Installation Instructions

MATTIRA
Digital Modulating Electric Boilers

MAS15 | MAS18

Please read these instructions carefully before installing or using this appliance for the first time.

ELNUR powered by Gabarrón

INDEX

1 IMPORTANT

The following installation instructions are intended to guide the competent person throughout the entire installation process.

The boiler's guarantee does not cover any damage caused by non-observance of any of these instructions.

These installation instructions and user's guide must be conserved and given to any new user.

Connections can come loose in transit, and all should be checked before installation.

The symbols used in the text are explained below:

⚠

WARNING: This indication shows the possibility of causing death from electric shock.

WARNING: This indication shows the possibility of causing death or serious injury.

CAUTION: This indication shows the possibility of causing injury or damage to properties only.

Symbol For Useful Information.

2. SAFETY

- This appliance is not for use by anyone (including children) with reduced physical, sensorial or mental capacities or those who do not know how to use the appliance, unless they are supervised or instructed by a person responsible for their safety.
- Check that the voltage on the indicator plate of the boiler coincides with the voltage of the mains circuit to which it is going to be connected.
- The use of these boilers in the presence of gases, explosives or inflammable objects is prohibited.
- The air inputs and outputs of the boiler ensure its correct operation and protect it from over-heating. They must never be covered.
- This boiler must be disconnected from the mains electricity before carrying out any internal repairs.
- The boiler must be installed in such a manner that the switches or other controls cannot be touched by anyone who is using the bath or shower.
- The installation must be performed in accordance with current IEE Wiring Regulations, Building Regulations, Water Fitting Regulations (England & Wales) or Water Byelaws (Scotland) and all relevant British Standards.
- This appliance is designed to be permanently connected to a fixed installation. The power circuit of the boiler must incorporate an omni-polar cut-off switch with a separation between the contacts of at least 3 mm.
- The electricity supply circuit must incorporate a Residual-Current Device.
- This boiler must be earthed.
- All the models incorporate different safety elements. If one or more of them are activated, consult section 7. Trouble Shooting.
- The presence of air particles of smoke, dust and other pollutants may stain the walls and areas close to the appliance.
- Any improper use is forbidden.
- Do not install the boiler in rooms prone to frost.

3.4 Safety Devices

Safe operation under various conditions is ensured \by the following controls fitted inside the boiler:

- Water flow switch that monitors water flow in the heating system and will prevent operation in case of a blockage, if the system flow rate is below the permitted level, error E3 will appear. Installation of a system by-pass may be necessary (see 7.3 HEATING SYSTEM FLOW SWITCH – E3 ERROR & SYSTEM BY-PASS REQUIREMENTS).
- Heating system high limit safety thermostat will prevent operation if the temperature exceeds 100ºC. It requires re-setting manually.
- Heating system pressure relief valve will discharge to relieve excess pressure at 3 bar. (Requires piping to a safe external discharge point.)

4. INSTALLATION

IMPORTANT PRE- INSTALLATION POINTS

In order to ensure the successful installation and operation of your Gabarrón boiler, please consider the following points before commencing.

SITING THE BOILER

WARNING: Wall and fixings must be suitable to support the total weight; MATTIRA MAS boiler when full is 50kg.

Allow sufficient clearance and access for operating, maintenance and repair work.

Boiler must be protected from any water, moisture or dampness. Where installations are in a bathroom, the installation must comply with the relevant electrical regulations.

Boiler electrical protection rating is IP20/IP2X. This boiler is not designed to be installed in the open air.

The boiler must be installed in the upright position.

ELECTRICAL POWER SUPPLY & WIRING

WARNING: Before carrying out any work inside the boiler and obtaining access to terminals, all supply circuits must be disconnected.

WARNING Earth the appliance. If the appliance is not earthed, it may hold voltage if a defect occurs.

Competency for electrical installation is required.

The power supply must meet the capacity for the heat output required plus all other appliance that may be supplied. The cable, MCB and RCD must be of sufficient capacity to carry the required load.

Boiler is supplied set at maximum output and must be adjusted to suit the incoming supply before being switched on. (See 5.2 LIMITING BOILER MAXIMUM OUTPUT).

HEATING SYSTEM & CONTROLS

Any existing system must be suitable for sealed system operation at up to 3bar pressure and will require

flushing/cleansing in accordance with the Building Regulations. Any new heating system must be flushed and cleansed in accordance with the Building Regulations.

A SYSTEM filling loop, isolation valves and drain point are required.

A time clock/room thermostat should be installed

(Necessary to activate automatic power modulation).

A bypass circuit (min 2m recommended) incorporating an automatic bypass valve must be installed on all central heating systems where TRV's are fitted to every radiator. Note - A bypass circuit incorporating an automatic bypass valve is recommended for all installations. The correct heat requirement for the dwelling should be calculated.

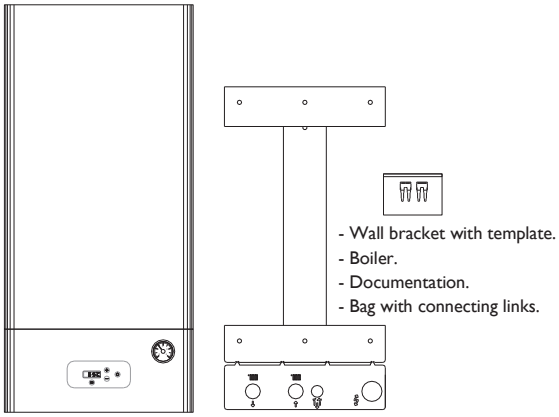
4.1 General Requirements

Installation should also be in accordance with the relevant British Standards and Codes of Practice including the following:

BS7074 Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems.

BS 7671 Requirements for electrical installations, IEE Wiring Regulations.

4.2 Unpacking & Contents



Dispose of the cardboard packaging at a cardboard recycling site. Observe national regulations.

4.3 Location

The location should be clean and dry with no presence of gases, explosives or flammable objects.

It is not suitable for installation outside and should be protected from moisture and frost.

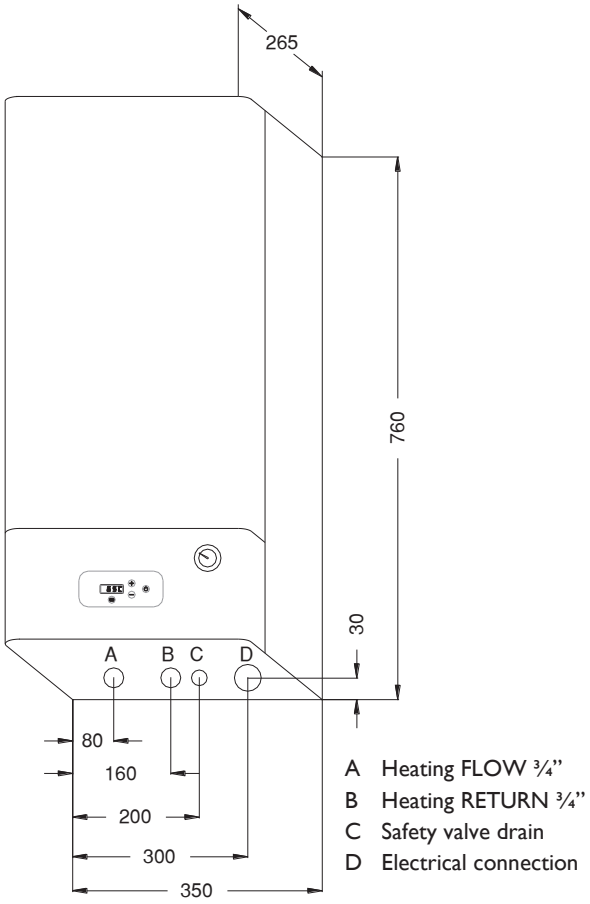
The boiler must be sited so that the boiler and controls are not accessible to any persons whilst using a bath or shower and there should be no possibility of water dripping or splashing onto the boiler or controls.

Electrical safety regulations for clearances must be followed if installed in a bathroom or shower area.

The boiler has an electric protection rating of IP20/IP2X.

The power supply cable should be carefully routed and secured and provision made for a suitable isolation switch and MCB/RCD.

4.4 Dimensions & Connections

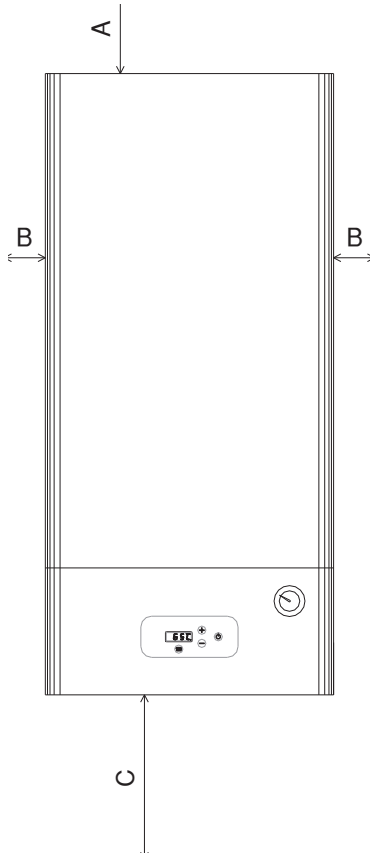


4.5 Clearances

The clearances around the boiler as shown above must be observed for correct operation.

A minimum of 200mm clearance must be maintained underneath the boiler to allow replacement of the heating elements if required. A minimum of 500 mm clearance must be maintained in front of the boiler to enable easy access for servicing.

Ensure sufficient space to make all water connections including the outlet pipes for the heating safety valve which should be routed to a suitable discharge point.



WARNING: Install Upright On A Wall Suitable To Support The Total Weight Of The Boiler – 50 Kg.

4.6 Mounting Bracket

Mark the hole positions using the wall bracket as a template per the diagram.

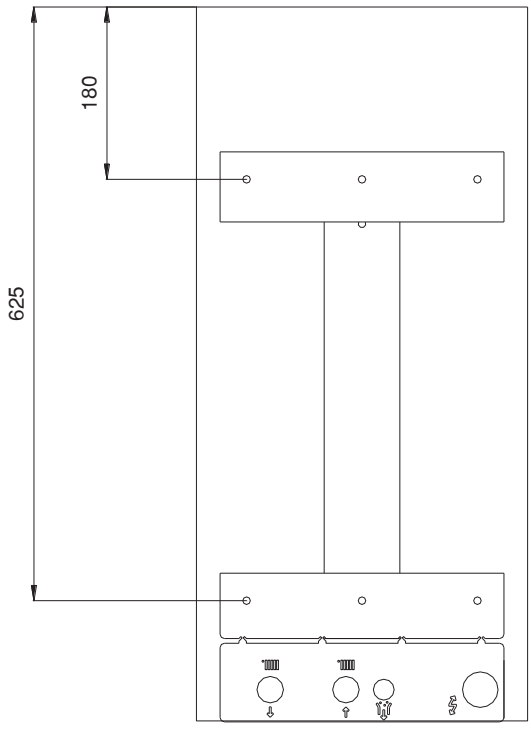
Fit bracket securely onto wall before lifting appliance into position. Drill the holes and fit the bracket ensuring it is level using suitable high strength screws, with appropriate plugs or fixings, minimum M10 size.

HANDLING BEFORE INSTALLATION

The Gabarrón Mattira Boiler must be handled with care and stored the correct way up in a dry place. Any manual handling/lifting operations will need to comply with the requirements of the Manual Handling Operations Regulations issued by the H.S.E.

The appliance can be moved using a sack truck on the rear face although care should be taken and the route should be even. In apartment buildings containing a number of storeys we would recommend that the appliances are moved vertically in a mechanical lift. If it is proposed to use a crane, expert advice should be obtained regarding the need for slings, lifting beams etc. Always use assistance if required. Wear suitable cut resistant gloves when handling the appliance.

Ensure safe lifting techniques are used. Do not lift the appliance by attached pipe-work or components. When lifting, the boiler ensure that the fixing elements and the wall have a sufficient load-bearing capacity. Check the quality of the wall.



4.7 Water Connections - General

CAUTION: All connections to the boiler must be carried out respecting the correct flow, return, hot, cold and discharge indicators that are labelled on the boiler and also shown in this manual.

CAUTION: When tightening or loosening threaded connections, always use suitable tools such as open-end spanners. Do not use pipe wrenches, extensions or unsuitable tools that may cause damage or water leaks.

4.8 (A) Central Heating Connections, Design & Requirements

This boiler is designed for fully pumped sealed systems only.

Treatment of Water Circulating Systems
All recirculatory water systems will be subject to corrosion unless an appropriate water treatment is applied. This means that the system efficiency will deteriorate as corrosion sludge accumulates within the system. This causes a risk to the pump and valves and can result in boiler noise and circulation problems. When installing heating systems, flux will be evident in the system which can lead to damage of boiler and system components.

All systems must be thoroughly drained and flushed out using corrosion inhibitors and cleansing agents/ descalers that are compliant with BS7593 requirements. In all cases, they should be used following the manufacturer's instructions.

Failure to flush and add an inhibitor to the system will invalidate the manufacturer's warranty of the boiler.

It is also important that the inhibitor concentration is checked for correctness after installation, modification and during every service in accordance with the relevant manufacturer's instructions. Test kits specifically for this purpose are available from inhibitor stockists.

Heating Flow & Return

These connections are ¾ " for connection to 22mm pipe using the tails provided. Service valves should be installed in the pipework directly below the boiler with drain-off points above to allow the boiler to be isolated for maintenance without the need to drain the entire system. The valves should be of sufficiently large bore so not to restrict the heating circulation.

The boiler is not suitable for single pipe heating systems, only a twin-pipe heating system should be used.

It is recommended that a minimum of 2m of 22mm diameter pipework is present to/from the flow and return connections on the boiler as reduction in size prior to this may result in the system flow rate being below the minimum level required, resulting in error E3.

Drain Point

As detailed above, drain points should be installed directly above the service valves on the flow and return pipe work to enable the removal of water from within the boiler for servicing and maintenance, preventing the need to drain the entire system.

A drain point must also be fitted at the lowest point of the system. It is not acceptable to drain the boiler through the safety valve as debris and deposits will prevent correct operation of the valve.

Heating System By-pass

The heating water flow switch requires a minimum flow rate through the boiler of 7 L/min for correct operation. Systems fitted with Thermostatic Radiator Valves on every radiator must have a bypass circuit installed.

The bypass circuit must be in 22mm pipe work, is recommended to have at least 2m of continuous pipework and must incorporate an automatic bypass valve. This is required in order to maintain sufficient flow through the boiler should all of the valves be closed. (See 7.3 Heating System Flow Switch - E3 Error & System Bypass Requirements).

To alleviate potential flow issues, especially on smaller systems, it is recommended that all installations be fitted with a bypass circuit as described above.

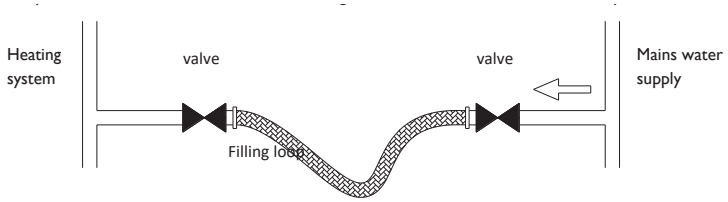
Ensure that all radiators have air release (bleed) valves installed and that high points in pipe work have an air release valve (automatic type recommended) installed.

System Expansion

An integral 6 L expansion vessel provides for expansion of the heated system water under normal conditions however a system with larger volumes of water may require extra expansion capacity to be provided.

Filling Loop

A SYSTEM filling loop is required for filling of the heating system and replacing water lost during servicing or bleeding and should be installed close to the boiler. The loop should be as shown in the diagram and comply with current Water Supply Regulations. The temporary connection should be removed after filling and the valves sealed with suitable caps.



Pressure Relief Valve

The pressure relief valve is set at 3 bar, subsequently all fittings and pipework, etc. must be suitable for pressures in excess of 3 bar and temperature in excess of 100ºC.

The pressure relief valve has a ½" BSP thread for connection via a suitable connector to copper tube and the pressure relief discharge pipe should not be less than 15mm diameter.

The pressure relief discharge pipe must run continuously downward and discharge outside of the building, preferably over a drain.

The discharge pipe should be routed in such a manner that it does not present a hazard to occupants or cause damage to wiring or electrical components.

If the discharge pipe does not terminate over a drain then, the end of the pipe should terminate facing down and towards the wall.

Under no circumstances should the discharge be above a window, entrance or other public access.

The installer must give consideration to the possibility that boiling water / steam could discharge from the pipe.

If the discharge pipe is to join a common discharge pipe, it must have its own tundish and increase to 22mm diameter. prior to connection to the common discharge pipe.

If the discharge is to join into the common discharge from an unvented cylinder then, it must follow the guidance of G3 of the Building Regulations.

All installations must be fitted in accordance with all local regulations in force at that time. Failure to comply with these regulations will invalidate the manufacturers' warranty.

4.8 (B) Pump Duty

Boiler equipped with a high efficiency circulation pump, with a maximum delivery head of 6.2 m and a maximum flow of 3.3 m³/h.

There are selectable operation modes with the built-in knob. You can select constant operating speeds I, II and III.

A LED indicator informs about the operating status of the pump.

- Green: correct operation.
- Green / red flashing: Lower voltage U<180V; overvoltage U>253V; Module overheating
- Red flashing: pump blocked.

4.9 Electrical Connections

Connection to Mains Supply

The GABARRÓN MATTIRA SYSTEM MAC15 boilers must be installed in premises having a system impedance of not more than 0.25 + j0.25Ω.

The GABARRÓN MATTIRA SYSTEM MAC15 boilers comply with the technical requirements of BS EN 61000-3-3.

The GABARRÓN MATTIRA SYSTEM MAC15 boilers must be installed in premises having a service capacity ≥100 A per phase.

Complete all the pipe-work before connecting the boiler to the electricity supply.

Any re-installation must be performed by qualified electricians.

Ensure that the mains voltage available coincides with that shown on the rating label.

WARNING: Important: Check that the total power supply to the building has sufficient load capacity to supply the boiler at the heat output required in addition to all other appliances that may be supplied.

WARNING: The supply cable to the boiler should be of sufficient size to carry the load capacity required. It should be wired through a linked isolator switch with minimum contact gaps of 3mm in every pole and protected by a suitably rated circuit breaker Mcb/Rcd

Install the necessary electrical protections as Indicated In the current regulations. in the event of these regulations not being complied with, the manufacturer will not be liable for any bodily injury or material damage that may occur.

WARNING: It is essential that the boiler Is properly earthed and the wiring tested to current Iee regulations.

Electrical Supply Sizing

The following table shows the specification for a boiler installed on single phase supply.

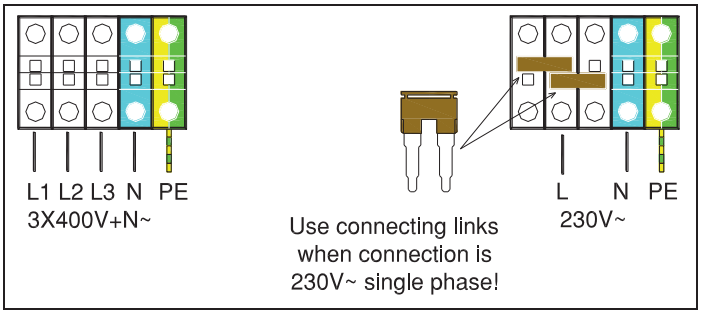
Rated output of boiler	4kW	5kW	6kW	7kW	8kW	9kW	10kW	11kW	12kW	13kW	15kW
Supply current	17.4A	21.7A	26.1A	30.4A	34.8A	39.1A	43.5A	47.8A	52.2A	56.5A	65.2A
MCB / RCD rating	20A	25A	32A	32A	40A	50A	50A	50A	63A	63A	80A
Minimum cable size	2.5mm	4mm	4mm	6mm	6mm	10mm	10mm	10mm	16mm	16mm	16mm

Connection to Boiler

WARNING: Touching live connections can cause serious personal injury.

Before establishing a mains connection switch off the power supply. Secure the power supply against being switched on again. Mains connection terminals remain live even if the on/off switch is turned off.

The boiler is delivered ready for operation on 3x400V three phase supply. For operation on 230V single phase the supplied links must be connected across the terminals of the connection block as shown.



The terminal connection block is located mid-way up at the front left hand side of the boiler and is accessed after removing the boiler front panel . The supply cable should be routed to this point through the cable entry point on the left hand bottom of the boiler.

CAUTION: A mains voltage at the incorrect plug terminal can destroy the electronics.

Make sure the connecting cables are securely fastened to the plug terminals.

Wiring External Controls

It is recommended that the boiler is controlled by an external control such as a time clock or room thermostat or a combined programmable room thermostat such as the Elnur model CTP-10.

CAUTION: The switching connection of this control should be VOLT FREE and connected to the terminals indicated 'TA' on the PCB. The factory fitted link across these terminals must be removed.

The boiler's automatic power modulation feature is ONLY activated by the initial interruption of this switching link.

5 COMMISSIONING

5.1 Installation Parameters

These parameters must be adjusted by the installer to match the requirements of the installation.
To access to installation parameters menu:

- Ensure the rear mounted power on/off switch is turned on.
- Ensure the main display front panel is turned off by using the ⏻ button.
- Press and hold the ⏻ and ⊖ buttons together for at least 5 seconds.

To move forward or backward through the menu use the ⊕ and ⊖ buttons respectively.

To modify a parameter:

- Select the appropriate value e.g. – P00, P01, P02, etc.
- Press the ▦ button to display the current setting.
- Modify the setting as required using the ⊕ and ⊖ buttons respectively.
- To confirm the new setting, press the ■ button once.

After setting the various parameters it is necessary to validate by pressing the ⏻ button for 3 seconds.

Note - If this is not done after completing changes, none of the changes made will be saved.

⚠ **IMPORTANT - If none of the buttons are pressed for 30 seconds, the installation parameter menu will be automatically closed without validating/saving any changes.**

Boiler type. If the boiler is for central heating and Domestic Hot Water (DHW) this parameter is 1. If the boiler is only for central heating it will be 0.

Model. 18 corresponds to model MAS18, 15 corresponds to model MAS15.

Boiler maximum output limit.

Model MAS18 can be limited to 18 - 15 - 12 - 9 - 6 - 3 kW.

Model MAS15 can be limited to 15 - 13 - 12 - 11 - 10 - 9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 kW.

Underfloor heating. If the boiler is underfloor heating ready this parameter will be 1 otherwise it will be 0.

Outdoor temperature probe. An outdoor temperature probe (not provided) can be installed. In this case the parameter value will be 1.

Heating temperature differential. The heating temperature differential can be selected from 2ºC to 10ºC. The default value is 2ºC.

Modulation.
1 (modulation ON) 0 (modulation OFF).

Units.
ºC (Celsius) ºF (Fahrenheit).

To access the parameters menu from **P11 – P15**, an outdoor temperature probe must be installed and the parameter in P05 set to 1

AUTO heating regulation. If a fan outdoor temperature probe is installed it is possible to activate the auto heating regulation by shifting this parameter value to 1.

TIMAX. Maximum water flow temperature in AUTO heating mode.

TIMIN. Minimum water flow temperature in AUTO heating mode.

TEMAX. Outdoor temperature from which the water flow temperature will be TIMIN.

TEMIN. Outdoor temperature below which the water flow temperature will be TIMAX.

5.2 Limiting Boiler Maximum Output

The boiler is supplied for operation on maximum heat output of 15kW. The output can be rated below this maximum to match the heat load required. This rating is done by means of P03 parameter. See above "5.1 INSTALLATION PARAMETERS"

WARNING: On installations where the incoming power supply is not capable of maximum load the boiler control must be re-configured to limit the output before switching on.

The boiler will not exceed this pre-set maximum but will still modulate in heating mode up to this level, adapting to demand and ensuring economic operation.

Correct configuration for the selected output can be checked on the boiler display panel following the procedure shown in "7.4 CHECKING RATED HEAT OUTPUT".

CAUTION: It is essential to confirm the power output with the use of a clamp meter.

Limitation of output on models Mattira System Mas18 (Not available Uk & Ireland)

Maximum output limited to:	MAXIMUM CURRENT **L1**	MAXIMUM CURRENT **L2**	MAXIMUM CURRENT **L3**	Maximum output limited to:	MAXIMUM CURRENT
18kW	26.0A	26.0A	26.0A	**18kW***	78.3A*
15kW	26.0A	26.0A	13.0A	**15kW***	65.2A*
12kW	26.0A	13.0A	13.0A	**12kW**	52.2A
9kW	13.0A	13.0A	13.0A	**9kW**	39.1A
6kW	13.0A	13.0A	-	**6kW**	26.1A
3kW	13.0A	-	-	**3kW**	13.0A
Connection Three-Phase 3x400v-+N			Connection Single Phase 230v-		

Limitation of Output on models Mattira System Mas15

Maximum output limited to:	MAXIMUM CURRENT **L1**	MAXIMUM CURRENT **L2**	MAXIMUM CURRENT **L3**	Maximum output limited to:	MAXIMUM CURRENT
15kW	21.7A	21.7A	26.0A	**15kW***	65.2A*
13kW	21.7A	21.7A	13.0A	**13kW**	56.5A*
12kW	8.7A	21.7A	21.7A	**12kW**	52.2A
11kW	21.7A	13.0A	13.0A	**11kW**	47.8A
10kW	13.0A	8.7A	21.7A	**10kW**	43.5A
9kW	13.0A	13.0A	13.0A	**9kW**	39.1A
8kW	13.0A	8.7A	13.0A	**8kW**	34.8A
7kW	8.7A	13.0A	8.7A	**7kW**	30.4A
6kW	8.7A	8.7A	8.7A	**6kW**	26.1A
5kW	8.7A	13.0A	-	**5kW**	21.7A
4kW	-	8.7A	8.7A	**4kW**	17.4A
3kW	13.0A	-	-	**3kW**	13.0A
2kW	-	-	8.7A	**2kW**	8.7A
Connection Three-Phase 3x400v-+N			Connection Single Phase 230v-		

*** The standard configuration of the boiler only allows a maximum of 12kW when connected SINGLE-PHASE 230V~.**

5.3 Heating System Flushing

CAUTION: Flush the heating installation thoroughly prior to installation.

The heating system should be flushed in accordance with BS7593 & BS5449 which will remove any debris or contaminants detrimental to the operation and life of the boiler. Any cleanser or additives used should comply with current standards and the manufacturer's instructions carefully followed.

Note: It Is Important Not To Use The Boiler Pressure Relief Valve To Drain Or Flush The System As Trapped Debris Will Cause Incorrect Operation. A Purpose Provided Drain Point Should Be Used.

5.4 Heating System Initial Filling

Ensure both flow and return isolation valves are open. Identify the boiler automatic air release valve at the top right hand side of boiler and loosen the cap. Close any manual air vents fitted on the system.

Be careful not to splash any of the electrical components.

Connect the filling loop and fill slowly until the pressure gauge indicates between 1 and 1.5 bar.

Proceed to vent all the manual release valves until all air is purged from the system. It will be necessary to top-up through the filling loop during this operation until the pressure gauge indicates between 1 and 1.5 bar.

5.5 Pump Checking & Venting

Sometimes (i.e. if display fault E3) it is necessary to check that the pump is properly vented and spinning freely.

To purge the pump, turn on the boiler and with the pump selector, alternate between positions III and Min every fifteen seconds. Keep this operation for 5 minutes.

If excess air remains in the system or there is insufficient pressure or flow rate the boiler will fail to operate and display fault E3.

An LED indicator informs about the operating status of the pump:

- Green: correct operation.
- Green / red flashing: Lower voltage U<180V; overvoltage U>253V; Module overheating
- Red flashing: pump blocked.

5.6 Pump Anti-Seize Function

The advanced boiler control will automatically energise the pump for 10 seconds each month to protect it from seizing during long periods of inactivity. The power supply must be maintained for this function to operate.

5.7 More Installation Data

It is possible to display more installation data by pressing for a few seconds ■ and then ⊕ or ⊖.

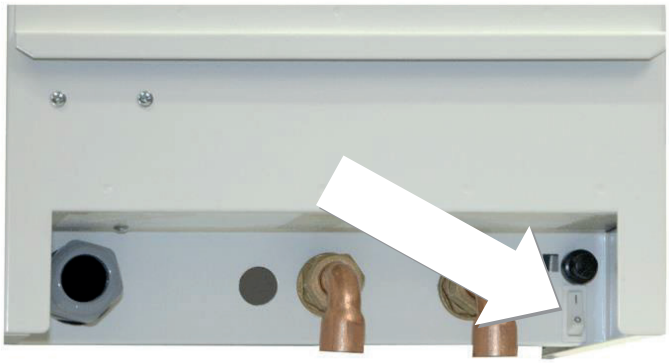
Sr	Heating return temperature.
PM	Maximum output limitation in kW.
PA	Modulated output in kW.
SEHt	Outdoors temperature. (Only if the sensor is connected and P005 is activated).

6 OPERATING THE BOILER

6.1 Initial Switching On

CAUTION: The maximum heat output must be adjusted before switching on. The boiler should never be switched on with the heating system tank empty. Damage could occur.

When the boiler is first connected, it will perform a general self-check and if a fault is detected it will be indicated on the display.



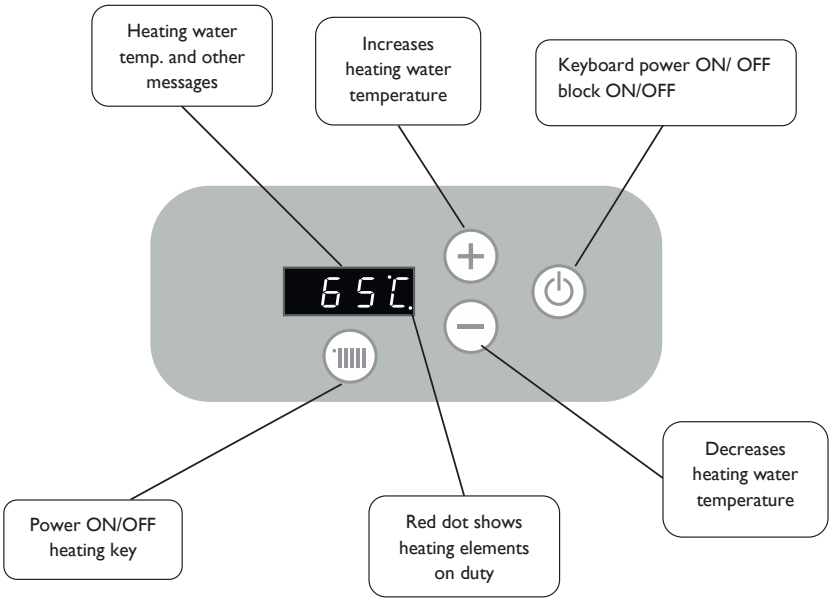
Turn on the boiler with the on/off switch located at the back of the boiler as shown.

CAUTION: Mains connection terminals remain live even if the on/off switch Is turned off.

6.2 Control Panel Description

MATTIRA SYSTEM "MAS"

Push the ⏻ button to start the boiler up. The same button will turn the boiler off when pushed again.
If the heating function is not selected the screen will not display a value but just a red dot.



6.3 Central Heating Operation

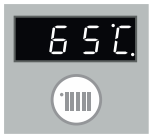
First ensure that any external controls such as room thermostat or time clock are demanding heat.
To select the heating function, push the ■ button. Pushing again will switch the function off and return display to just a red dot.

When the heating mode is selected, the display will show the temperature of the heating water.

We can modify the setting of the temperature of the water by pushing either the ⊕ button or the ⊖ button and using the same buttons to adjust the value that flashes on the display.

The modified setting will be stored after a few seconds or instantly by pushing the ■ button.

The heating setting can be varied between 8ºC and 85°C. The symbol H appears after the 85 value or before the 8 value. If this value is selected, the heating will function in anti-freeze mode.



If the setting is higher than the actual temperature of the heating water, the heating will connect and a small red indicator of the consumption of heating resistances will light up.

6.4 Anti-Freeze Mode (Frost Protection)

It is possible to select an anti-freeze mode for frost protection during periods of inactivity. The power supply to the boiler must be maintained.

By attempting to set a central heating temperature below the 8ºC value or above the 85ºC value the symbol H will appear on the display. By selecting this value the heating will only work in anti-freeze mode i.e. if the boiler temperature falls to 7ºC the heating will activate automatically.

6.5 User Parameters

The user can change a number of parameters to set some functions of the boiler to the needs of each customer.

To access the user parameters menu – with front display OFF, press and hold the ⊕ and ⏻ buttons for at least 5 sec. To move forward or backward through the menu use the ⊕ and ⊖ buttons respectively.

To modify a parameter, press the ■ button and the current value will be displayed. It can be modified with the ⊕ and ⊖ buttons. Press the ■ button to validate.

P08	Modulation.	1 (modulation ON) 0 (modulation OFF).
P09	Units.	ºC (Celsius) ºF (Fahrenheit).

P11 **AUTO** heating regulation. If a fan outdoor temperature probe is installed it is possible to activate the auto heating regulation by shifting this parameter value to 1.

P12 **TIMAX.** Maximum water flow temperature in AUTO heating mode.

P13 **TIMIN**. Minimum water flow temperature in AUTO heating mode.

P14 **TEMAX.** Outdoor temperature from which the water flow temperature will be TIMIN.

P15 **TEMIN.** Outdoor temperature below which the water flow temperature will be TIMAX.

6.6 Heating Modulation Feature

The advanced control board on the boiler will automatically modulate the heating output to the demand required to save energy. This function works by the boiler 'learning' and anticipating the time taken to reach the temperature level demanded by the external thermostatic control. The power output is automatically adjusted therefore reducing power consumption on warmer days or when another heat source is present.

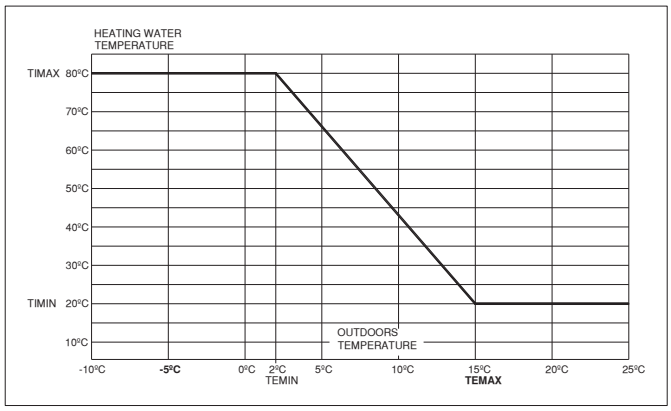
An external 'volt free' control must be fitted across the terminals marked 'TA' on the PCB and the 'bridge' removed for this function to be activated.

This feature can be disabled using parameter P11. See "6.5 USER PARAMETERS".

6.7 Auto Heating Regulation

It is possible to regulate the temperature at which the boiler drives the water heating circuit depending on the outdoors temperature. This method of regulation provides maximum comfort as it anticipates changes in the thermal needs of the house. The room thermostat continues to regulate the temperature inside the house.

To activate this mode of heating, the installer will need to connect an external temperature sensor (not supplied) and activate the P05 and P11 parameters.



There are four parameters that define this function.

TIMAX. Maximum water flow temperature in AUTO heating mode.

In the above example TIMAX=80ºC.

TIMIN. Minimum water flow temperature in AUTO heating mode.

In the above example TIMIN=20ºC.

TEMAX. Outdoor temperature from which the water flow temperature will be TIMIN. In the above example TEMAX=15ºC.

TEMIN. Outdoor temperature below which the water flow temperature will be TIMAX. In the above example TEMIN=2ºC.

On the coldest days, the water will be driven at higher temperatures and vice versa on the hottest days-less water will be driven at a lower temperature. In the example, we see how, if the outdoors temperature is of 5ºC the water flow temperature heating circuit would be about 66 °C.

You can temporarily override the automatically calculated set point. If, for example, you want to use the boiler to the maximum for a few hours even when automatic control mode, you would proceed as follows:

When pressing the ⊕ or ⊖ button, the display will alternatively show the calculated set point and the indication

By holding down either of these two keys for at least 5 seconds, the calculated set point will start flashing and the set point can now be modified with the same keys.

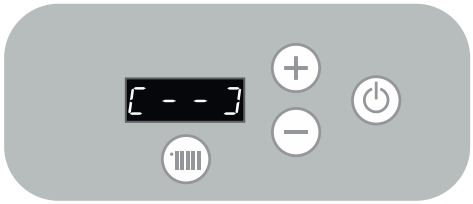
Validate the selection by pressing the ■ button. The time that the set point is going to be overridden is shown:

It can be modified from 1 to 24h. Validate the selection by pressing the ■ button. The override set point and the time remaining are displayed alternatively every 10 seconds. At any time, it is possible to cancel this state just by turning off and restarting the boiler.

6.8 Blocking the Controls

It is possible to lock the buttons of the control panel to prevent any adjustment. By keeping the ⏻ button pressed down for a few seconds, the control panel will be locked.

The control buttons of the boiler will be locked and no button will respond when pressed. Internally all the settings remain the same and the boiler will function normally.



To unlock the buttons, press the same button down for a few seconds until the above displayed symbol goes off. If the boiler is disconnected from the mains or there is a failure in the house's electricity supply, the buttons will also be unlocked.

7 TROUBLESHOOTING

7.1 Possible Faults & Solutions

Problem	**Possible cause**	**Solution**
Boiler will not start.	No power to boiler.	Check incoming power supply.
	No power.	Check boiler control switch is on. (See Section 6.1).
	Heating overheat. Switch tripped.	Locate switch and reset. (See Section 7.2).
Fault E1 displayed. Heating flow temperature sensor.	Heating water out temperature probe defective.	Contact Technical Service.
Fault E2 displayed. Heating return temperature sensor.	Heating water return temperature probe defective.	Contact Technical Service .
3kW.	Low heating system pressure.	Check for leaks. Refill heating system to 1.5 bar.
Fault E3 displayed. Heating system water flow switch.	Pump not turning.	Check rotating freely (sect 5.5) Replace pump if necessary.
	Air in system.	Purge thoroughly. Check automatic air valve open. Vent pump (sect 5.5).
	System resistance too high or blockage.	Check pump speed 3. Check pump duty (sect 4.9b) Open all radiator valves. Install system by-pass.
Fault E8 displayed Outdoor. temperature sensor.	Defective outdoor temperature sensor or not present.	This sensor is optional. Check connections. Replace sensor if necessary. Check parameter settings correct (sect 5.1).
Heating system water discharging from 3 bar safety valve.	Excessive heating system pressure.	Check filling loop has not been left connected and is not "letting water pass". Disconnect filling loop hose. Check expansion vessel is charged to correct level with air. Check system expansion volume.
The buttons do not respond.	Control panel blocked.	See Section 6.8 BLOCKING THE CONTROLS.
Low heating temperature.	Settings too low.	Check temperature & output selected.
	Failure of heating elements.	Check and replace.
	Heat requirements miscalculated.	Re-calculate & configure.
If the suggested action fails to resolve a problem, please contact ELNUR technical service for further advice.		

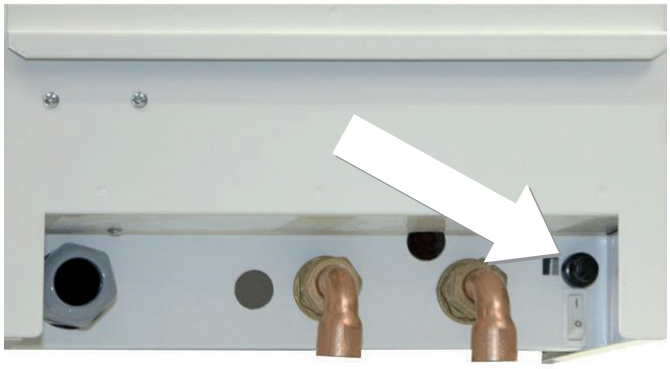
7.2 Overheat Lock-Out & Re-Setting

Central heating overheat.

If the boiler detects a overheat condition of 100ºC (80ºC if adapted floor heating) in the central heating circuit a safety thermal limit switch will operate and switch the boiler off disabling all functions. The cause of the overheat should be investigated.

The safety limit switch is on the right underside of the boiler and will require re-setting manually by following the procedure shown:

Unscrew & remove the black cap and push the small pin behind it until you hear a click. The limiter will not re-set until the temperature in the heating header drops below 100°C or 80°C if the boiler is adapted for radiant floor heating.



7.3 Heating System Flow Switch –

E3 Error & System By-Pass Requirements

If the error E3 appears on the display, the flow switch has detected insufficient water flow in the heating circuit and heat production is disabled to protect the boiler from overheating.

The possible causes for this condition are: 

- Insufficient water pressure in the heating system requiring re-filling to 1.5bar
- Pump not circulating or seized. Check as shown (Sect 5.3)
- Blockage in heating circuit from debris or a foreign object in the boiler or pipe-work.
- Insufficient flow rate caused by restrictions such as insufficient size pipe-work, too many bends or isolation valves with restricted bore.
- Closed radiator valves (Thermostatic). In this situation, it is essential the required minimum flow rate of 7 L/min is maintained through the boiler during all conditions. It may be sufficient to maintain one radiator with permanently open valves however the guidance under current Building Regulations relating to the conservation of energy recommends the fitting of an automatic by-pass valve. This type of valve modulates open when necessary to ensure that the appropriate minimum flow rate is maintained through the boiler, at all other times it is closed thus preventing unnecessary and wasteful circulation through the bypass and the boiler.

7.4 Checking Rated Heat Output

It is possible to check the actual heat power output configuration that is set on the boiler and also the modulated operating output at that moment.

Press the ⊡ button for three seconds.

The heating display will show 

followed by the temperature value of the return probe of the heating circuit.

On pushing ⊕ button, the display will show 

followed by the value of the limited maximum output according to the tables (see 5.1).

On pushing ⊕ button again, the display will show 

followed by the actual modulated output power at that moment.

8 MAIN COMPONENTS LIST

Heating expansion vessel 6L	ref. 60091510
Insulated heating header tank	ref. 60101700
Circulation pump RKC130	ref. 60190076
Heating PCB	ref. 60105590
Power PCB MAC with support	ref. 60105595
Temperature sensor white	ref. 60105600
Temperature sensor black	ref. 60105605
15 kW heating resistance & joint 140	ref. 60100750
¾" heating flow detector	ref. 60100805
0-4 bar pressure gauge	ref. 60100820
100°C thermal limiter	ref. 60101860
Automatic purge	ref. 60091280
3 bar central heating relief valve	ref. 60100845
½" filling / shut off valve	ref. 60091160
Adhesive controls cover 140x50	ref. 60100508
Keyboard MAS	ref. 60105550

9 MAINTENANCE & CARE

Gabarrón MATTIRA electric SYSTEM boilers will require an annual maintenance check to ensure preservation of the manufacturer's warranty and a prolonged and trouble-free life. A full check list and service log is located at the back of this manual which, should be adhered to. The following points below should also be constantly observed:

- Check and maintain the heating system pressure between 1 & 1.5 bar when cold. Frequent re-filling of the system could cause scaling and corrosion and should be avoided. Regular pressure loss could indicate a leak and should be investigated promptly.

CAUTION – Under no circumstances should the boiler be switched on when the system is dry.

- Keep the ventilation openings on the boiler clear to ensure correct operation and protect from overheating. Do not place or store objects on the boiler.
- Protect against freezing by ensuring power is maintained to the boiler at all times, unless the water supply is interrupted or the heating system is empty. In dwellings, frequently un-occupied or at risk of freezing, an appropriate anti-freeze can be added to the heating system at a concentration of not more than 30% by volume. Otherwise it is recommended to isolate the power and completely drain the heating and hot water systems.
- The outer case can be cleaned with a damp cloth having first isolated the boiler from the mains. Do not use solvents or abrasive cleaners.

10 ENVIRONMENTAL INFORMATION

Gabarrón boilers are manufactured within a certified environmental management system. From the design stage, all the production phases are performed taking into account the most rigorous environmental requirements. For example, the selection of materials involves guaranteeing their biodegradability, re-use and recycling.

When this boiler's long, useful life is over; it must be handed in to an electrical equipment collection point for proper recycling. By ensuring that this product is correctly disposed of, you will help to avoid any possible negative effects on the environment and public health that could occur if this product is not properly handled. To obtain more detailed information on the recycling of this product, contact your local authority, your waste disposal service or the shop where you purchased the product.

These regulations only apply in EU member countries.

11 TECHNICAL DATA

		MAS15	MAS18
Frequency	Hz	50	50
Connection 3x400V+N~		◆	◆
Output limited to **15kW**; Maximum intensity	A	21.7	26.0
Output limited to **13kW**; Maximum intensity	A	21.7	26.0
Output limited to **12kW**; Maximum intensity	A	21.7	-
Output limited to **11kW**; Maximum intensity	A	21.7	26.0
Output limited to **10kW**; Maximum intensity	A	21.7	-
Output limited to **9kW**; Maximum intensity	A	13.0	-
Output limited to **8kW**; Maximum intensity	A	13.0	13.0
Output limited to **7kW**; Maximum intensity	A	13.0	-
Output limited to **6kW**; Maximum intensity	A	13.0	-
Output limited to **5kW**; Maximum intensity	A	13.0	13.0
Output limited to **4kW**; Maximum intensity	A	13.0	-
Output limited to **3kW**; Maximum intensity	A	13.0	-
Connection 230V~ single phase		◆[1]	◆[1]
Nominal maximum intensity **15kW**	A	65.2[1]	78.3[1]
Nominal maximum intensity **13kW**	A	56.5[1]	65.2[1]
Nominal maximum intensity **12kW**	A	52.2	-
Nominal maximum intensity **11kW**	A	47.8	52.2
Nominal maximum intensity **10kW**	A	43.5	-
Nominal maximum intensity **9kW**	A	39.1	-
Nominal maximum intensity **8kW**	A	34.8	39.1
Nominal maximum intensity **7kW**	A	30.4	-
Nominal maximum intensity **6kW**	A	26.1	-
Nominal maximum intensity **5kW**	A	21.7	26.1
Nominal maximum intensity **4kW**	A	17.4	-
Nominal maximum intensity **3kW**	A	13.0	-
Weight	kg	32	32
Insulated steel heater header		◆	◆
Stainless steel plated resistance elements INCOLOY800	Heating	◆	◆
6 litre expansion vessel		◆	◆
Electronic regulation of heater modulation		◆	◆
Digital display		◆	◆
0-4 bar pressure gauge		◆	◆
Accelerator pump		◆	◆
Automatic purge		◆	◆
TRIACS silent power switches		◆	◆
Heating flow detector		◆	◆
100°C heating temperature limiter		◆	◆
3 bar central heating relief valve		◆	◆
Ambient thermostat intake		◆	◆
Sound power level (LWA)	dB	36	36
◆ included [1]using connecting links included			

DECLARACION DE CONFORMIDAD

De acuerdo con la norma ISO / IEC 17050-1

DECLARATION OF CONFORMITY

According to the Standard ISO / IEC 17050-1

Nº 6610000

Nombre del fabricante : ELNUR, S.A.
Manufacturer's name :

Dirección del fabricante : ELNUR, S.A.
Manufacturer's address : P.I. El Nogal. Villa Esther, 11
28110 Algete, Madrid, Spain

Declara que el producto : Caldera modulante digital sólo calefacción "MAS"

Declares, that the product : *"MAS" Heating digital modulating boiler*

Marca : GABARRÓN
Trade Mark :

Modelos : MAS15, MAS18
Models :

ha sido fabricado conforme a las especificaciones técnicas del producto y cumple en todo las Normas vigentes, en particular:

has been manufactured to the technical specifications of the product and conforms in all respects to the relevant standards and regulations in force and especially to :

Seguridad : EN 60335-1:2012+A11:2014
Safety : EN 60335-2-35:2002+A1:2007+A2:2011
EN 50106:2008

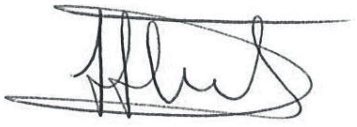
EMC : EN 55014-1:2006+A1:2009+A2:2011
EN 55014-2:1997+A1:2001+A2:2008
EN 61000-3-2:2006+A1:2009+A2:2009
EN 61000-3-3:2008

Información adicional :
Additional information :

El producto aquí citado lleva el marcado CE y se halla en conformidad con la Directiva de Ecodiseño 2009/125/CE, la Directiva de Baja Tensión 2014/35/UE y la Directiva de EMC 2014/30/UE.
Cualquier uso que no esté de acuerdo con las instrucciones y/o cualquier cambio al aparato invalidarán esta declaración de conformidad.

The product herewith carries the CE mark and complies with the requirements of Ecodesign Directive 2009/125/EC, the Low Voltage Directive 2014/35/UE and EMC Directive 2014/30/UE.
Any use not according to the instructions and/or any change to the appliance will invalidate this declaration of conformity.

Algete, 28 de Octubre de 2016
Place, Date



Alberto Fernández
Director Gerente
ELNUR, S.A.

13. PRODUCT FICHE

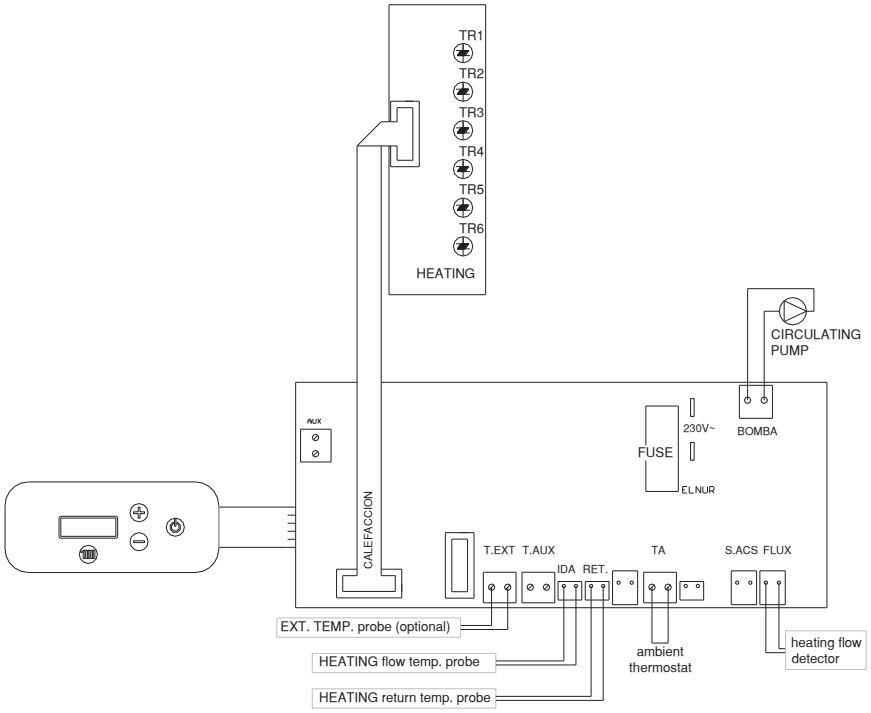
MODELO(S): GABARRON MATTIRA MAS15 (wall mounted electric SYSTEM boiler

ErP

CONDENSING BOILER: NO
LOW TEMP. BOILER: NO
B1 BOILER: NO
CO-GENERATION SPACE HEATER: NO
COMBINATION HEATER: NO

Information	Symbol	Value	Unit
Space Heating:			
Rated heat output	Prated	15	kW
Power output	P4	15	kW
Seasonal space heating energy efficiency	ηs	36,4	%
Useful efficiency at rated heat output and high-temperature regime	η4	39,5	%
Auxiliary electricity consumption in standby mode	Psb	0,003	kW
Standby heat loss	Pstby	0,07	kW
Sound power level, indoors	LWA	36	dB
Seasonal space heating energy efficiency class		D	
Contact details:		ELNUR, S.A. Travesía de Villa Esther, 11 28110 - Algete (Madrid) Spain	

14. WIRING DIAGRAMS



15 WARRANTY

Your new Gabarrón Mattira electric SYSTEM boiler from Elnur is warranted against faulty materials and manufacture defects. The internal components are warranted against faulty materials and manufacture defects for a period of 5 years from the date of purchase.

The above warranty is provided on the basis that:

- The boiler has been installed in accordance with the guidance detailed in this user manual and all relevant Codes of Practice and Regulations that are in force at the time of installation.
- All necessary valves, fittings, safety valves and controls have been installed.
- Installation has been completed by a competent person with regard to heating installation, G3 of the Building Regulations, Water Regulations/Bylaws and Electrical Regulations.
- No unauthorized person or person without prior written agreement by Elnur UK Ltd has modified or altered the boiler in any way whatsoever.
- The installation commissioning checklist (Section 16 at the rear of this manual) has been completed.
- The boiler has been regularly maintained as detailed in this manual (Section 9).
- The maintenance checklist (Section 17) is verified in the service record (Section 18) and that the service record is up to date.
- The boiler is only being used for domestic heating purposes.
- The boiler has been installed in the UK or Ireland.
- The warranty card supplied separately with this manual is completed and returned to Elnur UK Ltd or that the online guarantee registration form is completed and submitted at www.elnur.co.uk within 21 days of purchase.

Important Note:

The Gabarrón Mattira electric SYSTEM boiler is not warranted against the effects of damage caused by frost.

The heating elements are not warranted against the effects of damage caused by scale.

This warranty is in addition to the statutory rights of the consumer and in no way affects the statutory rights of the consumer.

Elnur UK Limited Contact Information

Pre-sales product & installation advice
info@elnur.co.uk
01942 670119

Product specification service / advice
projects@elnur.co.uk
01438 358760

Technical issues during installation
technical@elnur.co.uk
01942 265048

After-sales service
technical@elnur.co.uk
01942 265048

16 INSTALLATION COMMISSIONING CHECKLIST

16.1 Central Heating System

This Commissioning Checklist is to be completed in full by the competent person who commissioned the heating system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Commissioned by (PRINT NAME)	Registered Operative ID Number
Company name:	Telephone number:
Company address:	
	Commissioning date:
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:	
Building Regulations Notification Number (if applicable)	

ALL INSTALLATIONS			
What is the heating water thermostat set temperature?			ºC
Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?			Yes
Type of control system (if applicable)	Y plan	S Plan	Other
If "other" selected above, please provide details			
Boiler interlock			Provided
Thermostatic radiator valves		Fitted?	Not required?
Automatic bypass to system		Fitted?	Not required?
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed			Yes
Has the heating system discharge been connected and terminated correctly?			Yes
The system has been flushed and cleaned in accordance with BS7593 and boiler manufacturer's instructions?			Yes
What system cleaner was used?			
What inhibitor was used?		Quantity	Litres
Central heating flow temperature?		Degrees	ºC
Central heating return temperature?		Degrees	ºC
Are all energy sources fitted with a cut out device?		Yes	No
Has the expansion vessel or internal air space been checked?		Yes	No
The system has been installed and commissioned in accordance with the manufacturer's instructions			Yes
The system controls have been demonstrated to and understood by the customer			Yes
The manufacturer's literature, including Installation Checklist and Service Record, has been explained and left with the customer			Yes
Commissioning Engineer's Signature			
Customer's Signature			
(To confirm satisfactory demonstration and receipt of manufacturer's literature)			

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a competent persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

16.2 Electrical Installation

This Commissioning Checklist is to be completed in full by the competent person who commissioned the heating system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Commissioned by (PRINT NAME)	Registered Operative ID Number
Company name:	Telephone number:
Company address:	
	Commissioning date:
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:	
Building Regulations Notification Number (if applicable)	

ALL INSTALLATIONS		
Is the electrical supply to the property	single?	three phase?
What is the rating of the main fuse to the property?		Amps
Is the circuit relating to the boiler power supply a dedicated circuit that only supplies the boiler?		Yes
Is the boiler circuit protected by an RCD?		Yes
What is the rating of the boiler circuit MCB?		Amps
What size Twin & Earth cable has been used for the boiler circuit?		mm2
Has a "local" isolation switch been installed in close proximity to the boiler?		Yes
What is the rating of the local isolation switch for the boiler circuit?		Amps
If external controls have been installed, are these powered from a separate switched and fused spur?		Yes
Have all electrical connections been checked for tightness including factory connections to main terminals and contactor?		Yes
Has the power setting on the boiler been adjusted to suit the installation requirements and within the capability of the power supply?		Yes
What kW power rating has the boiler been set to?		kW
Has a clamp meter test been carried out to verify the power rating?	Yes	No
Has the electrical installation been tested and certified?		Yes
The system has been installed and commissioned in accordance with the manufacturer's instructions		Yes
The system controls have been demonstrated to and understood by the customer		Yes
The manufacturer's literature, including Installation Checklist and Service Record, has been explained and left with the customer		Yes
Commissioning Engineer's Signature		
Customer's Signature		
(To confirm satisfactory demonstration and receipt of manufacturer's literature)		

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a competent persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

17 MAINTENANCE CHECKLIST

This Maintenance Checklist is to be verified in full by the competent person undertaking the annual service of the boiler. Failure to maintain this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

PERIODIC MAINTENANCE OF THIS EQUIPMENT IS ESSENTIAL FOR SAFETY & PRESERVATION OF THE MANUFACTURER'S GUARANTEE.	
GENERAL	
Check location of boiler and that it is accessible	
Check that boiler ventilation areas are not blocked or covered	
Visual inspection of appliance for damage or signs or misuse	
Remove boiler casings and inspect / clean	
CENTRAL HEATING SYSTEM	
Check and clean / replace any external filter system fitted in connection with the boiler	
Manually check the operation of the heating 3 bar relief valve	
Check discharge pipe from heating 3 bar relief valve is free from obstruction and blockage and is not passing any water	
Check that the temperature set point is correct	
Check the pressure on the air side of the heating expansion vessel. This must be done when the volume in the heating chamber is cold	
Check pressure gauge is between 1 and 1.5 bar when cold. Top up if required.	
Check quality of heating system water in accordance with inhibitor manufacturers guidelines	
Check boiler visually for leaks and corrosion	
Run boiler to ensure correct operation	
Check for air in system and remove. Top up pressure afterwards as required	
Check operation of any external controls connected to the boiler	
Check and advise the householder not to place any clothing or other combustible materials against or on top of this appliance	
Complete the service record log	
ELECTRICAL	
Check power rating of boiler	
Confirm power rating of boiler is suitable for electrical installation	
Check operation of RCD, MCB and local isolation switch	
Check tightness of all circuit electrical connections	
Check tightness of all power connections to boiler terminals	
Check tightness of all factory connections to main terminals and contactor	
Using a clamp meter, verify the power being drawn by the boiler is relative to the boiler power setting when operating at full demand	
Check and advise the householder not to place any clothing or other combustible materials against or on top of this appliance	
Complete the service record log	
The manufacturer's literature, including Installation Checklist and Service Record, has been explained and left with the customer	Yes

18 SERVICE RECORD

It is recommended that your Gabarrón Mattira boiler is serviced regularly and that the appropriate service record is completed. Before completing the appropriate service record below, please ensure you have carried out the service as described in the manufacturer's instructions.

SERVICE RECORD #01	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #02	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #03	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #04	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #05	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #06	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #07	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #08	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #09	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #10	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #11	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

SERVICE RECORD #12	DATE:
General/Heating	Electrical
Engineer name:	
Company name:	
Telephone No:	
Comments:	
Signature:	

ELNUR

El símbolo en el producto o en su embalaje indica que este producto no se puede tratar como desperdicios normales del hogar. Este producto se debe entregar al punto de recolección de equipos eléctricos y electrónicos para reciclaje. Al asegurarse de que este producto se deseche correctamente usted ayudará a evitar posibles consecuencias negativas para el ambiente y la salud pública, lo cual podría ocurrir si este producto no se manipula de forma adecuada. Para obtener información más detallada sobre el reciclaje de este producto, póngase en contacto con la administración de su ciudad, con su servicio de desechos del hogar o con la tienda donde compró el producto. Estas disposiciones solamente son válidas en los países miembros de la UE.

The symbol on the product or in its packaging indicates that this product may not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local council office, your household waste disposal service or the shop where you purchased the product. These instructions are only valid in the EU member states.

Supplier:
ELNUR UK Ltd.
Unit 1, Brown Street North
Leigh, Lancashire, WN7 1BU.
+44(0)1942 670119
info@elnur.co.uk

Manufactured by:
ELNUR S.A.
Travesía de Villa Esther, 11 28110, Algete
Madrid Telephone: +34 916281440

15190020 R2 | EN

www.elnur.co.uk

AENOR ER Empresa Registrada UNE-EN ISO 9001 ER-0706/1999

AENOR Gestión Ambiental UNE-EN ISO 14001 GA-2006/0284

CERTIFIED IQNet MANAGEMENT SYSTEM