolator                     | 30. Boiler Electrical Panel |
| 6. Condensate Siphon Line                 | 31. External Air Sensor     |
| 7. Check Valve                            | 32. Bar Safety Valve        |
| 8. Boiler (Return) Pump                   |                             |
| 9. Automatic Air Purge Valve              |                             |
| 10. Sediment-Dirt-Air Separator           |                             |
| 11. Manometer                             |                             |
| 13. Hydraulic Separator                   |                             |
| 14. Sediment-Dirt Separator               |                             |
| 15. Heating System Stream Water Collector |                             |
| 16. Heating System Return Water Collector |                             |
| 17. Heating System Pump                   |                             |
| 18. Heating System                        |                             |
| 19. Pressure Reducer                      |                             |
| 20. Boiler                                |                             |
| 21. Boiler Pump                           |                             |
| 22. Boiler Sensor                         |                             |
| 23. Air Separator                         |                             |
| 24. Boiler Recirculation Line             |                             |
| 25. Recirculation Pump                    |                             |

**Figure 2.40** Viwa S boiler with a Radiator Circuit and a Boiler connection diagram.

**CAUTION: IN CASE OPTIONAL MLC 30 IS USED.**



**See Annex-1 for MLC 30 Connection**

**INSTALLATION EQUIPMENT**

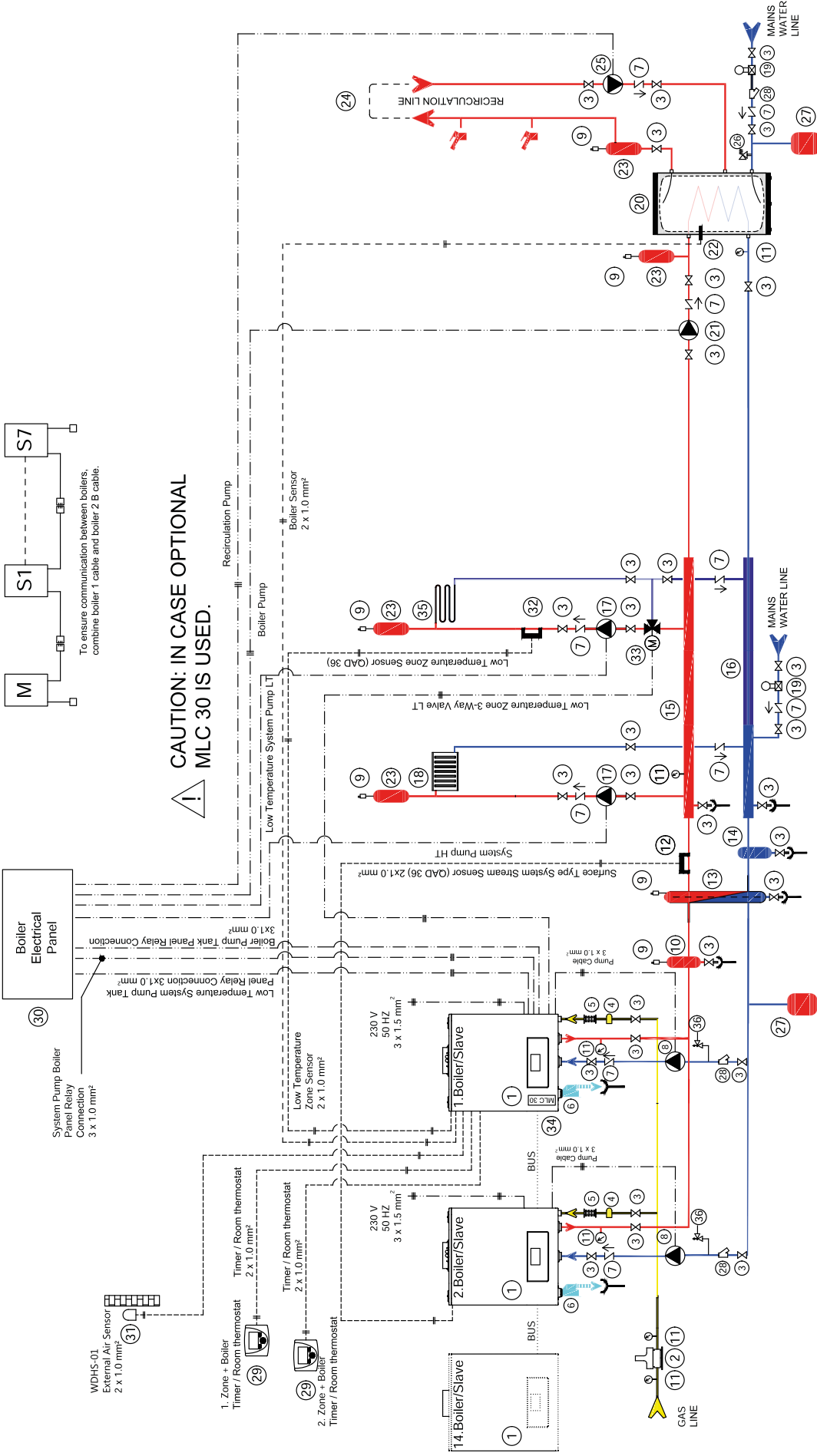
- 1. Boiler
- 2. Gas Safety Solenoid Valve
- 3. Ball Valve
- 4. Gas Filter
- 5. Vibration Isolator
- 6. Condensate Siphon Line
- 7. Check Valve
- 8. Boiler (Return) Pump
- 9. Automatic Air-Purge Valve

- 10. Sediment-Dirt-Air Separator
- 11. Manometer
- 13. Hydraulic Separator
- 14. Sediment-Dirt Separator
- 15. Heating System Stream Water Collector
- 16. Heating System Return Water Collector
- 17. Heating System Pump
- 18. Heating System
- 19. Pressure Reducer

- 20. Boiler
- 21. Boiler Pump
- 22. Boiler Sensor
- 23. Air Separator
- 24. Boiler Recirculation Line
- 25. Recirculation Pump
- 26. Safety Valve
- 27. Expansion Tank
- 28. Filter

- 29. Timer / Room Thermostat
- 30. Boiler Electrical Panel
- 31. External Air Sensor
- 32. Low Temperature Zone Sensor
- 33. 3-Way Motorized Mixing Valve
- 34. MLC 30
- 35. Low Temperature Zone
- 36. 6 Bar Safety Valve

**Figure 2.41** Viwa S boiler and hot water tank, as well as Multi-Zone System Connection Diagram



**CAUTION: IN CASE OPTIONAL MLC 30 IS USED.**

**INSTALLATION EQUIPMENT**

- 1. Boiler
- 2. Gas Safety Solenoid Valve
- 3. Ball Valve
- 4. Gas Filter
- 5. Vibration Isolator
- 6. Condensate Siphon Line
- 7. Check Valve
- 8. Boiler (Return) Pump
- 9. Automatic Air Purge Valve
- 10. Sediment-Dirt-Air Separator
- 11. Manometer
- 12. Surface Type Return Sensor (QAD 36) 2 x 1.0 mm
- 13. Hydraulic Separator
- 14. Sediment-Dirt Separator
- 15. Heating System Stream Water Collector
- 16. Heating System Return Water Collector
- 17. Heating System Pump
- 18. Heating System
- 19. Pressure Reducer
- 20. Boiler
- 21. Boiler Pump
- 22. Boiler Sensor
- 23. Air Separator
- 24. Boiler Recirculation Line
- 25. Recirculation Pump
- 26. Safety Valve
- 27. Expansion Tank
- 28. Filter
- 29. Timer / Room Thermostat
- 30. Boiler Electrical Panel
- 31. External Air Sensor
- 32. Low Temperature Zone Sensor (QAD 36)
- 33. 5-Way Motorized Mixing Valve
- 34. MLC 30
- 35. Low Temperature Zone
- 36. 6 Bar Safety Valve

**Figure 2.42** Example of Viwa S Boilers with Cascade System and 1 High + 1 Low Temperature Zone + Boiler System / Optional MLC30

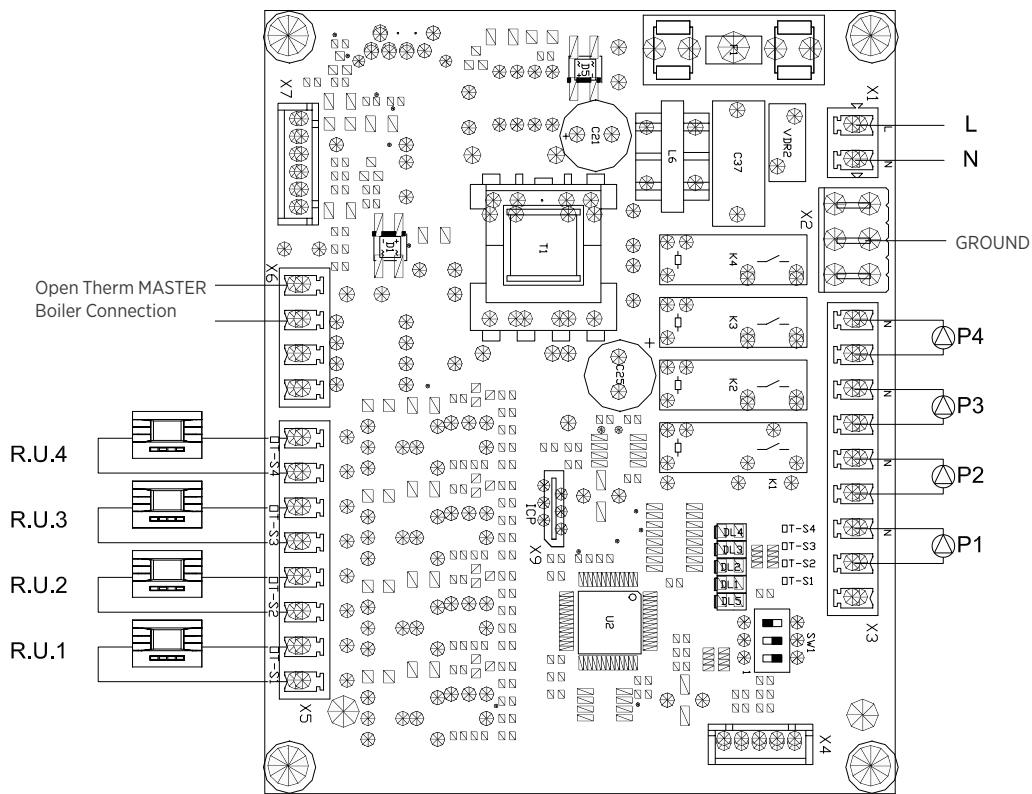


Figure 2.43 Boiler and MLC30 Electrical Connection Diagram for Viwa and Viwa S Boilers and Cascade System and 4 High Temperature (Radiator) Zone System

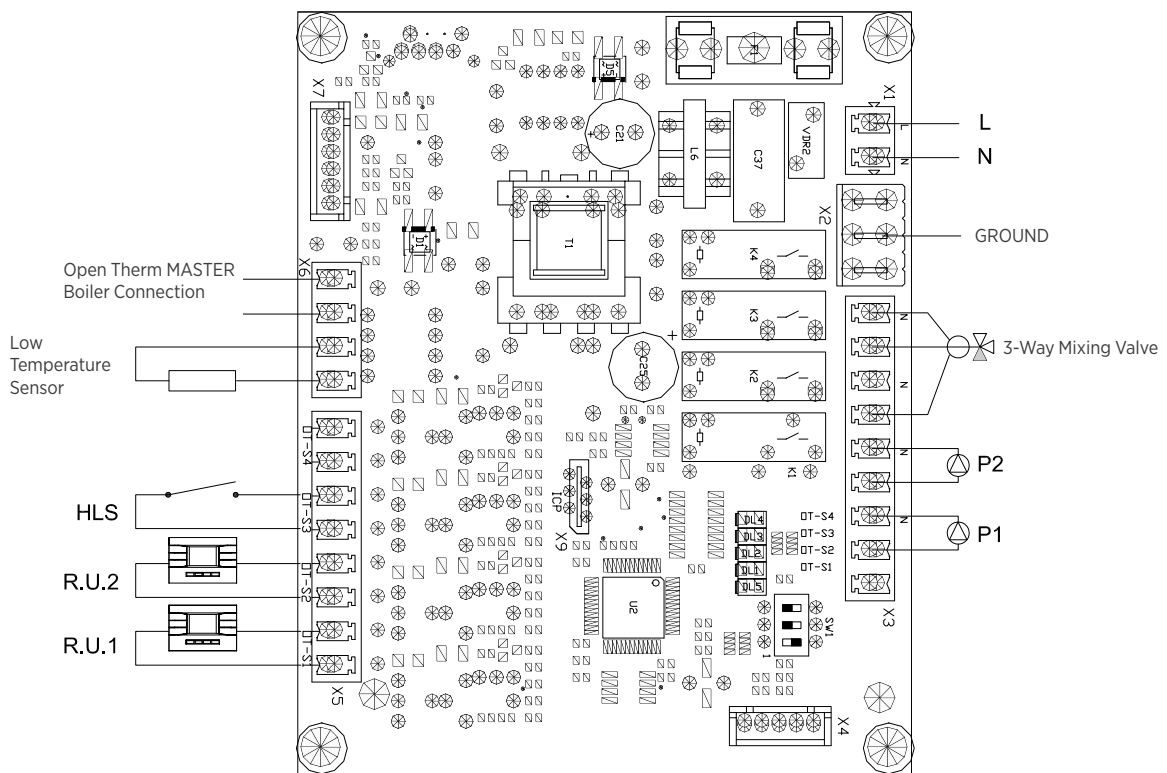








Figure 2.44 Boiler and MLC30 Electrical Connection Diagram for Viwa and Viwa S Boilers and Cascade System and 1 High Temperature (Radiator) and 1 Low Temperature (Local Heating)

## Control Accessories for Cascade System

Accessory Code	Accessory Name	Description	Compatible Product	Product View
15311660600001	WDHS-01-Exterior Temperature Sensor	Sensor that allows the boiler to regulate according to exterior temperature.	Viwa 50-150 Viwa S 90-150	
153116606000045	RC 21.11-Room Thermostat with Timer	The unit that can be used as a thermostat or only a program timer to provide weekly / daily program to heater and boiler circuit.	Viwa 50-150 Viwa S 90-150	
153116606000049	QAZ36-Hot Water Tank / Hydraulic Separator Sensor - Immersion Type	The immersion type sensor that will be used to measure the Hot Water Tank or Hydraulic Separator temperature and report to boiler	Viwa 50-150 Viwa S 90-150	
153116606000050	QAD36-System Stream Sensor- Surface Type	A clamp-type sensor for connection on the pipe at the hydraulic separator outlet. It is used to measure the stream water temperature of low temperature zone in double-zone systems.	Viwa 50-150 Viwa S 90-150	
153116606000053	MST80 Adjustable Surface Thermostat	A clamp-type adjustable thermostat for heating zone	Viwa 50-150 Viwa S 90-150	
153116606000047	MLC 30-Multi Zone Module	The control unit that controls the Low Temperature / Underfloor Heating Zone (mixed valve circuit) of Viwa and Viwa S boilers or ensures the management of 4 different high temperature zones (radiator, Fan Coil, etc.).	Viwa 50-150 Viwa S 90-150	

### 2.11.5. Controls For The First Operation of The Boiler

In order for the Boiler not to be excluded from warranty coverage; its first operation must definitely be carried out by the Warmhaus Authorized Service. The following preliminary preparations must be performed before requesting an authorized service appointment:

- For your gas line, a gas approval certificate from the local gas company must have been obtained,
- Electrical connection should have been made with a 2 or 3 Amp fuse at the mounting site of the boiler,
- Make sure there is no power cut at the mounting site of the boiler,
- Make sure that there is no city water cut at the mounting site of the boiler,
- Make sure that the heater is supplied with water and the pressure in the boiler manometer is 1.2 - 1.5 bar.

### 2.12. REQUIRED INSTALLATION ELEMENTS FOR BOILER AND HEATING SYSTEM OPERATION

To use the condensation boiler as a single unit or as a cascade, the following installation elements must be definitely available in the heating installation; • A hydraulic separator must be used for ideal heat and pressure distribution of the boiler and installation. However, when the installation pressure is higher than the

maximum boiler pressure,

when no pipe with oxygen barrier pipe is used on the installation side and in old installations where steel pipes have been used and have started to rust, the boiler(s) must be separated from the heating installations by using Plated Heat Exchanger in a way remaining no direct connection.

- Air Separator
- Sludge / Sediment Trap
- Expansion Tank (If the system is separated by a plate exchanger, at least one expansion tank must be placed in the return line of the cascade side and the return line of the heating system side.)
- It is mandatory to have Filter (Strainers) elements in each boiler return line. These installation elements ensuring the efficient operation and long life of your heating system are essential accessories for keeping your appliance under warranty. These accessories are not supplied with the boiler.

BOILER PARAMETERS must be set according to the mounting options. Cascade boilers

It should be stated that in cascade installations that use polypropylene flue gas collectors with flue flaps, the installation parameters specified on the CASCADE INSTALLATION PROCEDURE of each boiler comprising the heating system (when the boiler is used as a cascade) must be changed.

#### 2.12.1. Parts of boiler

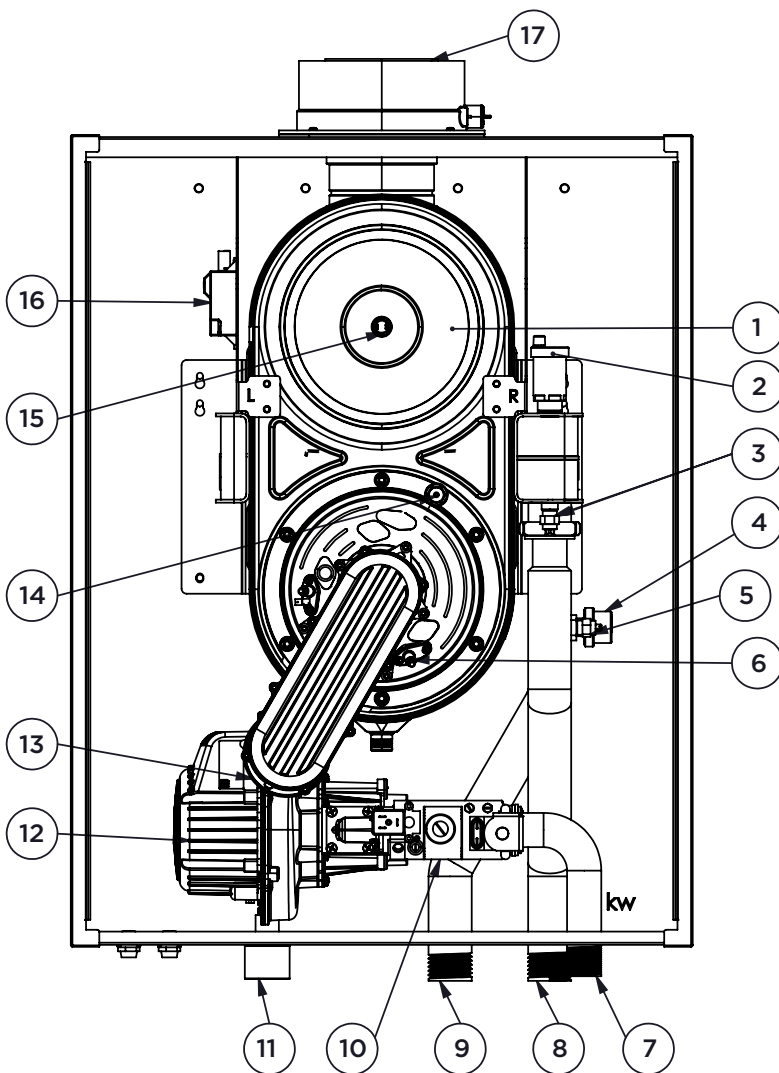


Figure 2.45 Parts of boiler

1. Stainless Steel Exchanger
2. Air Purge
3. Inlet-Outlet Water Temperature Sensor
4. Water Pressure Sensor
5. Limit Thermostat
6. Ionization Electrode
7. Gas Inlet Pipe
8. Boiler Water Outlet Pipe
9. Boiler Water Inlet Pipe
10. Gas Valve
11. Siphon Holder
12. Fan
13. Internal Flue Clamp
14. Exchanger Cover Surface Type Limit Thermostat
15. Flue Gas Temperature Sensor
16. Ignition Transformer
17. Flue Apparatus Ø100mm/Ø150mm

## 3. USER SECTION

### 3.1. GENERAL WARNINGS FOR USER

#### 3.1.1. Use of Boiler

If there is a gas smell in the environment, first turn off the gas valves of your home and boiler, or if you are using bulk gas, the LPG (LNG) tank valve or your cylinder valve. Do not turn on/off the power switches and do not perform any action that can cause spark. Call your gas company or an Authorized Service. (See 1.3 GAS LEAKS)

To avoid your boiler be out of warranty and for your safety, the first start-up of your boiler must be performed by Warmhaus Authorized Service. Our Authorized Service will give you information on how to use your boiler after making the first controls and starting it up.

#### Before starting to use, perform the following controls:

- The heater/heating system and gas valves under the boiler are open,
- Heating system pressure is between 1 - 1.5 bar and system air is taken from the manometer located under the boiler, if there is a hot water tank connection in the system, the valves of the hot water tank are open,
- There is gas in your gas line (you can check by lighting one of your gas stoves),
- The boiler's electrical fuse is open,
- There are no easily flammable materials and products near the boiler,
- The outlet of the exhaust flue set is not closed,
- If a room thermostat or control device is connected, control that it is in the ON position.
- If you are not going to use the boiler and turn it off in the winter season when freezing/icing conditions are present, perform the following:



- Definitely empty the heating installation water that does not contain antifreeze,
- Turn off the electrical fuse, gas valve, heating and domestic water valves of the boiler!

#### If you are going to turn off the boiler for a short time, perform the following:

- Do not turn off the electric fuse, gas valve, heater and valves of the boiler!
- Leave the boiler in Stand-by (stated OFF on the display) and so its Protection Against Freeze function is enabled,

Turn the boiler off during maintenance and repair work around the exhaust gas discharge flues. Have the Warmhaus Authorized Service check the boiler before operating it following the completion of the operations.

#### Follow the essential rules given below:

- Do not clean the outer casing of the boiler while the boiler is operating and do not use easily-flammable materials, only use a damp or dry cloth.
- Do not hold the boiler when your hands or feet are wet; and do not hold on bare foot.
- Do not pull electrical cables
- If the cables are damaged, turn off the boiler and fuse switches and never use the boiler.
- Only Authorized Service personnel should replace the power cables of the boiler and accessories.
- Do not expose the hanged boiler to direct steam that might come from cooking areas.
- Prevent the use of boiler by children and inexperienced people.

### 3.2. SELECTION OF SWITCHING ON / OFF / STAND-BY AND SUMMER / WINTER MODES

Use the V automate switch to cut the electrical connection to the boiler. If there is a double line on the display when electric is supplied to the appliance, the appliance is switched off. Refer to the ON-OFF Mode procedure in this section to operate the appliance in Winter or Summer mode.

#### 3.2.1. On / Off / Summer and Winter Modes

Use the V automate (fuse) switch to switch on / off the electrical connection of the boiler.

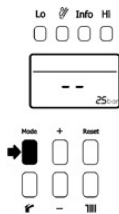
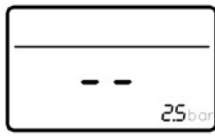
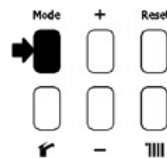

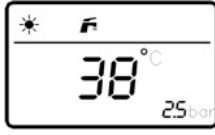
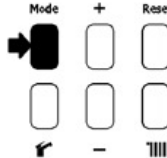

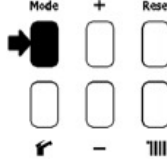
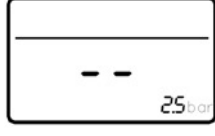
#### Operating in Winter Mode

When the boiler is in this position, it operates both to heat the environment and to obtain domestic hot water (if a boiler is connected).

#### Operating in Summer Mode

If a boiler is connected to the boiler, it only operates for domestic hot water heating in this position.

## ON-OFF Mode

Pos No	Operation	Description
0		<p>By pressing the MODE button, the boiler operating mode can be changed. Order of modes; <b>OFF &gt; SUMMER &gt; WINTER &gt; OFF</b> as circle.</p>
1		<p>After releasing the button, see if the <b>OFF</b> symbol " - " is displayed on the screen. If not, repeat the same process and control. See the " - " symbol on the screen.</p>
2		<p>Press <b>MODE</b> button once again for <b>SUMMER MODE - ON</b> position.</p>
3		<p>In <b>SUMMER MODE - ON</b> position, only the "<b>SUN</b>" symbol appears on the LCD panel.</p>
4		<p>In <b>SUMMER MODE - ON</b> position, only the tap symbol appears on the LCD panel. If there is a demand on the DHW side, the TAP icon will appear on the screen.</p>
5		<p>Press <b>MODE</b> button once again for <b>WINTER MODE - ON</b> position.</p>
6		<p>In <b>WINTER MODE - ON</b> position, only the "<b>SNOW</b>" symbol appears on the LCD panel.</p>
8		<p>Press <b>MODE</b> button once again for <b>OFF</b> position.</p>
9		<p>After releasing the button, see if the <b>OFF</b> symbol " - " is displayed on the screen. If not, repeat the same process and control. See the " - " symbol on the screen.</p>

These features are the property of Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş. It must not be passed on to any person not authorized by Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş or be copied or otherwise utilized by anybody without expressed written permission.



### 3.2.2. Resetting the Boiler (Re-operate)

If the appliance gives fault/locked error, you can reset the appliance by pressing the **RESET** button, resetting the appliance and repeating the re-start process, for this purpose, you can perform the following:

**RESET:** In case of a boiler failure, it is used to restart the boiler and to recover the failure.


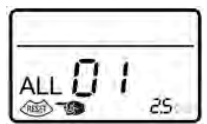
**MODE:** Used for setting the Winter/Summer/OFF mode.

### 3.2.3. Operating in Winter Mode

When the boiler is in this position, it operates both to heat the environment and to obtain domestic hot water (if a boiler is connected). Heating temperature setting is adjusted with the Heating button and then the zone temperature setting that appears on the screen with the (+) and (-) buttons, as shown in the "Heating and Domestic Hot Water Temperature Adjustment" procedure.

### 3.2.4. Operating in Summer Mode (if a hot water tank is connected)

If a boiler is connected to the boiler, it only operates for heating hot domestic water in this position. To switch to the domestic water mode, press the TAP button once as indicated in the "Heating and Domestic Hot Water Temperature Adjustment" procedure, pos. 6, and then set the Domestic Hot Water temperature with the (+) and (-) buttons.

Pos No	Operation	Description
0		In case there is an ERROR / FAILURE occur on the boiler, press <b>RESET</b> button once. ERROR code will be deleted from the screen.
1		ERROR code is shown the screen with "PUSH the RESET BUTTON" symbol.

### Control Panel of Viwa 90-150 Boilers

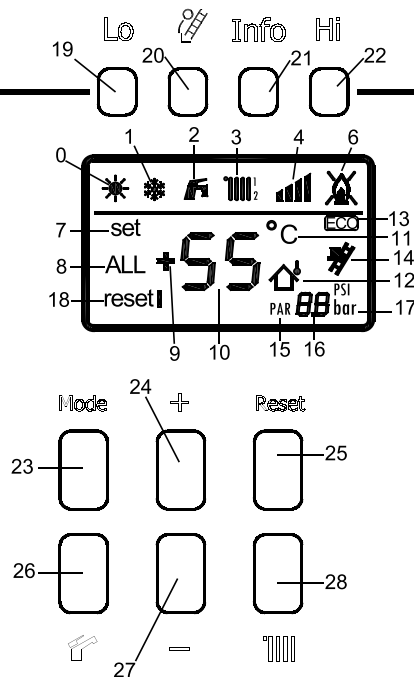










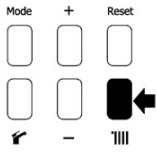
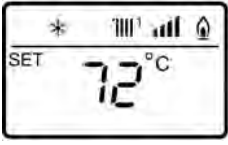
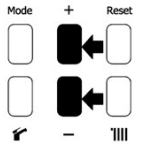
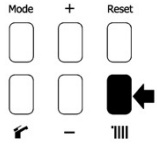
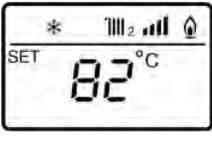
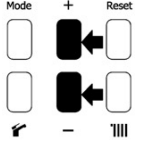
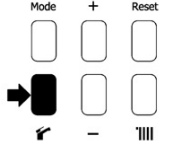
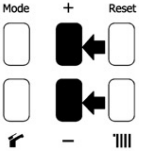


Figure 3.1 Control panel of Viwa 90-150 boilers






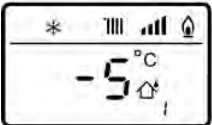






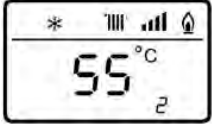
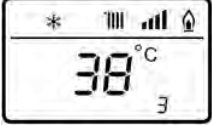
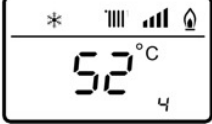

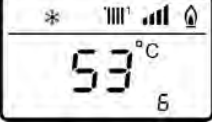
SCREEN SYMBOLS			
Description: Viwa 90 - 100 - 125 Boilers			
POS NO	Symbol	Description	Usage
0		Operation: SUMMER MODE	If the symbol on the screen is lit, the boiler is in SUMMER mode and Hot water is available. The icon appears in standby mode, frost protection active, and hot water mode.
1		Op. Mode Winter	If the symbol on the screen is lit, the boiler is in WINTER mode and radiator + hot water are available. The icon appears in standby mode, frost protection active, radiator and hot water mode.
2		DHW operation	If the symbol on the screen is lit, there is a hot water demand from the boiler AND / OR hot water adjustment is made.
3		Heating Operation	The symbol lights up during the heating operation. Symbols 1 and 2 light up individually or together, depending on whether the demand originates from zone 1, zone 2 or both, the radiator symbol lights up continuously. Symbols 1 and 2 show the temperature setting set for zone 1 or zone 2.
4		Power level indicator	Indication of the instantaneous power level of the boiler. It lights up during the operation of the burner and indicates the presence and height of the flame: - When first segment is active, power is between 0% and 25%, - First two segments if power is between 25% and 50% - First three segments if power is between 50% and 75% - All segments if power is between 75% and 100% are activated.
5		Flame present	The symbol lights up during burner operation It lights continuously if flame is detected (even in remote control) This symbol flashes when the flame control circuit is in a failure state (Interference ionization signal).
6		In case of malfunction due to no flame	The relevant symbol flashes in case of failure of the device in the absence of flame.
7	<b>SET</b>	Setting Values	The corresponding symbol is activated when setting the heating and hot water temperature values and setting the parameter values.
8	<b>ALL</b>	Setting Values	The related symbol is activated together with the error code when the boiler is in failure mode.
9		Plus / Minus	The symbol is displayed during plus or minus value setting.
10		Main Digits	Digital screen used to display values: - Heating and hot water value / setting indicator - Value for the parameter setting flashes. - Alarm codes in front of the "ALL" symbol
11		Degrees Celsius	The symbol displays degrees Celsius when activated.
12		Exterior temperature	The symbol is activated when the exterior temperature sensor is connected.
13		Alternative source	The symbol is activated when alternative sources are available.
14		Flue mode	The symbol lights up when flue mode is active.
15	<b>PAR</b>	Parameter	Symbol lights up during parameter settings.
16		Secondary digits	- Pressure value in OFF mode - Pressure value in Stand-by, Heating, Hot Water, Antifreeze, Alarm modes (excluding water pressure alarms) - Flashing of the pressure value during high and low system water pressure errors. - Parameter number during display or parameter setting. - Displayed info number
17	<b>Bar</b>	Bar	When the symbol is active, it represents the pressure in Bar.
18		Reset	Activates when a reset is required.

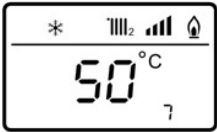








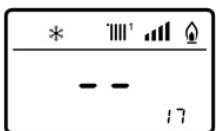
## SET CH & DHW Temperatures






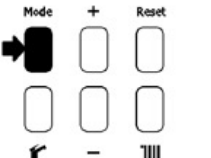
Pos No	Operation	Description
0		To set Central heating Zone 1 temperature value, Push RADITATOR button at ones.
1		On the screen RADIATOR ZONE 1 shown and value start blinking.
2		From this moment toggle; (+) to increase set temperature OR (-) to decrease set temperature after some seconds the vallue will be saved automatically.
3		To set Central heating Zone 2 temperature value, Push RADITATOR button ONE MORE TIME.
4		On the screen RADIATOR ZONE 2 shown and value start blinking.
5		From this moment toggle; (+) to increase set temperature OR (-) to decrease set temperature after some seconds the vallue will be saved automatically.
6		To set Domestic Heating Water temperature ( DHW) value, Push TAP button at ones.
7		From this moment toggle; (+) to increase set temperature OR (-) to decrease set temperature after some seconds the vallue will be saved automatically.

These features are the property of Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş. It must not be passed on to any person not authorized by Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş or be copied or otherwise utilized by anybody without expressed written permission.

# INFO Menu

Pos No	Operation	Description
0		<b>Attention:</b> This procedure must be applied by authorised persons and valid for only condensing boiler.
1	<p>Lo      Info   Hi</p> <p>      </p>	Push INFO button at ones.
2		The screen bottom right will appear INFO as sample; on the middle Value = -5 ( if external sensor connected, value could be different according to current out side temperature ) INFO:1
3	<p>Lo      Info   Hi</p> <p>         </p>	From this moment toggle; INFO ( + ) to increase OR CHIMNEY SWEEP ( - ) to decrease any INFO aimed to be checked.
4		<b>INFO 1:</b> Display of external temperature sensor. Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "
5		<b>INFO 2:</b> Display of heating flow ( CH ) temperature sensor.
6		<b>INFO 3:</b> Display of domestic hot water ( DHW ) temperature sensor. Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "
7		<b>INFO 4:</b> Display of Plant Probe temperature sensor OR AUX sensor temperature ( selectable by Par=52). Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "
8		<b>INFO 5:</b> Display of fume temperature sensor. Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "
9		<b>INFO 6:</b> Display of heating flow ( CH ) SET temperature ZONE 1. Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "

10		<b>INFO 7:</b> Display of heating flow ( CH ) SET temperature ZONE 2.
11		<b>INFO 8:</b> Display of ionisation current ( $\mu$ A).
12		<b>INFO 9:</b> Display of fan speed in rpm x100. (ie. 33 x 100 = 3300 rpm)
13		<b>INFO 10:</b> Display of number of hours of the burner in hour x 100 (ie. 6.8 x 100 = 6800 hours)
14		<b>INFO 11:</b> Display of number of times the burner has ignited x 1000 (ie. 23 x 1000 = 23.000 times)
15		<b>INFO 12:</b> Display of number of total number of errors. (ie. 18 = 18 times)
16		<b>INFO 13:</b> Display of number of INSTALLER parameters ( Par 1-49) accessed. Counter-installer. (ie. 15 = Parameter menu Par 1 - 49 has been 15 times activated)
17		<b>INFO 14:</b> Display of number of OEM parameters ( Par 51-99) accessed. Counter-OEM (ie. 11 = Parameter menu Par 51 - 99 has been 11 times activated)
18		<b>INFO 15:</b> Access counter parameters CASCADE OEM (ie. 4 = 4 access)
19		<b>INFO 17:</b> Not used.

20		<b>INFO 18:</b> Display of heating return ( CH ) temperature sensor.
21		<b>INFO 19:</b> Display of CASCADE flow temperature sensor. Value is available ONLY / WHEN sensor connected. IF the sensor not available OR not connected the value shown as " - - "
22		<b>INFO 40:</b> Display of % Value pump control PWM. Value is available ONLY / WHEN PWM pump connected.
23		<b>INFO 60:</b> Code of last recorded error. ( ie. E06 )
24		<b>INFO 61:</b> Code of penultimate recorded error. ( ie. E02 )
26		To exit the INFO menu push the MODE button at ones.

These features are the property of Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş. It must not be passed on to any person not authorized by Warmhaus Isıtma ve Sogutma Sistemleri San. Tic. A.Ş or be copied or otherwise utilized by anybody without expressed written permission.

### 3.2.5. Use with Room Thermostat (Optional)

The boiler has preliminary preparation for remote control connection with ambient thermostats, which are sold as an optional set. All Warmhaus thermostats can be connected with a double wire cable. Carefully read the usage and installation instructions that come with the accessory set. By means of the control units with room thermostats and program timers, you can control your boiler from the place where it is installed (for example, from the living room), operate it according to the room temperature and at the same time provide different usage according to each day of the week.

**Important:** If any thermostat On/Off is used with a Remote Controller, it is obligatory to have two separate lines in accordance with the legal regulations in force on electrical installations. It is not allowed to use any pipe or hose of the boiler as an electrical or telephone ground line. This should be ensured before making the electrical connections of the boiler.

#### General Use

- Consult our authorized dealers/services for room thermostats compatible with Warmhaus boilers.
- Do not disassemble the parts of the appliance while it is operating.
- Do not place in direct sunlight or near heat sources.
- The manufacturer cannot be held responsible in the following cases:

- Improper installation
- Intervention of the device by unauthorized persons
- Failure to follow the instructions in this manual and room thermostat manuals

**Maintenance and Usage Life:** Warmhaus room thermostat should not come into contact with water or excessive humidity. Your room thermostat does not require any maintenance unless there is external damage. The usage life of the product is 5 years.

### 3.2.6. Use of Outside Temperature Sensor (Optional)

Outside Temperature Sensor (optional) With this accessory that you will connect to your boiler (see: Installation Section; Accessory Connection Diagram) with our Authorized Service, you can automatically adjust the heating temperature by reacting instantly to exterior temperature changes with smart and comfortable operation.



Thus, when the exterior temperature starts to rise, it reduces the heating water temperature and increases the heating water temperature proportionally when the exterior temperature decreases, saving you from constantly adjusting the heating temperature in case of air temperature changes, and provides an efficient and saving operation according to your requirements. This sensor is activated when connected regardless of the presence or typology of the thermostat used, the relationship between the flow temperature of the installation and the exterior temperature is determined according to the curves presented in the graphic below in accordance with the position of the button on the boiler panel.

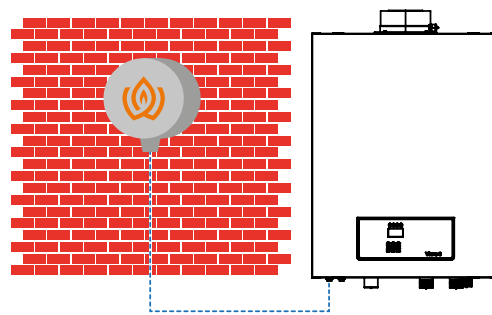


Figure 3.2 Outside temperature sensor

### 3.2.7. Customization of Boiler Features

As your boiler has an advanced electronic card, some parameters related to operating conditions and your preferences can be changed by our Authorized Service.

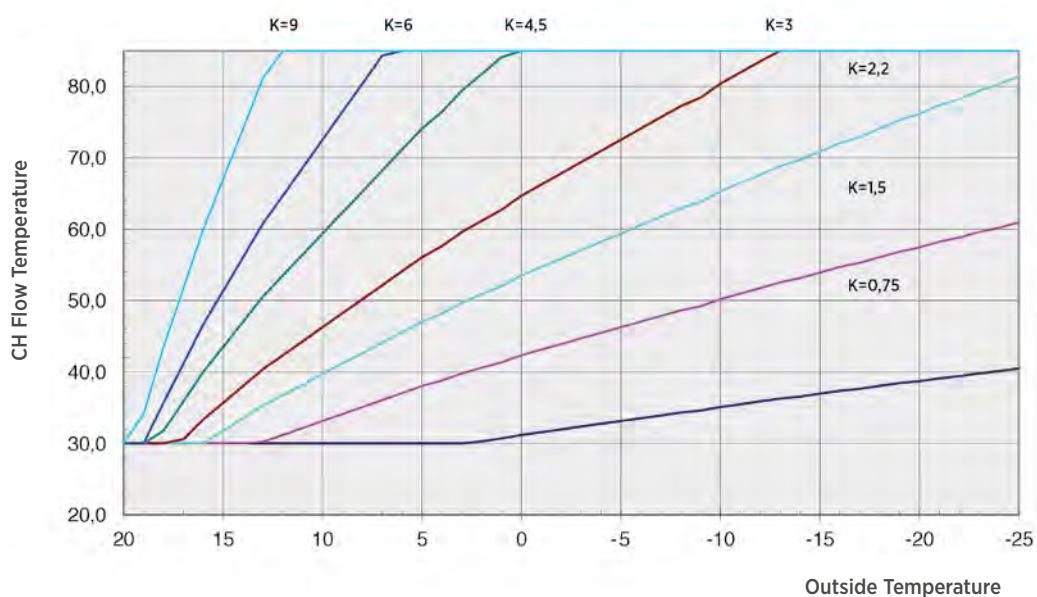


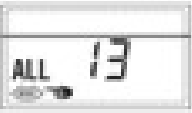


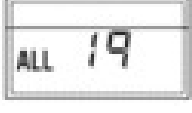


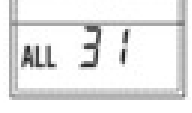






Figure 3.3 Outside temperature sensor operating curves

### 3.3. SOLVING FAULTS AND FAILURES

#### 3.3.1. Error Codes Table

Fault Finding & Solutions				
<b>Object:</b> Viwa 90 - 100 - 125				
 <p>This document has been composed to find possible faults and solve  <b>Attention:</b> This procedure must be applied by authorised persons.</p>				
Error Code	Description of the Error	Malfunction	Probable Cause	Solution(s)
ALL 01	NA	NA	NA	
ALL 02 	Low water pressure in the system/system parameter wrongly setted	Boiler does not work, ALL 02 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; Water pressure in the boiler not enough</li> <li>&gt; TsP Parameter wrongly settled (PAR4 must be 2)</li> </ul>	<ol style="list-style-type: none"> <li>1-) Fill the boiler 1,5-2 bar</li> <li>2-) Check if the system pressure 1,5 - 2 bar from the LCD display</li> <li>3-) If problem persist Call for authorised service</li> <li>4-) Reset &amp; Restart boiler</li> </ol>
ALL 03 	High water pressure in the system	Boiler does not work, ALL 03 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; High Water pressure in the boiler higher than &gt; 5,5 bar</li> </ul>	<ol style="list-style-type: none"> <li>1-) Drain the boiler water until 1,5-2 bar</li> <li>2-) Check if the system pressure 1,5 - 2 bar from LCD display</li> <li>3-) If problem persist Call for authorised service</li> <li>4-) Check expansion vessel pre set air AND/OR tank membrane</li> <li>5-) Reset &amp; Restart boiler</li> </ol>
ALL 04 	Domestic heating water temperature sensor faulty	Boiler does not work on DHW mode but still work on Central heating mode, ALL 04 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; Domestic heating water temperature sensor faulty</li> <li>&gt; DHW sensor not connected</li> <li>&gt; PAR2 wrong setting</li> </ul>	<ol style="list-style-type: none"> <li>1-) Call for authorised service at first</li> </ol>
ALL 05 	Central heating FLOW temperature sensor faulty	Boiler does not work, ALL 05 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; Central heating FLOW temperature sensor faulty</li> <li>&gt; flow sensor is open or short circuit</li> </ul>	<ol style="list-style-type: none"> <li>1-) Call for authorised service at first</li> <li>2-) Reset &amp; Restart boiler</li> </ol>
ALL 06 	No ignition Flame is not detected	Boiler does not work, ALL 06 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; Gas supply failure</li> </ul>	<ol style="list-style-type: none"> <li>1-) RESET boiler at first check if problem removed</li> <li>2-) Check other gas devices if they are working</li> <li>3-) Check main gas supply valve is open or not</li> <li>4-) Check boiler gas supply valve below the boiler is open or not</li> <li>5-) RESET boiler at first check if problem removed</li> <li>6-) Call for authorised service at first</li> </ol>
ALL 07 	Safety/Limit thermostat intervention	Boiler does not work, ALL 07 error code flashing on the screen Water overtemperature (T>95°C)	<ul style="list-style-type: none"> <li>&gt; Lack of water on the system</li> <li>&gt; Pump blockage</li> <li>&gt; Pump failiure</li> <li>&gt; Pump harness</li> <li>&gt; Installation blockage</li> </ul>	<ol style="list-style-type: none"> <li>1-) RESET boiler at first check if problem removed</li> <li>2-) Check boiler central heating valves are open if they are closed open of all</li> <li>3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open</li> <li>4-) RESET boiler and check if problem removed</li> <li>5-) Call for authorised service at first</li> </ol>
ALL 08 	Flame circuit failure / Flame detection error	If the flame control section recognises the presence of a flames in pahases when they should not be present, it means that there is a breakdown in flame detection circuit	<ul style="list-style-type: none"> <li>&gt; Aging or rust on the electrode</li> <li>&gt; Electrode position</li> <li>&gt; Cabeling disconnections</li> <li>&gt; Water blokage on syphon</li> <li>&gt; Electronic board</li> </ul>	<ol style="list-style-type: none"> <li>1-) Call for authorised service at first</li> </ol>
E 09 	No water circulation in the system	Boiler does not work, ALL 09 error code flashing on the screen Flow temperature sensor has detected a temperature rise in excess of 5°C/sec	<ul style="list-style-type: none"> <li>&gt; Lack of water on the system</li> <li>&gt; Pump blockage</li> <li>&gt; Pump failiure</li> <li>&gt; Pump harness</li> <li>&gt; Installation blockage</li> </ul>	<ol style="list-style-type: none"> <li>1-) RESET boiler at first check if problem removed</li> <li>2-) Check boiler central heating valves are open if they are closed open of all</li> <li>3-) Check all radiator valves are open if they are closed open of all minimum 3 meters of radiator must be open</li> <li>4-) RESET boiler and check if problem removed</li> <li>5-) Call for authorised service at first</li> </ol>
ALL 10 	Plant Probe OR AUX Probe temperature sensor faulty	Boiler does not work, ALL 10 error code flashing on the screen	<ul style="list-style-type: none"> <li>&gt; Plant probe OR AUX Probe temperature sensor faulty</li> <li>&gt; Plant Probe OR AUX sensor is open or short circuit</li> </ul>	<ol style="list-style-type: none"> <li>1-) Reset &amp; Restart boiler</li> <li>2-) Call for authorised service at first</li> </ol>



<p>ALL 13</p> 	Exhaust temperature probe over-temperature alarm	Boiler does not work, ALL 13 error code flashing on the screen	> Over temperature flue gas outlet value > P80 value C°	1-) Reset & Restart boiler 2-) Call for authorised service at first
<p>ALL 14</p> 	Exhaust ( FLUE ) temperature probe fault	Boiler does not work, ALL 14 error code flashing on the screen	> Central heating FLUE temperature sensor faulty > Probe is open or short circuited	1-) Reset & Restart boiler 2-) Call for authorised service at first
<p>ALL 15</p> 	Fan failure (feedback/ supply)	Boiler does not work, ALL 15 error code flashing on the screen	> Fan harness	1-) Reset & Restart boiler 2-) Call for authorised service at first
<p>ALL 19</p> 	Fault failure external probe	This error is activated when the external probe is short-circuited The  symbol is shown flashing on the display	> external probe is short-circuited	1-) Reset & Restart boiler 2-) Call for authorised service at first
<p>ALL 30</p> 	Return probe temperature sensor faulty	Boiler does not work, ALL 30 error code flashing on the screen	> Return Probe temperature sensor faulty > Return sensor is open or short circuit	1-) Reset & Restart boiler 2-) Call for authorised service at first
<p>ALL 31</p> 	Cascade Delivery Sensor Alarm	Usable RESET number reached.	Too many consecutive lock-out failures (followed by reset) due to other possible causes	1-) Reset & Restart boiler 2-) If fault still persists call for authorised service
<p>ALL 35</p> 	Communication Error Between UI 30 board and UI 30 Board ( between two cascade module)	Boiler does not work, ALL 35 error code flashing on the screen	When PAR 15 is different from" - - " and there isn't communication between UI 30 board and UI 30 board the boiler stop and the display shows ALL 35.	1-) Reset & Restart boiler 2-) If fault still persists call for authorised service
<p>ALL 36</p> 	Cascade Adress Error	Boiler does not work, ALL 36 error code flashing on the screen	When PAR 15 is addressed for two or more boilers as SAME ADRESSED then boilers stop and the display shows ALL 36.	1-) Reset & Restart boiler 2-) If fault still persists call for authorised service
<p>ALL 40</p> 	HEX heatexchanger protection temperature probe fault	Boiler does not work, ALL 40 error code flashing on the screen	> HEX temperature sensor faulty > Probe is open or short circuited	1-) Reset & Restart boiler 2-) If fault still persists call for authorised service
<p>ALL 41</p> 	HEX heat exchanger temperature probe over-temperature alarm	Boiler does not work, ALL 41 error code flashing on the screen Temp > Par 88 value	> 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 make sure enough cooling into the system 4-) RESET boiler and check if fault still persists call for authorised service 5-) Call for authorised service at first
<p>ALL 70</p> 	Cascade Error Mater boiler	Boiler does not work, ALL 70 error code flashing on the screen	Fault ALL 70 displayed only on the master boiler when an error is detected in the cascade system which prevents its operation.	1-) Call for authorised service at first 2-) Check slave boilers at first. 3-) Reset & Restart boiler
<p>ALL 71</p> 	Cascade Error	Boiler does not work, ALL 71 error code flashing on the screen	Fault ALL 71 displayed only on the master boiler in case of SMC probe fault (data not received or probe faulty)	1-) Removing power supply reset will be allowed 2-) Check the root cause of Error code to solve 3-) Check Cascade Sensor at first. 4-) If fault still persists call for authorised service

### 3.4. SUGGESTIONS FOR USING BOILER ECONOMICALLY

Your boiler is set to ECO mode for economic use, we recommend not to change it.

#### Choosing the Right Capacity

The heat loss calculation of the place where the boiler will be used should be made correctly and the boiler capacity should be in compliance with this. The appliances that do not have sufficient capacity will respond to heating demands later, and the appliances with excess capacity may cause discomfort and more fuel consumption as they will be switched on and off more frequently. Therefore, boiler capacities should be chosen according to the place of use.

#### Insulation

The insulation status of your building is the most important factor that prevents heat loss and reduces gas consumption. However, since your boiler has the highest thickness of insulation in its class, heat loss is minimized.

#### Radiators

Make sure that the pressure distribution of your heating system in the house is balanced through the performance of the throttling settings from the radiator valves. Placing furniture in front of radiators prevents air circulation, causing discomfort and more fuel consumption. Reducing the radiator valves of the rooms that are not used for a long time or closing the room doors with the lowest position if the thermostatic radiator valve is used provides savings.

#### Domestic Hot Water

If you are using the boiler with a hot water tank, we recommend setting the domestic hot water temperature to (38-42 °C). Setting the temperature regulator low provides significant energy savings.

#### Thermostatic Radiator Valves

With the use of Thermostatic Radiator Valves, you can achieve both savings and comfort by balancing the heat distribution in the spaces inside the house.

#### Room Thermostats

With room thermostats, your boiler will operate more economically since you will have the opportunity to set the desired ambient temperature according to comfort and economy periods. Thus, you can set the temperature of your room as you wish, and you will save approximately 6% of energy with each degree of temperature decrease.

#### Ventilation

Do not leave windows slightly open to ventilate the room(s). In this case, there will be constant heat loss from the room, although there is no significant improvement in room air. It is better to open the windows fully for a short time.

Turn the thermostatic radiator valves to the lowest position when ventilating the rooms.

### 3.5. POINTS TO CONSIDER BY USERS FOR WARRANTY CONDITIONS

This warranty provided by WARMHAUS does not cover the elimination of malfunctions arising from the abnormal use of the product, and the following cases are also out of warranty:

1. Damages and failures in appliances that were not first started up by Warmhaus Authorized Services,
2. Damages and failures caused by the use of the product contrary to the points in the User Manual and out of purpose,
3. Damages and failures caused by incorrect type selection,
4. Damages and failures caused by maintenance and repairs that are carried out by persons other than our Authorized Services,
5. Damages and failures caused by transportation, unloading, loading, storage, external physical (bumping, scratching, breaking), and chemical factors following the delivery of the product,
6. Damages and failures caused by fire and lightning,
7. Damages and failures arising from the use of incorrect fuel and fuel properties,
8. Low or over voltage; using ungrounded sockets; damage and failures caused by faulty electrical installations,
9. Annual maintenance and cleaning to be performed by our Authorized Services,
10. Damages and failures caused by the non-performance of the described periodic maintenance operations on time,
11. Damages and failures that may occur in the appliance or in the area of use due to other products and accessories used in a system together with the appliance subject to warranty.
12. Defects and damages that occur as a result of freezing/icing or use in places open to the atmosphere (open balconies, etc.).
13. Falsification of the Type Label and Warranty Certificate,
14. Damages and failures arising from using the appliance with water other than the water values defined in the user manual,

The malfunctions stated above are repaired against fee.

The warranty is applicable only for the failures that will occur in the product within the period specified on the other side of this document. Dear Customer, we believe in the importance of providing good service as well as offering you good products. For this reason, for all your service requirements related to our products;

- You can call **+850 225 15 15** numbered telephone of our Customer Communication Centre,
- If necessary, contact our authorized services,
- You can get information and contact our company by visiting our website [www.warmhaus.com.tr](http://www.warmhaus.com.tr).

#### Suggestions and Information to Observe:

1. Keep the technical service certificate given by the Authorized Service at the time of the initial start-up of your boiler, a copy of the appliance invoice and the Warranty Certificate that you have approved by your Authorized Dealer.
2. Use your product in accordance with the principles of the installation and user manual.
3. When you need service, call **+850 225 15 15** numbered telephone for our Customer Communication Centre.
4. Ask the person came for service for the Warmhaus identity card issued by WARMHAUS.
5. Keep the "SERVICE DOCUMENT" you obtained from the service technician following the receipt of the service. The Service Document that you will receive will be useful for you in case of any problems that may occur in your appliance in the future.
6. The service life for heating boilers specified by the Ministry of Industry is 10 years.

### 3.6. TECHNICAL TABLE

TECHNICAL DATA	UNIT	Viwa S 90		Viwa S 100		Viwa S 125		Viwa S 150	
		NATURAL GAS	LPG	NATURAL GAS	LPG	NATURAL GAS	LPG	NATURAL GAS	LPG
Gas Line									
Type of Gas		G20	G30	G20	G30	G20	G30	G20	G30
Gas Supply Pressure	mbar	20	37	20	37	20	37	20	37
Maximum Gas Consumption (NG/LPG)	m <sup>3</sup> /h	8.86	3.32	10.36	4.07	12.54	4.82	14.5	5.55
Minimum Gas Consumption (NG/LPG)	m <sup>3</sup> /h	1.39	0.49	1.73	0.69	2.19	0.87	2.56	0.85
Premix System		Pneumatic							
Modulation Range		1/6							
Heat Exchanger Material		Stainless Steel Exchanger							
<b>Efficiency</b>		<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>
(80/60 °C) Efficiency at Maximum Heat Output	%	97.8	97.6	98.1	97.6	97.2	97.7	96.1	95.3
(50/30 °C) Efficiency at Maximum Heat Output	%	107.1	107.0	106.0	105.2	107.1	106.2	105.1	104.6
Seasonal Heating Energy Efficiency	%	Class A							
<b>Radiator Circuit</b>		<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>
Rated Heat Load (Qn) (Max./Min.)	kW	84/14		96/16		120/20		145 / 26	
Maximum Heat Power (Pn) (80/60 °C)	kW	82.1	82.0	94.2	93.7	116.7	117.2	136.5	135.8
Minimum Heat Power (Pn) (80/60 °C)	kW	13.5	13.7	15.6	15.6	19.4	19.5	24.8	24.6
Maximum Heat Power (Pn) (50/30 °C)	kW	90.0	89.8	101.8	101.0	128.6	127.5	148.3	146.7
Minimum Heat Power (Pn) (50/30 °C)	kW	15.0	15.5	17.0	17.7	21.5	22.1	26.8	26.2
Temperature Setting Range for High Temperature Circuit (Minimum / Maximum)	°C	25÷80							
Temperature Setting Range for Low Temperature Circuit (Minimum / Maximum)	°C	25÷47							
Operating Pressure (Maximum)	bar	6							
Operating Pressure (Minimum)	bar	0.8							
<b>Domestic Hot Water Circuit</b>									
Temperature Setting Range (min/max)	°C	20/65							
<b>Electric Circuit</b>									
Power Feed	V AC-50 Hz	230 V + %10; -%15							
Electricity Consumption (Max./Min.)	Watt	96 / 22		122 / 25		159 / 22		310 / 33	
Protection Index	IP	IPX5D							
<b>Exhaust Gas Circuit</b>		<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>	<b>G20</b>	<b>G30</b>
Exhaust Gas Temperature (Max. / Min.) (80/60 °C)	°C	80.3/65.5	81.8/67.2	76.5/66.5	82.6/67.9	75.7/62.8	82.8/68.0	76.7 / 65.5	76.2 / 64.5
Exhaust Gas Temperature (Max. / Min.) (50/30 °C)	°C	63/33.6	65.2/36.1	62.3/35.4	67.2/38.4	59.3/33.0	67.4/38.7	58.5 / 34.5	57 / 33.8
CO (Max. / Min.) (80/60 °C)	ppm	146.1/10.3	217/12.2	134.21/9.9	256.0/91.1	217.0/10.6	258.6/114.6	281.0 / 11.51	265.0 / 14.2
CO <sub>2</sub> (Max. / Min.) (80/60 °C)	%	9.1/8.6	10.4/9.8	9.5/9.1	10.6/10.2	9.5/9.1	10.5/10.3	9.75/9.33	10.45/10.23
NO <sub>x</sub>	Class	6							
NO <sub>x</sub> Weight (GCV)	mg/kWh	24.75/13.1		23.8/11.6		24.4/11.7		35.26/12.26	
Exhaust Gas Mass Flow (60/80°C - Qn) Nominal/Min	g/s	38.9/6.5	40.2/6.8	45.3/7.2	48.3/7.5	53.2/8.2	56.8/8.6	53.5/11.5	53.8/10.7
<b>General</b>									
Dimensions (Height x Weight x Depth)	mm	800 x 612 x 495		800 x 612 x 530		800 x 612 x 605		800 x 612 x 680	
Sound Level	dB (A)	53		53		53		55	
Net Weight	kg	50		60		72		85	
Packaged Weight	kg	65		75		90		103	
Flue Connection Types		B <sub>23</sub> · B <sub>23P</sub> · C <sub>13</sub> · C <sub>33</sub> · C <sub>43</sub> · C <sub>53</sub> · C <sub>63</sub> · C <sub>83</sub> · C <sub>93</sub>							
Category		I <sub>2H</sub> /I <sub>2E</sub> /I <sub>3P</sub> /I <sub>2B3P</sub> (G20=20 mbar. G30=37 mbar)							

All information given in the brochure has been obtained as a result of the conducted tests. Data are subject to change without prior notice.

**VIWA S 90**  
**VIWA S 100**  
**VIWA S 125**  
**VIWA S 150**

**WALL MOUNTED CONDENSING BOILER  
INSTALLATION & USER MANUAL**

VIWA S Installation & User Manual Code: 15011606000158  
Revizyon numarası: R00/06.2022