

CLIMA || VERA

Installation & operation & Maintenance Manual

VERA Range (Cast iron Boiler)
Floor Standing Oil / Gas Fired Boiler
Triple - Pass Design
(35 kW to 94 kW)



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Certifications

Climavera boilers are in compliance with the ;

EC Directives

(90/396/EEC) Gas Appliances Directive

(73/23/EEC) Low Voltage Directive

(89/336/EEC) Electromagnetic Compatibility Directive

92/42/EEC Efficiency Directive

Ref Standards :

EN 303-1

EN 303-2

EN 304

EN 60.335.1

EN 50165

EN 550114-1

EN 550114-2

EN 61000-6-3

EN 61000-3-2

EN 61000-3-3

Symbols



Caution danger



Important



Info

Introduction

First of all we'd like to thank you for choosing **Climavera cast** iron boilers.

In this manual you will find the instructions for Climavera three pass cast iron boilers suitable for both gas and liquid fuel. VERA hot water boilers and related information for installation, operation and maintenance of the boiler. For high efficiency and proper working conditions please read this manual carefully. For more information please check the product catalog or get in touch with Climavera technical services.

Please do not touch or remove any parts of the boiler for starting, adjusting or repairing the boiler except the processes written in this manual.

Please call Climavera services and technical officials for installing the boiler.

Our licensed franchisers and services will give you instructions about working principals, conditions and care instructions after installing and starting the boiler.

And our professionals will be glad to answer all your questions at any time.

Climavera licensed services are in your service all kind of problems and questions. You may find the contact information's in the licensed services manual which will be given to you with the boiler.

You can send an E-mail to info@climavera-italy.com when you have questions for problems.

Guarantee Items

- In the terms of obeying the instructions, warnings, points in this manual and the standards in charge (EN norms and directives must be applied if mentioned standards are not in use.) cast body is under 5 (five) and other parts are under 2 (two) years guarantee.
Climavera is responsible for repairing or renewing if the following conditions are available.
- Guarantee Document must be filled by the franchiser that you have bought the boiler and must be send to Climavera .
- Assembling and installing faults and problems, problems that will be occurred because of wrong up keeping and working are not under guarantee. Problems related to lime coating or/and any other materials coating and corrosion on the heat transfer units of the boiler are not under guarantee conditions.
- Minimum life of these kind of products is mentioned as fifteen years by the minister of industry and commerce
Manufacturer and sales companies are to supply all spare parts and services to the clients in this period.
- The problems happened by the following mentioned issues are out of guarantee conditions
- Boiler without guarantee document
- Boiler fixed, repaired or adjusted by unauthorized services
- Boilers with wrong type selection, wrong installing and assembling, boilers used wrong conditions and out of aim.
- Problems occurred while transportation, stocking or problems occurred under atmospheric conditions.
- The problems occurred by physical or chemical effects.
- Wrong fuel selection and the problems occurred by fuel conditions,
- Wrong installation or connection to the boiler to water and other plumbing systems.
- Weak flue (gas output) system
- The problems occurred by scratching, touching to control and safety systems of the boiler.
- Cold water load while the boiler is hot
- Starting the boiler without water or required water in it.

General Warnings

- VERA cast iron boilers are designed for working with hot water heating and/or hot water plumbing and produced with the proper technology and materials suitable to this design. This design is restricted to use out of its aim of use.
- VERA boilers are delivered completely assembled. Removing or re-assembling of the boiler should also be made by licensed Climavera services, if not the risk of damage is high.
- In the assembling of the boiler; there must be a proper and safe concrete platform for to put the boiler on.
- In the assembling of the boiler, an empty space must be left from sides for safety requirements and for future repairing operations.
- Starting and first operation of the boiler must be made by authorized Climavera technicians.
- Do not add or pump water to the boiler or plumbing system as it is working and hot. For adding water to the boiler or to the system please wait for water temperature to reach 40 °C. Circulation pump must surely be Started while adding water to the system. If not, the sections may crack.
- If the boiler will be kept off for a long time the electric system must be shut down from the main fuse. The Electric must be cut off from the main shelter/fuse as the boiler is in repair, service or cleaning.
- In summer months, when the boiler is off for a long term, for preventing probable problems with circulation pumps, must be started 1 -2 times per month for 5 minutes. (The water with chalk can cause problems if the pump is not used for long time period.)
- The periodical controls of the boiler and the burner must be done. If not, the boiler can lose efficiency and the fuel amount used can increase.
- The capacity choice of the boiler must be made according to the projects that prepared properly in the terms Of related standards. If not the efficiency will be low.
- VERA boilers are produced for heating only. For heating the sanitary water another equipment such as water heater or heat exchanger is needed. And for proper efficiency in this operation, correct water heater or heat exchanger must be selected.
- VERA boilers are delivered without burners. For suitable burner selection please get in touch with Climavera technicians. Suitable burners must be selected for taking high efficiency.
- If the boiler is stopped automatically because of overheating do not add cold water to the boiler for restarting. In this case wait for the boiler to cool down and try- restarting. If it does not start please get in contact with technical services.
- In cleaning, repair and other care operations the original spare parts which approved and manufactured by Climavera must be used.
- The periodical and yearly controls of the boiler must be done properly and on time. Natural gas is a clean fuel and Doesn't make a lot of dirt in the boiler. But the boilers that liquid fuels are used as fuels are much more easily get dirt. Controls and care operations of the boiler is needed for keeping high efficiency and long life of the boiler.
- Repairing and periodical controls of VERA boilers require profession. In this manual the responsibilities and required information for users of the boiler is declared. Besides these declared operations, boiler must not be started by a person rather than the user or one our technicians. Please do not try to make adjustment or do not touch any parts of the boilers.

- The electric of the burner and the boiler is supplied by city electric network. In this case the electric and lighting systems of the boiler room, burner and boiler electrical connections, grounding line of control panel and boiler must be made by professionals under the required and related standards.
- In this manual you will find information's only for the boilers. Please do not forget to get the instruction manual of the burner that you purchase from the manufacturer of it. Burner is not delivered with the boiler. In this case we do not give any guarantee for the burner that you purchase
- Please be sure that the front door (burner door) for the boiler is strictly closed and burner connections are properly made as the boiler is working.
- Do not touch hot water connections or the flue outlet when the boiler is operating.

General Characteristics of VERA Boilers

VERA boilers are, blowing burner, cast iron sectioned, between the capacities 35-94 kW with proper burner connection, works with gas or liquid fuel in 6 different (3 - 8 sections) type.



VERA boilers operating pressure is 6 bar maximum, and working temperature is 90 °C maximum.

In VERA boilers, heat transfer surface areas are increased by the special wings in the burning room and chimney ways. This increases the high heat transfer ability of cast iron boiler to the maximum level.

VERA boilers are cast iron sectioned boilers. This brings easy assembling and easy capacity increasing by adding sections to the boiler. The transportation and set up of the boiler is easy because boiler is assembled in boiler rooms It is easily to carry or shift position without breaking walls etc.

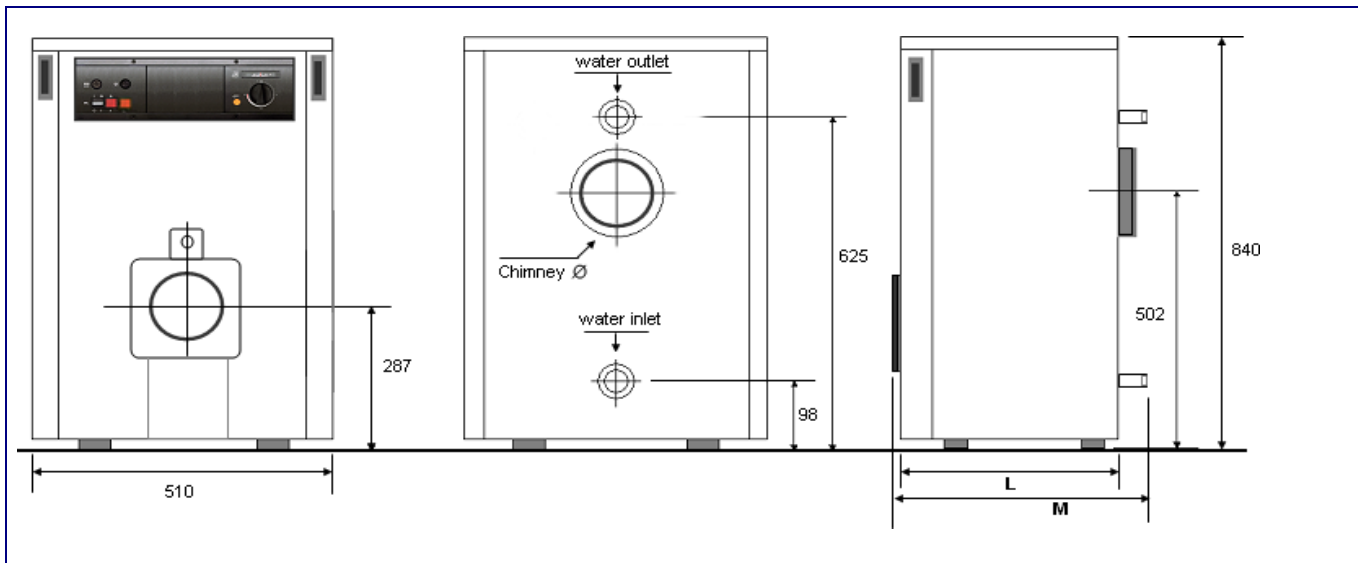
VERA boilers are casted with special alloy, which is durable for thermal expansions and changes, EN GJL 200. They are long life boilers according to this special cast iron alloy.

With the help of vertical and three pass specially designed sections burning gases pass three times in the boiler and transmits burning energy to the water inside the sections at high level.

VERA boilers are high efficiency boilers. (According to the fuel bottom heating value % 91 - 93). With this high efficiency and perfect isolation more energy is gained with less fuel. Heat loses are minimized on VERA series boilers.

By appropriate burning room, heat transfer surface, tabulator, collector and isolation high heat transfer and optimum flue gas emission results are provided.

VERA Cast Iron Boiler - Dimensions



VERA Cast Iron Boiler - Technical Data

Series name		Vera-03	Vera-04	Vera-05	Vera-06	Vera-07	Vera-08	
Number of Elements	El.	3	4	5	6	7	8	
Nominal Heat output	Kw	35	47	58	70	82	94	
	Kcal/h	30.100	40.400	49.800	60.200	70.500	80.800	
Maximum Operating Temperature	°C	90						
Maximum Operation Pressure	bar	6						
Efficiency	%	93.3	94.5	93.8	94.3	94.6	94.2	
Boiler Water Content	L	13.74	17.38	21.02	24.66	28.3	31.94	
Combustion Chamber Dimensions	mm	280	380	480	580	680	780	
Water inlet/outlet Connection	"	G 1 ¼"						
Safety Temperature Limit	°C	100						
Boiler Dimensions	width × height	510 × 840						
	Length (M)	mm	540	640	740	840	940	1040
	Length (L)	mm	455	555	655	755	855	955
Burner Type		Short Head Length						
Weight	kg	148	175	202	229	256	283	

Recommended Minimum Distance for Installation

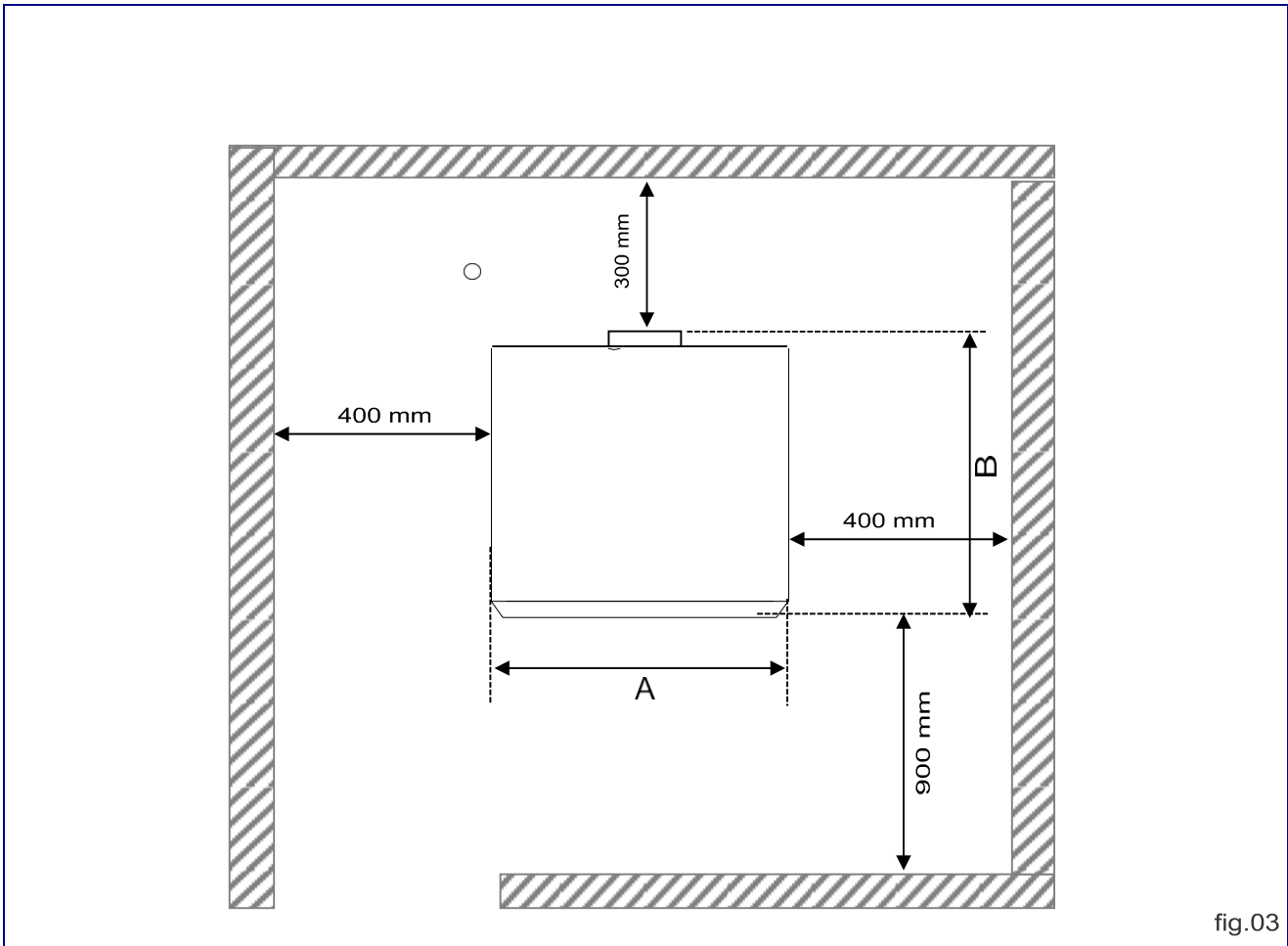


fig.03

Dimensions

Type	VERA - 03	VERA - 04	VERA - 05	VERA - 06	VERA - 07	VERA - 08
A (mm)	510	510	510	510	510	510
B (mm)	540	640	740	840	940	1040

When installing the boiler, the minimum clearances shown in Fig. 03 must be maintained to ensure unhindered access to the boiler. The height of the boiler room should be at least 2200 mm .

The side clearances and the clearance in front of the unit shown in the drawing are for maintenance purposes.

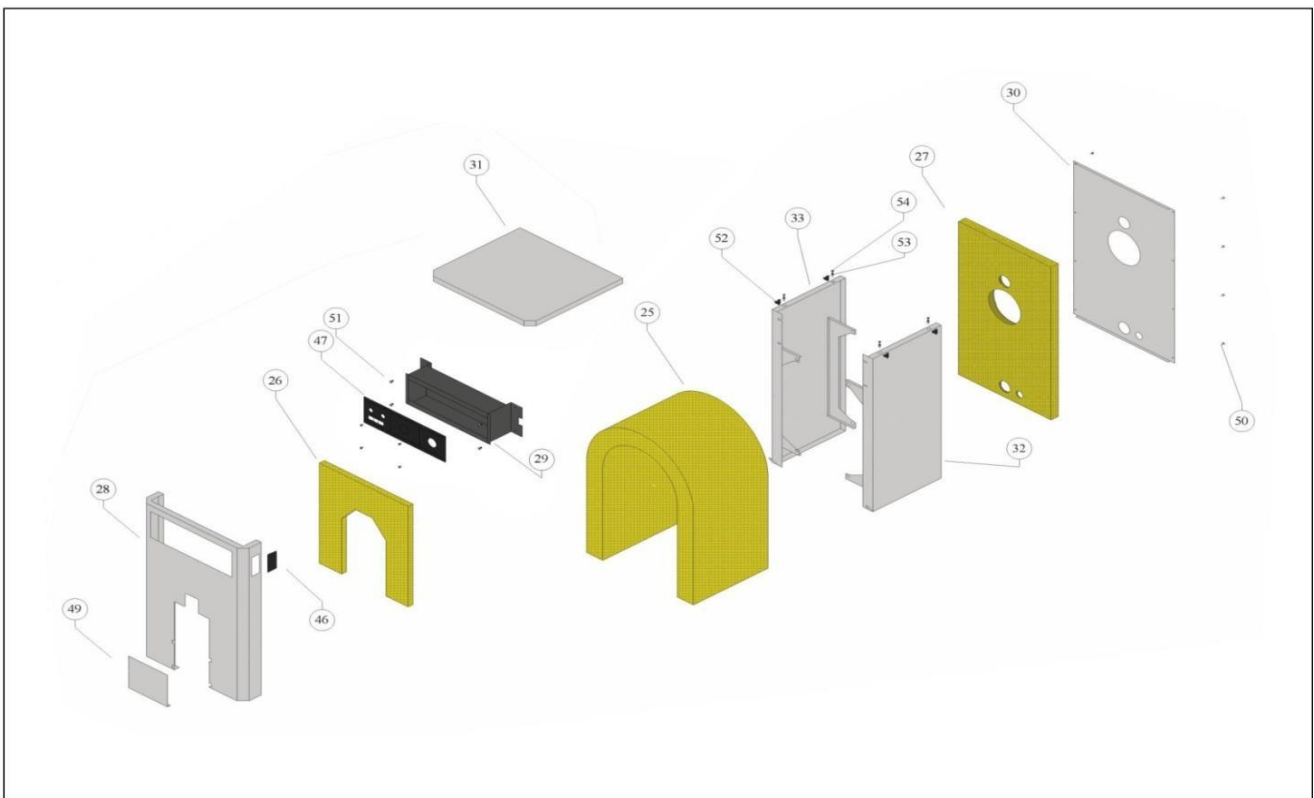
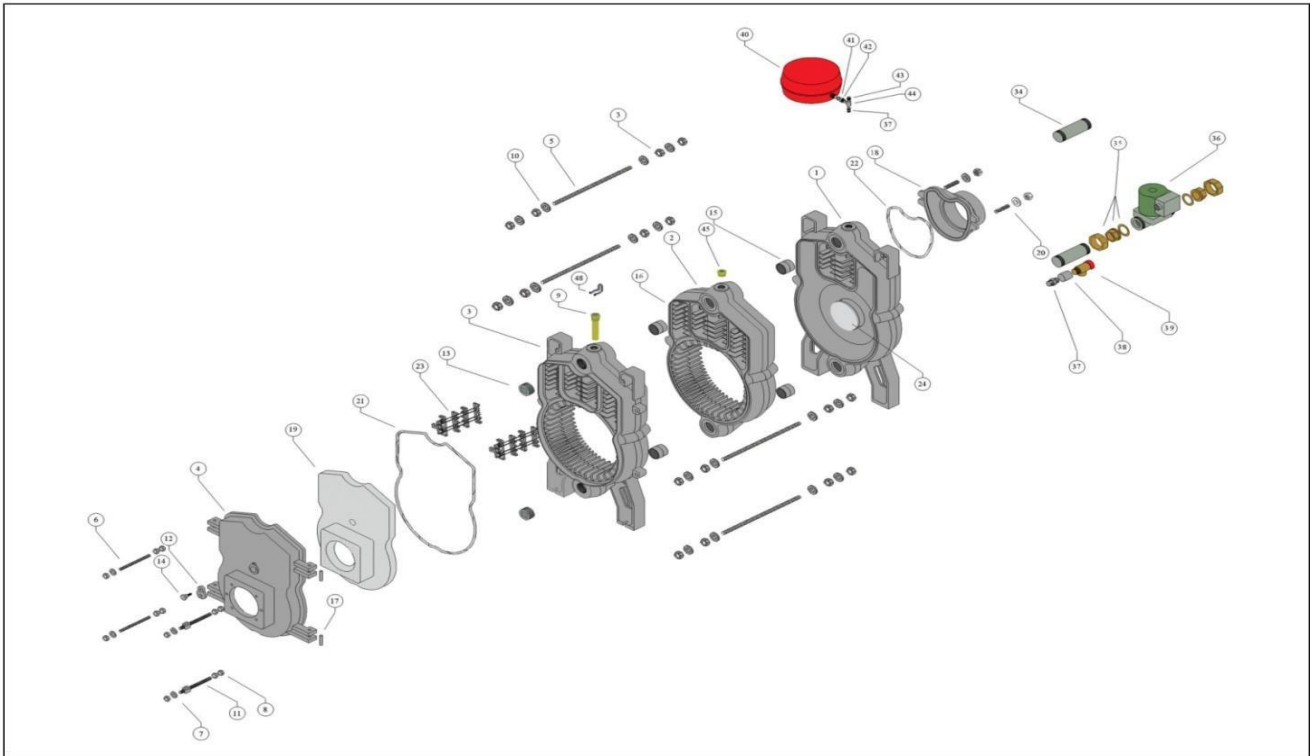


Do not put flammable materials on top of the boiler or near the boiler than specified safety distance.

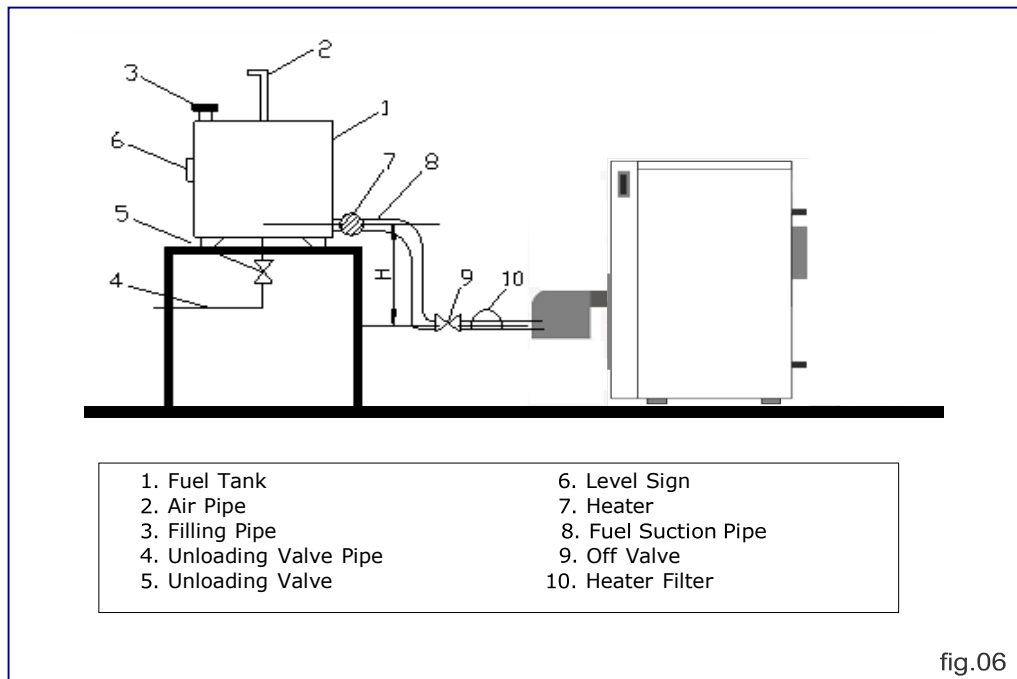
Plumbing Instructions

- Fresh water must be added periodically to the plumbing. The chalk and other chemicals will connect with the system and become solid. For avoiding this closed expansion tank must be used in the system. In the systems That closed expansion tanks are used, water will flow in closed system so it will not evaporate and lost. So in this kind of systems the water level will stay same and fresh water addition will not be necessary. This will prevent chalk and dust and the life of the system will be long.
- The water in the radiator or heating system is not healthy. Do not use this water as drinking or cleaning water. Do not take water from the system. If the water level is low water addition is needed.
- For avoiding chalk and other chemical dust problems soft water must be used in the system. Plumbing system water quality : Ph $\geq 7,2$ Th ≤ 25 °Fr
- If the city sanitary water is not in requested quality water addition from wells or other sources must be made after testing it. For reaching the requested quality additional processes must be applied to the water if needed.
- For avoiding the chalk and other dust to get in to the boiler, or from boiler to plumbing system dust holders must be placed in and out line of the system.
- Circulation pump must be connected to the water output of the boiler and the capacity of the pump must be suitable to the boiler capacity. If not, problems may occur in flowing of the water and heating efficiency of the boiler.
- For working the system properly 4 way mixture valve or thermostatic control by-pass pump must be used for increasing return water temperature.
- By connecting a three way motor valve between the forward and return line of heating system, the water that flows to the system can be controlled in ratios.
- There must be water inside of the boiler every time. If not corrosion can occur in the boiler and the plumbing system. If the boiler will not be used in winter season, for avoid freezing anti-freeze solution must be used.

VERA Cast Iron Boiler & Cabin Parts



Instructions For connecting The Fuel Tank



The platform of the fuel tank must be strong to carry the tank. If the fuel tank is outside tank and connection pipes must be isolated. Fuel tank must be positioned in higher level than the burner. The height difference between the burner and fuel tank (H) must be more than 4 m. In the seasons that the boiler is not used, fuel tank must be empty for avoiding corrosion.

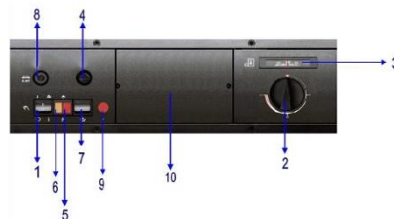
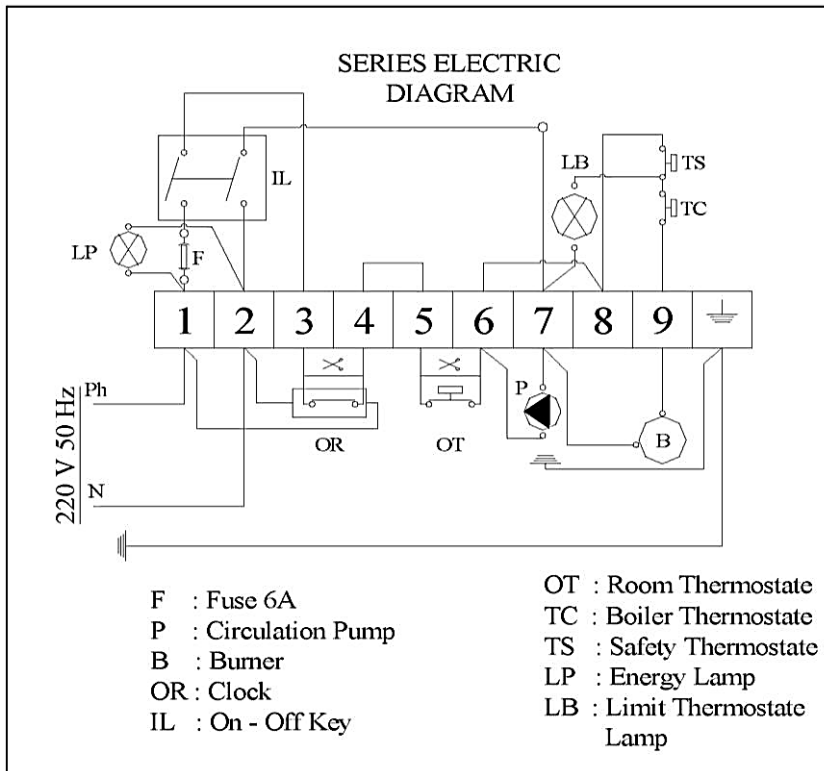


fig.07

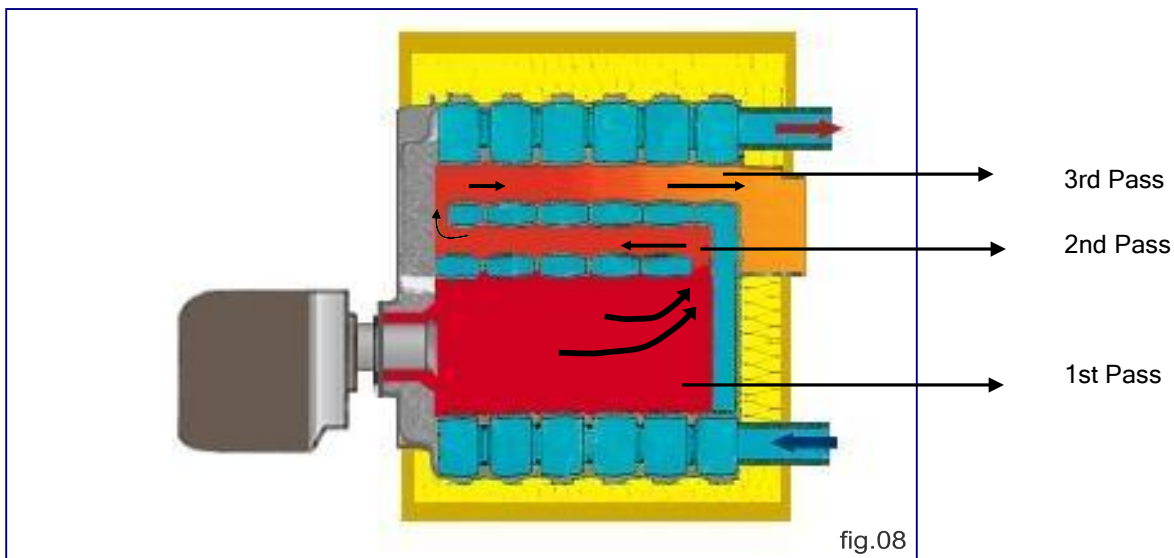
- 1- Main ON/OFF Switch
- 2- Boiler Thermostat (30 to 90 °C)
- 3- Boiler Thermometer
- 4- Safety Thermostat with manual reset (set to 100 °C)
- 5- Defect Indicator
- 6- Working Indicator
- 7- Reset Button
- 8- Fuse
- 9- Water pressure defect indicator
- 10- Eco panel mounting place

Electric feeding is 220 V. 50 Hz. Monophase



Cast Iron Sections with High Efficiency Three Draught Design

Three draught design forces the flue gas to circulate inside the body of the boiler three times before the chimney Exit, transferring all useful energy to the water inside the sections. The optimized combustion chamber combined with perfect heat insulation provides maximum fuel efficiency.



The combustion room of the boiler is positive pressure. Boiler is working under vertical three pass principal.