

INSTALLATION AND USER INSTRUCTIONS

MC 5-20 CI 5/20 kW.
MC 5-30 CI PF 5/30 kW.
MC 5-30 CI GF 5/30 kW.



MC SERIES LOG BOILER

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Thank you for purchasing a boiler from the Perge range of central heating boilers, please take time to read the following guidance instructions on how to install and use your new boiler. It is important that these guidelines are followed in order to give optimum performance from your new Perge boiler.

IMPORTANT: FOLLOWING INSTALLATION, PLEASE ENSURE THAT THESE INSTRUCTIONS ARE LEFT WITH THE USER FOR FUTURE USE AND SERVICING.

To maintain the boilers high thermal efficiency and give trouble free operation, it should be serviced annually by a suitably qualified heating engineer. THIS IS ALSO A CONDITION OF THE PRODUCT GUARANTEE.

Please contact Perge should you need help in finding an engineer.

All electrical work should be carried by a qualified electrician, in accordance with the latest regulations. Before attempting any work on the boiler or system controls, ensure the mains supply is disconnected.

The boiler can be connected to most normal heating systems, but should there be any doubt in the application please call Perge for further information. As it is a continuously burning appliance, it should be connected to a heat-bleed device (such as a radiator) to dissipate any heat produced, due to a system pump failure. It is also advisable to connect the integral 'Quench Coil' fitted as standard to all Perge MC series boilers.

This appliance must be installed in accordance with current Building Standards and Regulations, by an approved / competent person.

Conformity

The **MC 5.20 CI** and **MC 5.30 CI** both conform to European Directive:
EN 303-5



MC CI model range

MODEL	CODE
MC 5.20 CI	902 007
MC 5.30 CI <i>PF</i>	902 011
MC 5.30 CI <i>GF</i>	902 020

Boiler Location Requirements and Safety Notes.

THESE BOILERS MUST BE INSTALLED IN ACCORDANCE WITH CURRENT BUILDING STANDARDS AND REGULATIONS AND ANY LOCAL BYE LAWS, BY A SUITABLY QUALIFIED/COMPETENT PERSON.

- It is a legal requirement that the installation of this appliance is in accordance with Local Building Control Approval and is installed by a qualified/competent person. We strongly recommend that a qualified heating & plumbing engineer carries out this work. HETAS Ltd operate such a scheme and a listing of their competent persons can be found on their website: www.hetas.co.uk.
- The boiler should be located on a level non-combustible surface, with suitable load bearing capacity.
- Allow sufficient room around the boiler for maintenance and cleaning.
- Ensure the customer is presented with this manual following installation.
- Ensure the appliance is installed and maintained in accordance with these instructions. Failure to do so may result in unsafe operation, and will invalidate any guarantee or warranty. The appliance and flue should be inspected and cleaned annually. More frequent cleaning may be required if unseasoned wood is used. Consult a qualified chimney sweep or heating engineer if in any doubt.
- Improper use of this appliance can lead to injury or death of the user or third a party. Therefore, ensure the appliance is installed in accordance with this manual and any rules in force. Any faults should be fixed immediately to ensure safe operation. The manufacturer accepts no responsibility for improper use and/or installation of this appliance. This includes maintaining the installation, operation and conditions specified by the manufacturer.

Chimney/ Flue requirements

Chimney installations and Ventilation should conform to requirements of the Building Regulations and approved Document J and all subsequent standards referred to. IF IN DOUBT CONSULT PERGE OR HETAS FOR ADVICE.

Twin wall insulated flue should be specified for use with multifuel / wood burning appliances.

Existing clay/brick chimneys should be lined with a flexible liner suitable for use with multifuel / wood burning appliances.

If in any doubt as to the suitability of the flue or chimney, consult a flue manufacturer or Perge.

If the appliance is NOT used in conjunction with an accumulator tank, then it is advisable to fit a " flue damper / stabiliser " to ensure correct operation in all conditions. Refer to the manufacturer for more advice.

A minimum effective flue height of 3 metres is recommended for use. Take into account any bends or elbows when calculating this requirement.

A soot door should be provided to aid in cleaning and servicing of the boiler installation.

A minimum height of 600mm above the boiler to any bend is required, taking into account that each bend will require an additional flue height to be provided. Any bend should be no greater than 45 degrees.

IMPORTANT: A FLUE DRAUGHT OF BETWEEN 13 and 18 PASCAL IS REQUIRED WHEN RUNNING AT RATED OUTPUT. ADDITIONAL FLUE PULL SHALL REQUIRE A DRAUGHT STABILISER TO BE FITTED TO PREVENT OVER-FIRING

General requirements

Electrical System

All the electrical connections and installation to the system or controls should conform to all relevant directives and guidelines within EEC and part P building regulations within the UK.

Water

The heating system must be filled with water in accordance with BS 7593 (most recent revision). Code of Practice for treatment of water in domestic hot-water and central heating systems guidelines "Avoiding Damage In Hot Water Systems"

Ventilation

Ventilation to the appliance should be provided in accordance with Document J of the Building regulations

Pressurised Systems

Any pressurised system MUST have a sufficiently sized expansion vessel fitted (10% of volume) and suitable PRV. In addition the integral Anti-Boiling quench coil must be connected to a suitable mechanical safety valve (95degC)

Boiler description

The Perge MC series boilers are a range of wood burning boilers with ceramic combustion chamber technology.

The unique design of the Perge MC series boilers are covered by a patent No 8 211 712

They can be used for :

- Domestic Hot Water Only (in summer)
- Central Heating and Domestic Hot Water (in winter)
- Heating Only

These boilers can be designed into existing system layouts and/or alongside an accumulator tank, to provide flexibility of heating requirements.

The PERGE MC series boilers are comprised of a two part heat exchanger combustion chamber.

- **Bottom Heat Exchanger (1)** : consisting of a high temperature refractory ceramic combustion chamber with parallel heat exchanger tubes embedded in it (2).

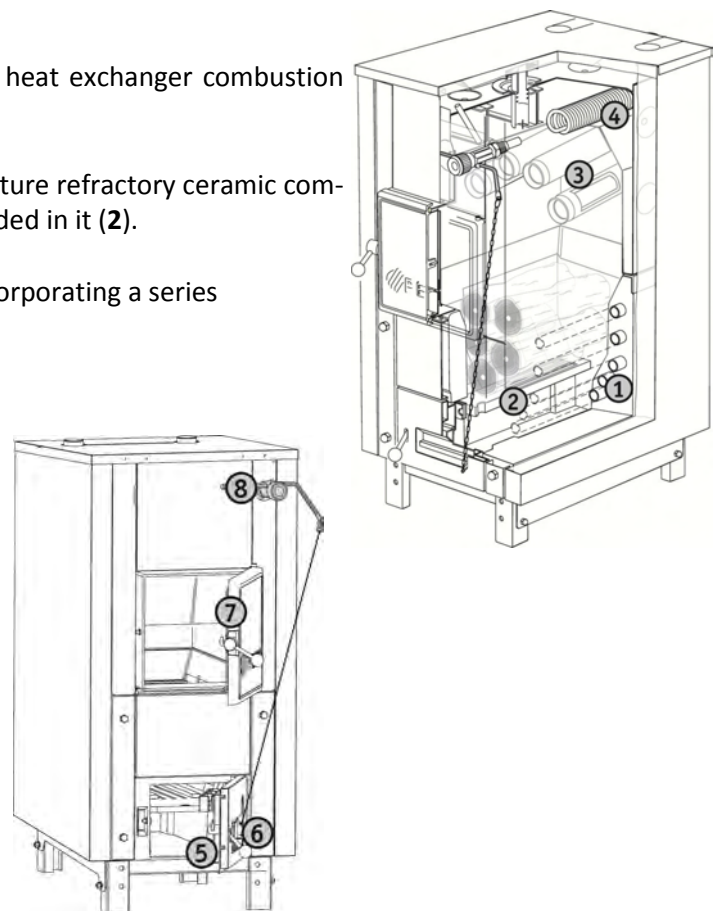
- **Upper Chamber (3)** designed to maximise efficiency by incorporating a series of water filled tubes through which flue gases pass.

- **Anti-Boiling Quench Coil (4)** : to prevent overheating.

Fuelbed Grate / Cleaning Door(5) to allow access for cleaning and ash removal. This also houses the primary air entrainment control system (6). Access to the main combustion chamber is made through the loading door (7), in order to load the chamber/ fuel bed with logs.

A thermostat (8) automatically maintains the boiler water temperature by controlling the primary air entrainment to the combustion chamber (6).

***for operating details on the thermostat see p 11.**

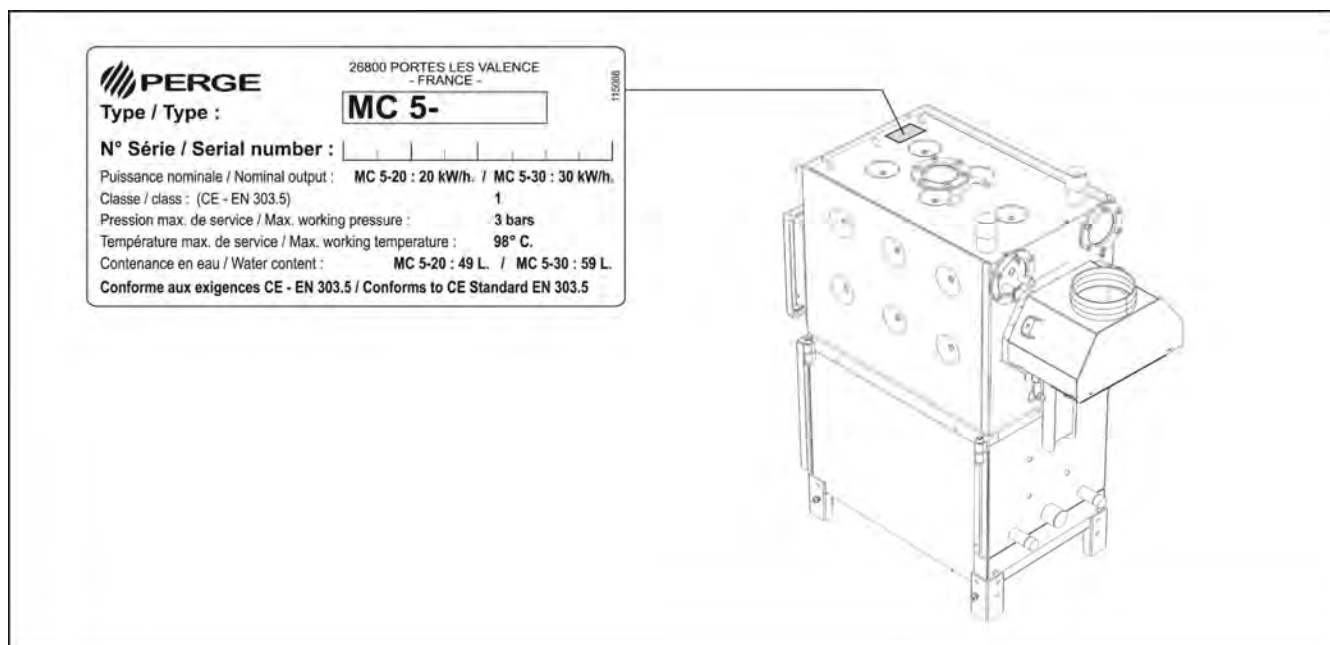


Safety features

- Anti-Boiling Quench Coil, which can be connected to mains cold water to operate via a thermostatic valve should the boiler reach boiling point.

This feature comes as standard on all the MC series boilers, but is an optional feature for use in open vented systems.

A Data Plate for each boiler is fitted to the top rear of the appliance, beneath the top cover. This is required when calling regarding a spares or technical enquiry.

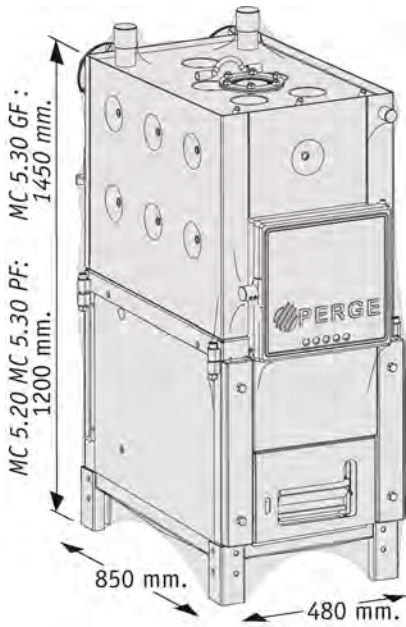


Boiler Specification

MODEL			MC 5-20 CI	MC 5-30 CI PF	MC 5-30 CI GF
Heat Output	max.	<i>KW.</i>	20	30	30
	min.	<i>KW.</i>	5	5	5
Maximum Efficiency		%	80,8	78,00	78,15
Flue Pull	min.	<i>Pa</i>	13	13	13
	max.	<i>Pa</i>	18	18	18
Water Thermostat Setting	min.	<i>°C</i>	80	80	80
	max.	<i>°C</i>	90	90	90
Heat Output (at maximum efficiency)		<i>kW.</i>	15	18	18
Loading Chamber Opening Dimension		<i>mm.</i>	308 x 308	308 x 308	308 x 308
Maximum Log Length		<i>mm.</i>	500	500	500
Combustion Chamber Dimension (<i>W x H x D</i>)		<i>mm.</i>	340 x 560 x 495	340 x 560 x 495	340 x 560 x 735
Product Weight		<i>Kg.</i>	425	445	527
Maximum Pressure		<i>Bars</i>	4,5	4,5	4,5
Maximum working pressure		<i>Bars</i>	3	3	3
Anti-boiling Coil Pressure		<i>Bars</i>	2	2	2
Anti-boiling Coil Connection Dimensions		<i>mm.</i>	15/21	15/21	15/21
Flow / Return Connection Dimensions		<i>mm.</i>	40/49 F.	40/49 F.	40/49 F.
		<i>mm.</i>	26/34 M.	26/34 M.	26/34 M.

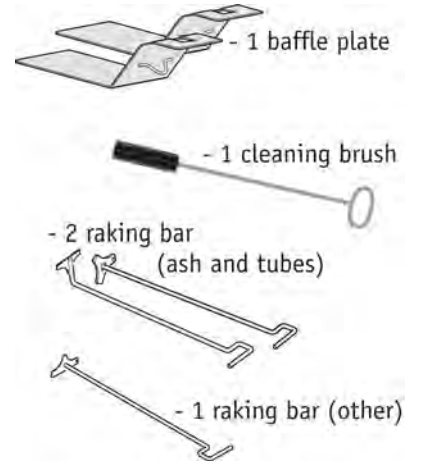
Appliance Contents

Box 1: Contains the main boiler / combustion chamber engine unit; which is shrink-wrapped. The following accessories are located within the boiler combustion chamber:

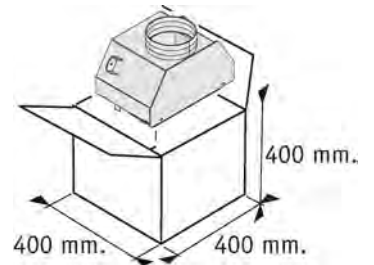
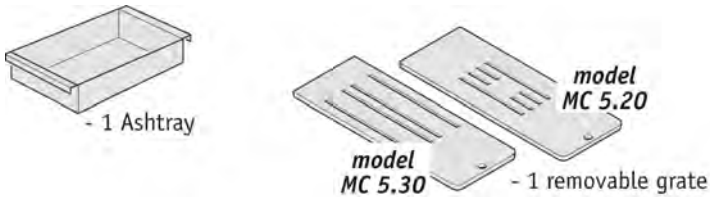


A plastic bag (230 x 300 mm) holding:

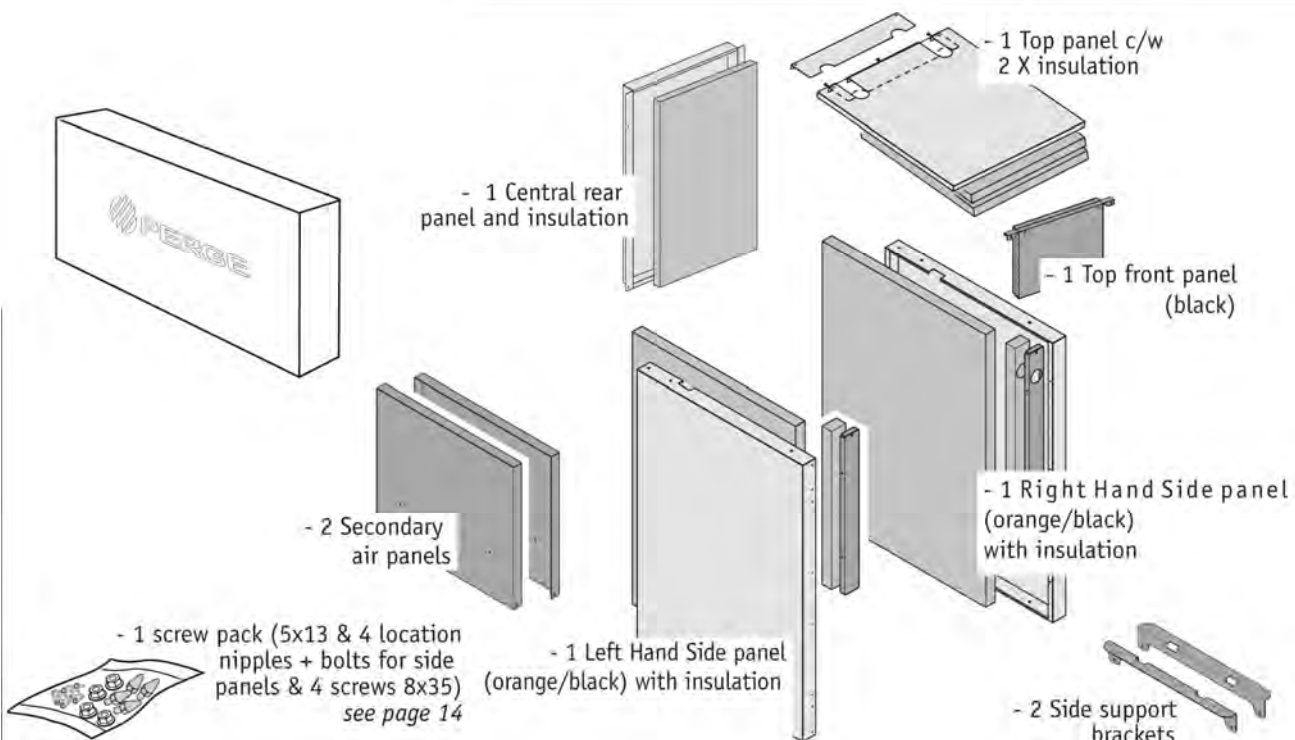
- 1 Primary water (flow) thermometer (see pages 14/15)
- 1 Boiler thermostat c/w chain (see pages 13/14/15)
- 2 Door handles
- 1 Flue adaptor (UK)
- 1 Installation and user manual



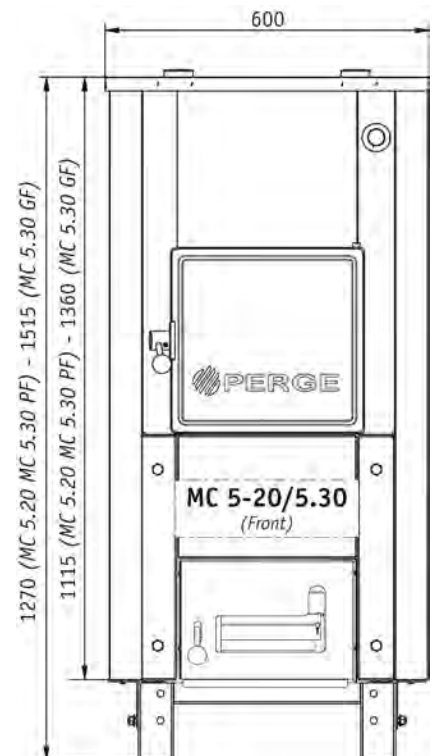
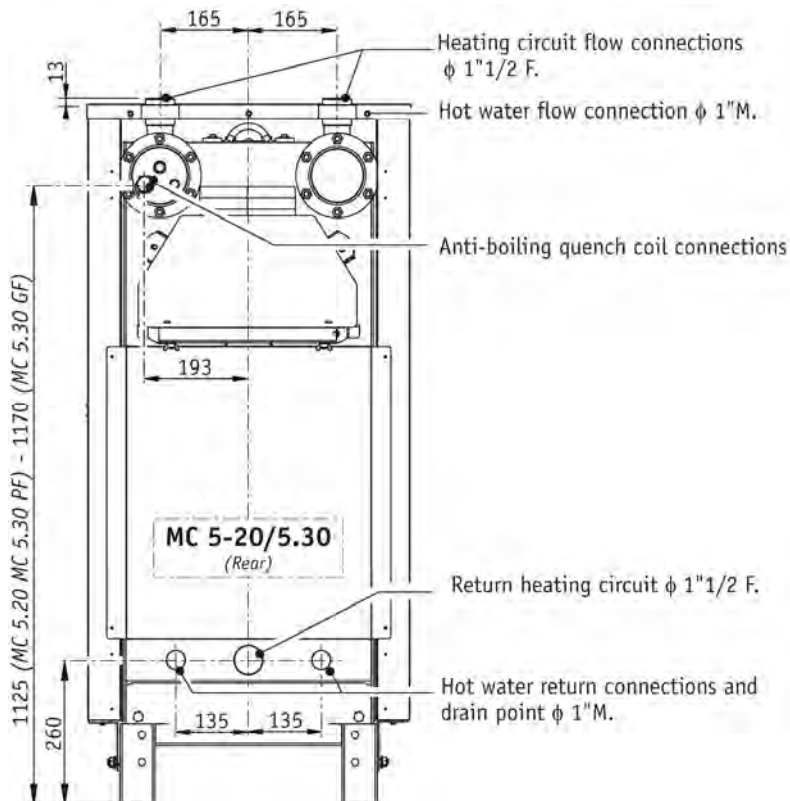
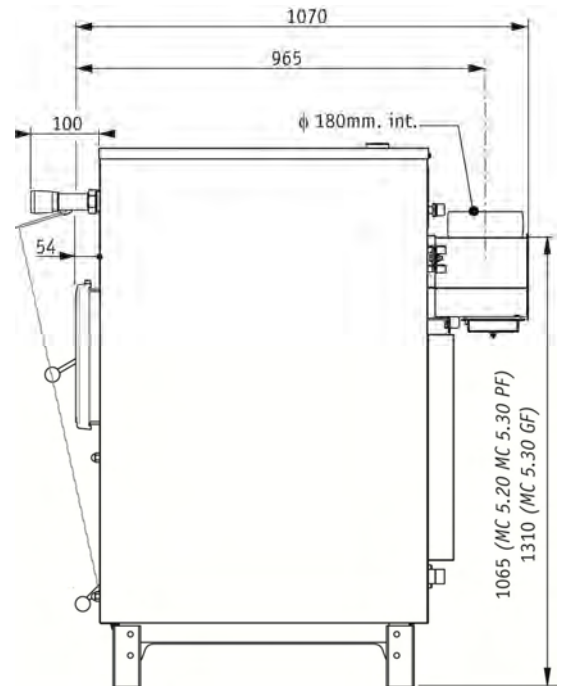
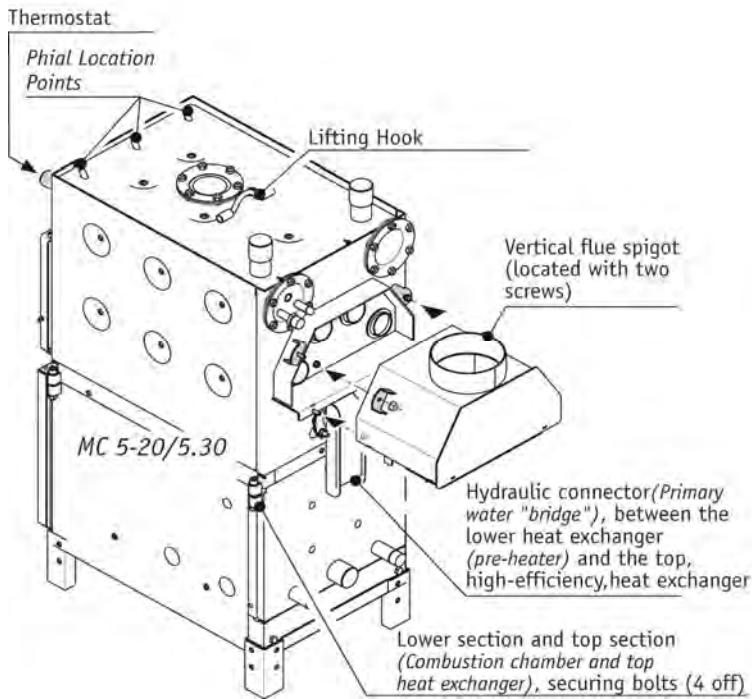
Box 2: 1 vertical flue spigot (see pages 13 and 16)



Box 3: Cardboard box containing the following components:



Boiler dimensions



Prior to installation, it is important to decide on the right location for your boiler:

- Locate your boiler so that you are able to easily access stored wood fuel
- Ensure there is sufficient access to load and clean the boiler
- Ensure the boiler is located in a dry, weather resistant atmosphere
- Allow a minimum 600 mm around the boiler for access and servicing

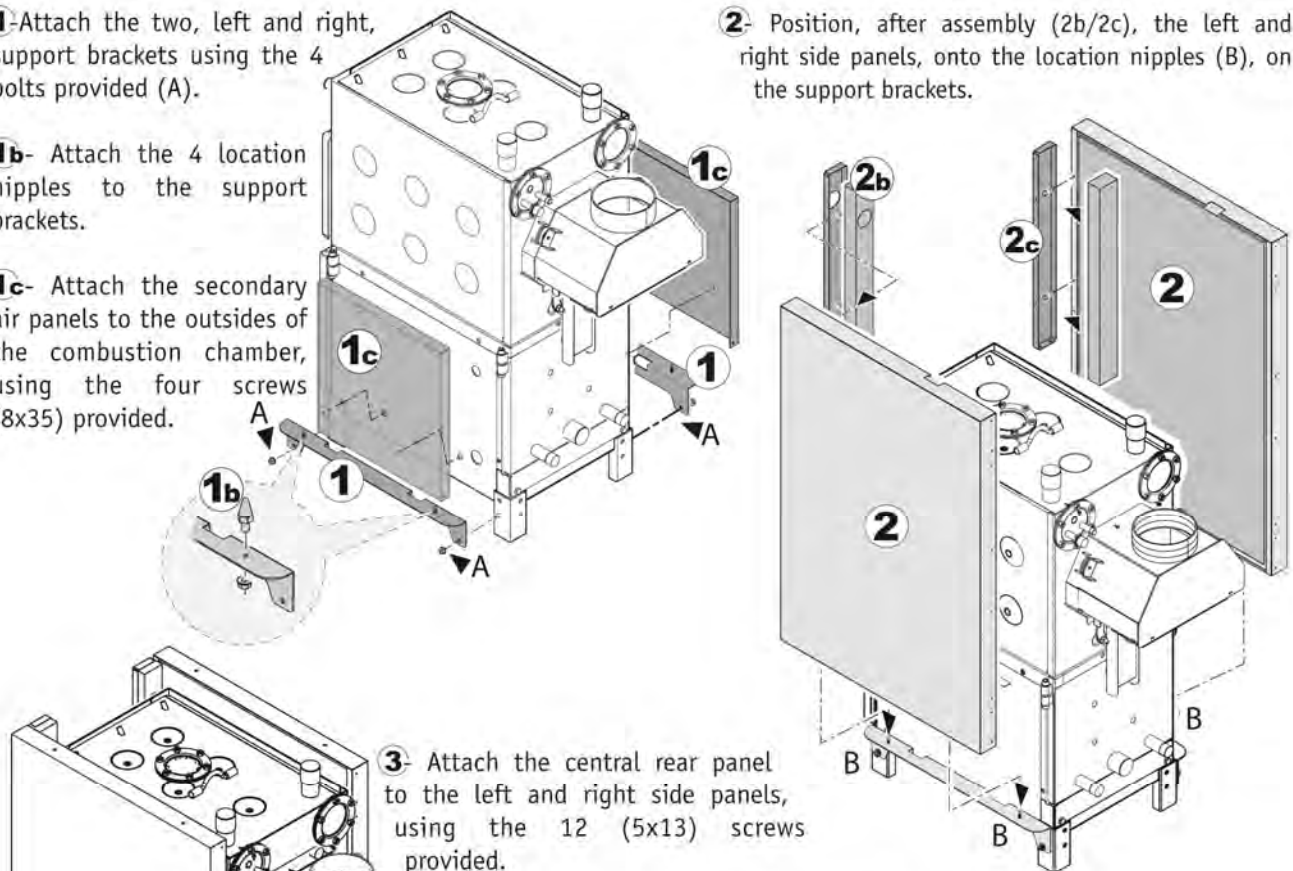
Boiler assembly

1 Attach the two, left and right, support brackets using the 4 bolts provided (A).

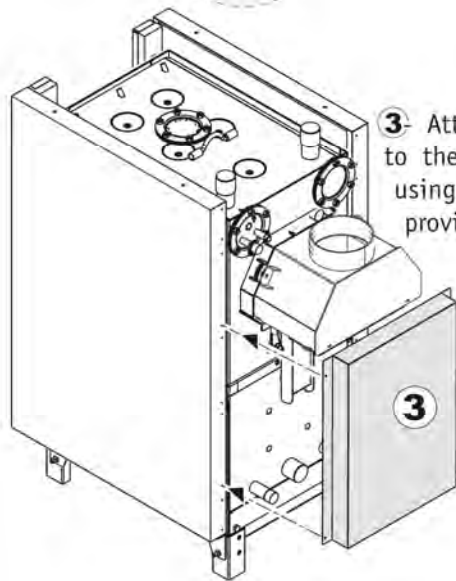
1b Attach the 4 location nipples to the support brackets.

1c Attach the secondary air panels to the outsides of the combustion chamber, using the four screws (8x35) provided.

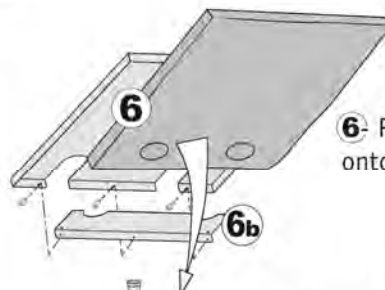
2 Position, after assembly (2b/2c), the left and right side panels, onto the location nipples (B), on the support brackets.



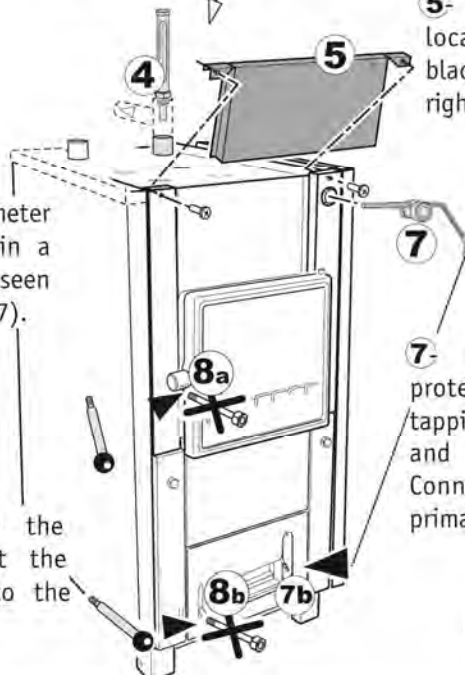
3 Attach the central rear panel to the left and right side panels, using the 12 (5x13) screws provided.



6 Position the top panel/insulation onto the top of the boiler.



5 Slide the top front panel location "wings", behind the black top sections of the left and right side panels.

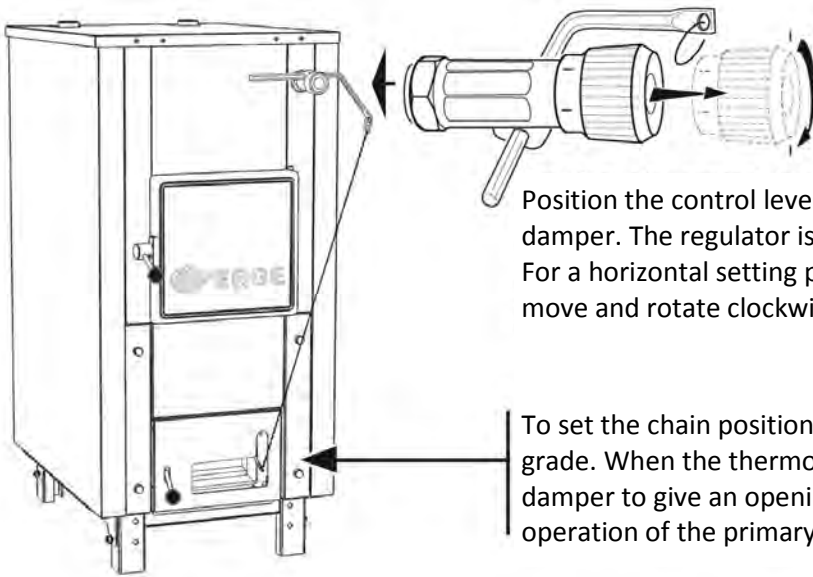


4 Install the boiler thermometer on the heating flow pipe, in a position that allows it to be seen when setting the thermostat (7).

7 Remove the red plastic protection plug from the 3/4" tapping, on the front of the boiler, and screw in the thermostat. Connect the link chain to the primary air damper (7b).

8 After having removed the temporary door handles; fit the permanent door handles onto the doors (8a/8b).

Fitting and calibration of the thermostat (Calorstat)



Position the control lever so that the chain is in line with the primary air damper. The regulator is factory set for vertical operation. For a horizontal setting place the regulator control to read 30°C, then remove and rotate clockwise half a turn before refitting.

To set the chain position, set the control knob to read 80 degrees centigrade. When the thermometer indicates 80°C. Connect the chain to the damper to give an opening gap of 1mm - 2mm. This will ensure correct operation of the primary air control.

Operation of the boiler

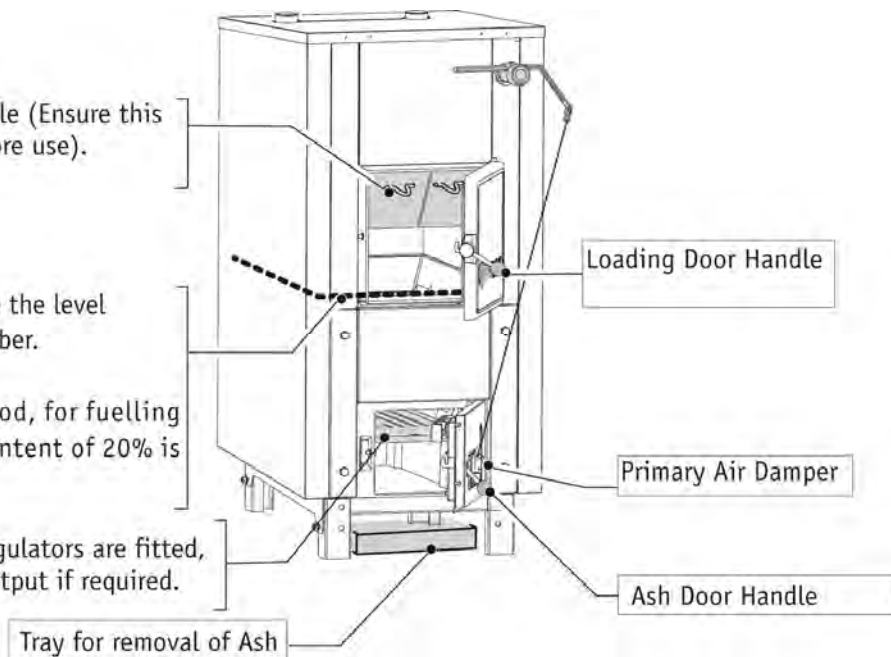
- It is important to ensure that all installation requirements are met.
 - Prior to initial use of the boiler, it is **IMPORTANT** that the boiler is fired at a reduced operating temperature in order to drive any moisture from the refractory ceramic combustion chamber. In order to do this the boiler should be run for the first 8 hours, firing at a reduced fuel load (setting the calorstat at 40°C/50°C). This can then be progressively increased.
- Cracking of the combustion chamber ceramic will occur; this is normal and will not affected the operation of the boiler.

- Upper Combustion Chamber Baffle (Ensure this component is correctly fitted before use).

- Logs should not be loaded above the level indicated in the combustion chamber.

- Only use dry well seasoned wood, for fuelling the boiler. Ideally a moisture content of 20% is required.

Note: If the bottom grate regulators are fitted, this will reduce the boiler output if required.

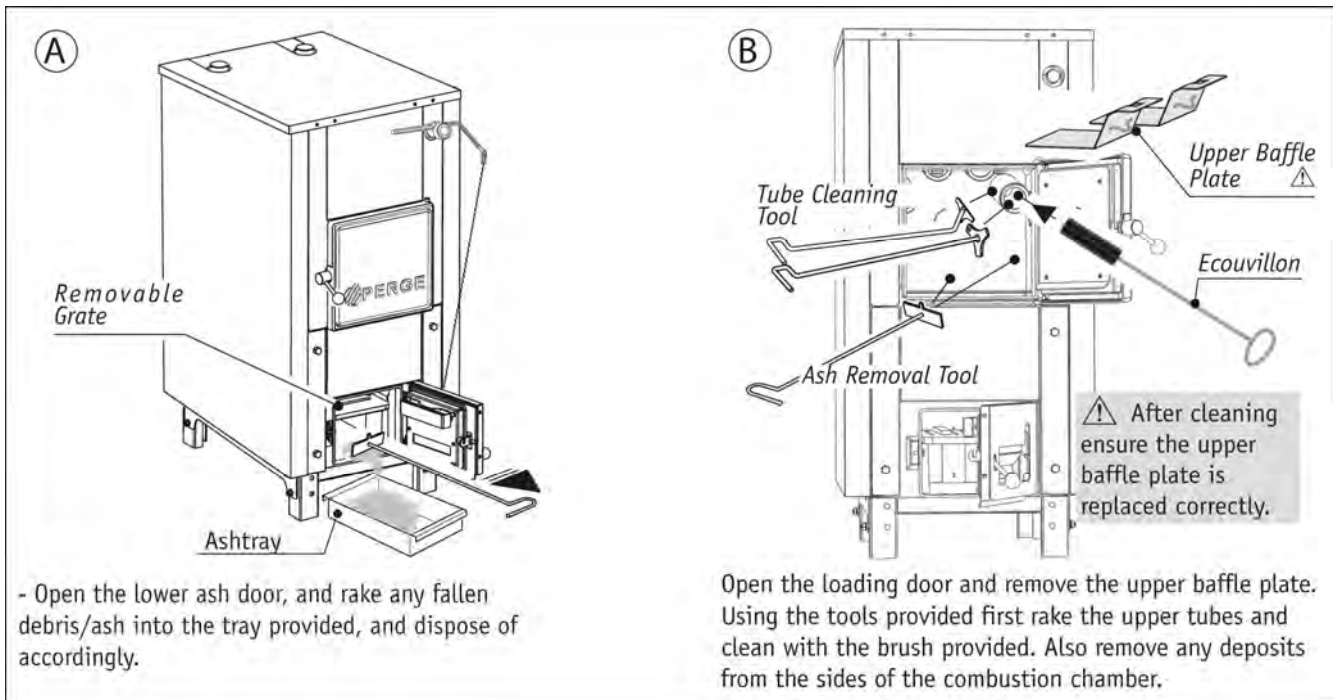


Periodic maintenance

Operation	Frequency	Comments
Ash removal (fig. A)	As required	When required the ash can be removed from the bottom grate by using the ash removal tool. A tray is provided for safe and convenient removal.
Upper heat tubes (fig. B)	1 to 2 times per month	
Air controls	Regularly	Check that all air entrainment holes / plates are free from debris or blockage
Servicing of the boiler and flue installation	Annually	The boiler and installation should be checked and fully serviced each year by a suitably qualified heating engineer. This is a safety requirement, and forms part of the product warranty.

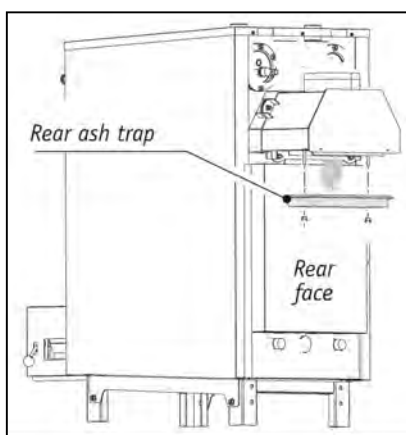
Ash removal and upper heat exchanger tube cleaning instruction

It is important for both efficient and safe operation of the boiler that the following operations are carried out. Detailed below are instructions on the removal of ash from the boiler and cleaning of the upper heat tubes and combustion chamber



Non contractual document, could be modified without notice.

Ash door (rear spigot connection) (twice per month)



Remove the rear ash trap collector plate and dispense any ash that may have collected. Remove with two screws, and replace.



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