ELECTRIC ONLY HEATING WALL BOILER

series **Small 12 N**

USE AND MAINTENANCE MANUAL

CE APPLIANCES IN COMPLIANCE WITH EUROPEAN DIRECTIVE 2006/95/EC. Built and compliant with the following standards: IEC 60335-2-21:2012, IEC 60335-1:2010, EN 60335-2-21:2003 + A1:2005 + A2:2008 - EN 60335-1:2012 - EN 62233:2008

ELECTRIC WALL BOILER

Series SMALL N

Presentation

Thank you for choosing a GUIVAL electric wall boiler, a product that features the latest heating technologies, and robust and safe materials that ensure maximum efficiency during use, the highest appliance quality and utmost safety for the user.
The **SMALL...** series is built according to European Machine Directive 2006/42 - IEC 60335-1:2010 and EN 60335-2-21:2003 +A1:2005 + A2:2008 - EN 60335-1:2012 - EN 62233:2008.
The result is a product with several distinguishing features:
- Particularly quiet operation, with maximum insulation of the unit by means of innovative special materials, for minimum heat loss.
- High level of reliability due to the careful choice of materials and the rigorous tests carried out on each appliance after production.
- High yield, with maximum efficiency thanks to the modulation of the electric power to the heaters following the actual energy requirements of the system, or the sanitary water production needs. The D.E.S. system manages the appliance by means of temperature detection probes positioned in every sensitive point of the boiler, allowing the regulation of the *"comfort"* or *"economy"* operating modes to your requirements, in order to reduce consumption when the appliance is not used at maximum power or demand.
- The appliance is fully adjustable both as far as central heating system water temperature (with the possibility of choosing high and low temperature system for underfloor heating) and sanitary hot water temperature.
- The components have been coupled together so that they are all easily accessible from the front of the unit during routine and extraordinary maintenance activities.

We suggest that our recommendations are carefully followed, and that you contact an authorised service centre in your area to agree a scheduled maintenance contract, which will ensure that your appliance always operates at maximum efficiency and safety, and that it lasts a long time. In thanking you again for your choice, we would like to remind you that our technical offices and our technical-commercial network are always at your disposal to provide you with any information of a technical or general nature that you might require.

FIAMMA GIRO s.r.l.
Company group

WARNINGS:

THIS APPLIANCE MAY BE USED BY CHILDREN FROM 8 YEARS OF AGE AND OVER AND BY PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE, PROVIDED THAT THEY ARE SUPERVISED OR HAVE RECEIVED INSTRUCTIONS FOR THE SAFE USE OF THE APPLIANCE, SO THAT THEY UNDERSTAND THE RISKS INVOLVED. CHILDREN MUST NOT PLAY WITH THE APPLIANCE. CLEANING AND MAINTENANCE ACTIVITIES MUST NOT BE CARRIED OUT BY CHILDREN WITHOUT SUPERVISION.

THE CONNECTION TO THE ELECTRICITY NETWORK MUST BE THROUGH A DEVICE THAT ALLOWS ITS DISCONNECTION, WITH A CONTACT OPENING DISTANCE THAT ALLOWS COMPLETE DISCONNECTION UNDER THE CONDITIONS OF OVERVOLTAGE CATEGORY III, IN ACCORDANCE WITH THE INSTALLATION RULES.

IN ORDER TO PREVENT ANY RISKS, DAMAGED POWER SUPPLY CABLES MUST BE REPLACED BY THE MANUFACTURER OR ITS TECHNICAL SUPPORT SERVICE, OR BY SOMEONE WITH SIMILAR QUALIFICATIONS.

WATER MAY DRIP FROM THE OVERPRESSURE DRAIN PIPE OF THE APPLIANCE. FOR THIS REASON, SUCH PIPE MUST BE DIRECTED OUTSIDE AND LEFT OPEN.

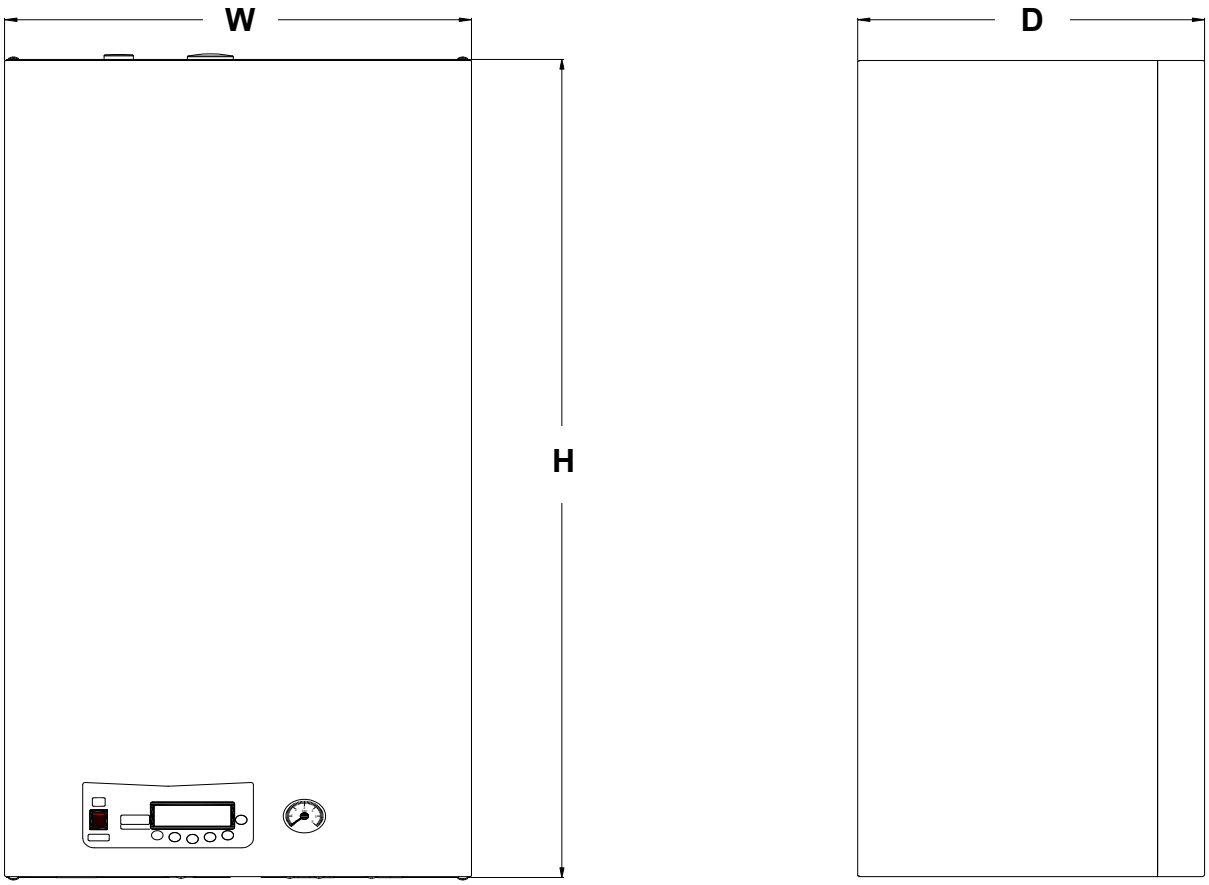
THE PRESSURE RELIEF DEVICE MUST BE OPERATED REGULARLY TO REMOVE LIMESCALE DEPOSITS AND TO CHECK THAT IT IS NOT BLOCKED.

THE DRAIN PIPE CONNECTED TO THE OVERPRESSURE DEVICE MUST BE SET ON A CONTINUOUS DOWNWARD SLOPE AND IN A LOCATION PROTECTED FROM THE FORMATION OF ICE.

OVERALL DIMENSIONS

The **SMALL N** series develops on a single level of power with the following dimensions:

SMALL 12 N 12 kW maximum electric power



Appliance:

W (Width): 450 mm

H (Height): 690 mm

D (Depth): 315 mm

Weight: 31 kg

Packing dimensions:

Width: 500 mm

Height: 755 mm

Depth: 390 mm

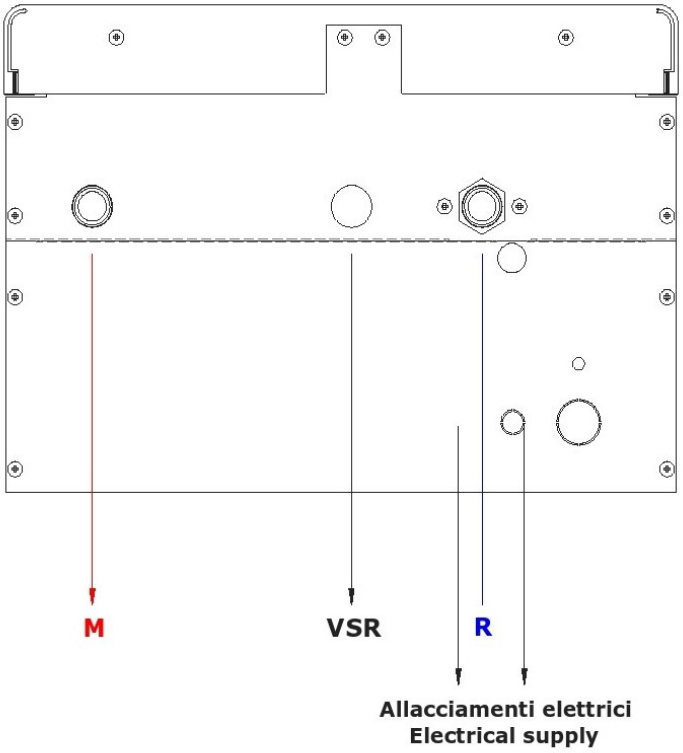
Weight: 33 kg

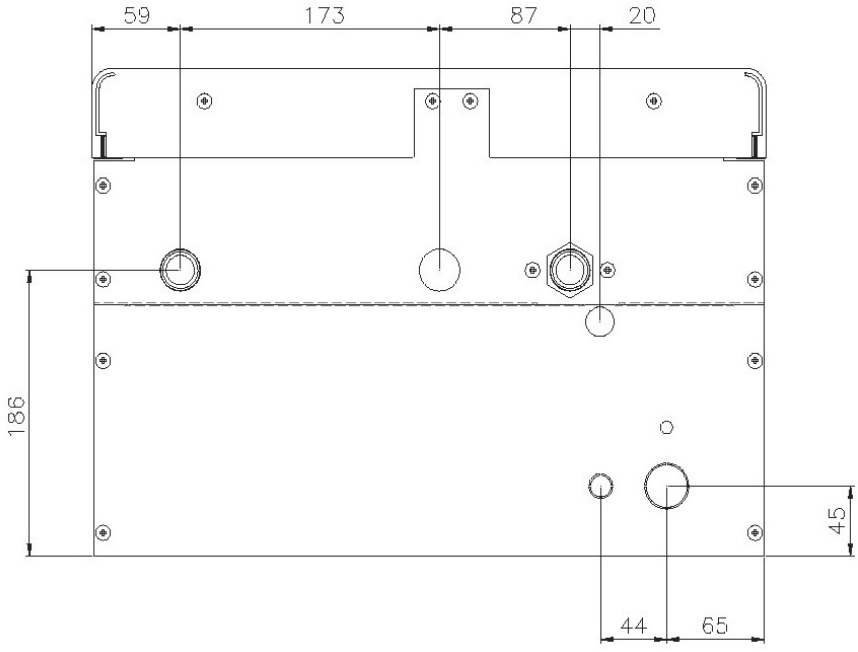
HYDRAULIC CONNECTIONS - Connection arrangement diagram:

M	Central Heating Delivery:	¾" M
R	Central Heating Return:	¾" M
VSR	Central Heating Safety Valve (0.3 MPa - 3 bar):	½" F

The appliance is designed to be continuously connected to the water mains without intermediate fittings.

View from below (under the boiler)





MAIN TECHNICAL FEATURES

Elektra SMALL 12 N **12 kW maximum electric power**

Single-phase power supply: 230-240 V - 50 Hz

Weight: 31 kg.

Central heating system: 12 kW electric/thermal power from no.2 heating elements (no.2 of 3x2 kW).

Maximum head available to the circulator approx 7 m.

Expansion vessel capacity 9 litres.

0.3 MPa (3 bar) central heating circuit safety valve.

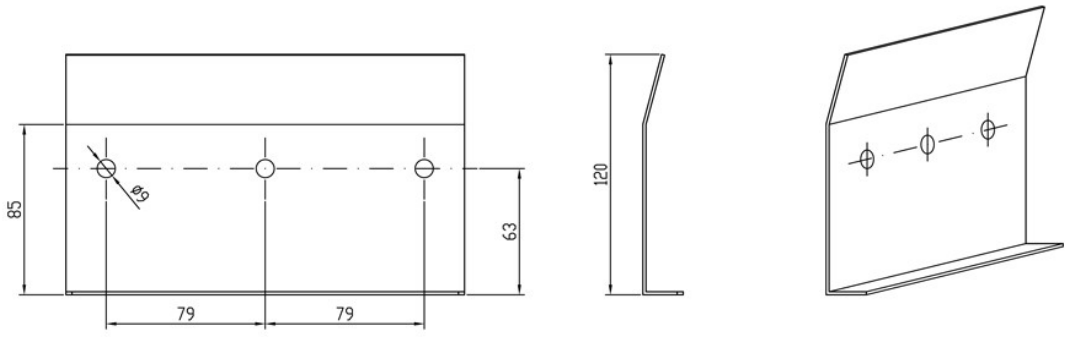
Maximum central heating operating pressure: 0.25 MPa (2.5 bar).

Minimum central heating circuit operating pressure: 0.06 MPa (0.6 bar).

Central heating circuit-boiler body maximum thermal safety limit: 100°C.

POSITIONING OF THE BOILER

The appliance must always be installed on a vertical solid wall capable of supporting its weight, using the support bracket included in the packaging.



The bracket must be secured to the wall by means of three M8 screws with appropriate plugs for the type of wall (not supplied with the boiler).

The appliance must be attached to the top of the bracket, inserting the bent section of the same through the boiler frame at the back.

CONTROL PANEL

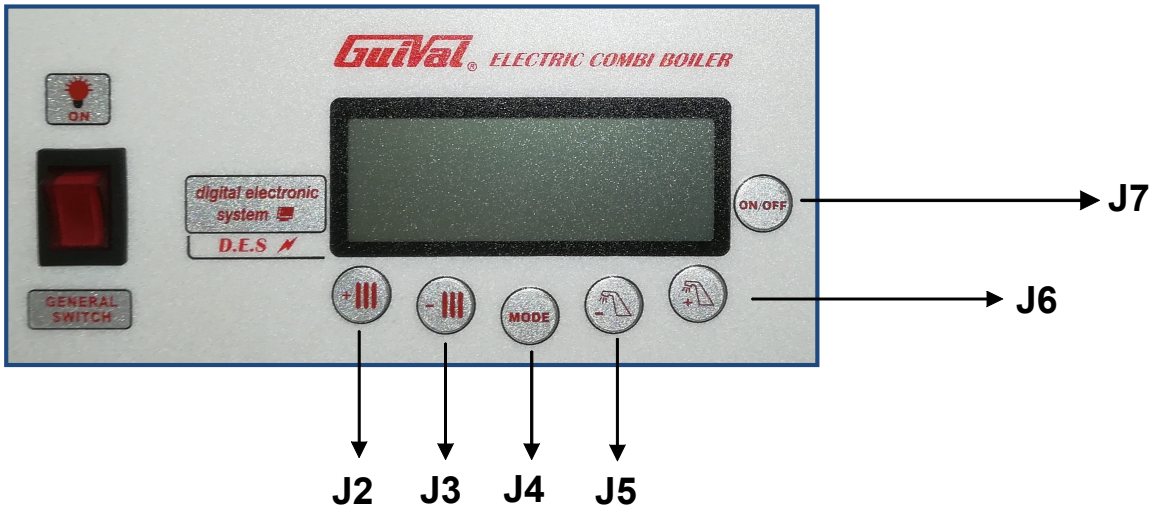
General switch ***Display*** ***Hydrometer***

The control panel is composed of: display, function selection keys, general switch and the hydrometer it si placed in the lower left corner in front of the unit (see image above).

Using analogical hydrometer

The analogical hydrometer control panel has a dial with unit of measure in a bar, by 0 to 6 bar. The water pressure in the heating system is indicated by the index of the black arrow. The optimum pressure for the system is between 1 and 1,5 bar. More then 1,5 bar you can have a maximum pressure of the 2 bar (maximum expansion of the system during the rise in temperature). More than 2 bar pressure the system is not in the range of operation, and the mechanical safety valve (preset to 3 bar) can start to lose water (to access the valves remove the knockout openings at the valves, see page 6 hydraulic installation diagram). The minimum operating pressure is 0,8 bar (+/-0,2 bar). The differential positive or negative tolerance is due to the operation of the water pressure switch with fixed setting.

Keyboard panel (Control panel)



Meaning of keys in user mode

Key	***Function***
- (**J5**)	*Change settings and parameters*
+ (**J6**)	*Change settings and parameters*
ON/OFF (**J7**)	*- ON - OFF switching (long press)* *- Display temperature output / Display setpoint output* *- Unlock error of safety thermostat*
MODE (**J4**)	*Summer - Winter switching (long press)*
+ (**J2**)	*Display / Increase of heating setpoint (or room temperature)*
- (**J3**)	*Display / Decrease of heating setpoint (or room temperature)*
MODE + **ON/OFF** (**J4 + J7**)	*Start function degassing*
- + **-** (**J3 + J5**)	*To enter into informations menu or temperatures menu*
+ + **+** (**J2 + J6**)	*To enter into parameters menu*

SWITCHING ON THE BOILER

The boiler is switched on by pressing the luminous main switch found on the left of the display in the dashboard. If the boiler is connected to a single-phase power supply source, the button lights up when pressed (230-240 V - 50 Hz). Then, it shall be pressed the **ON-OFF** (**J7**) on the keypad to switch the power from standby to the operating position, the display will light up of blue and will appear various symbols signaling function/faults etc. At this point it shall be chosen the mode of operation, summer or winter operation.

CHOICE OF THE OPERATION MODE (Winter/Summer)

Pressing the key **MODE** (**J4**), it will be chosen the mode of operation, Winter or Summer. Pressing repeatedly each time for at least 5 seconds, you switch from WINTER to SUMMER or from SUMMER to WINTER then. When the device will be in WINTER mode, on the display will appeart the Symbol ❄ (snow). When the device will be in SUMMER mode, on the display will appear the Symbol ☼ (sun).

TEMPERATURE VARIATION OF THE HEATING CIRCUIT

When the apparatus has been set with the snow symbol (❄) for the Winter functioning, you can change the maximum temperature of heating circuit pressing one of the two keys with the radiator symbol located on the left of the display (**+III** and **-III** keys). The key with the symbol **+III** (**J2**), increases the temperature, and the key with the symbol **-III** (**J3**) decreases the temperature.

ON-OFF KEY

Display symbols

The **ON/OFF** (**J7**) key, in addition to put the boiler in standby mode, allows to reset (unlock) the apparatus in case of high temperature lock. If the lock would be caused by lack of water pressure alarm, the recovery will be automatic after that the hydraulic pressure will be restored at the minimum operating level (0,08 MPa - 0,8 bar) by means of the operating and the closure of the charging tap placed under the boiler (black handle).

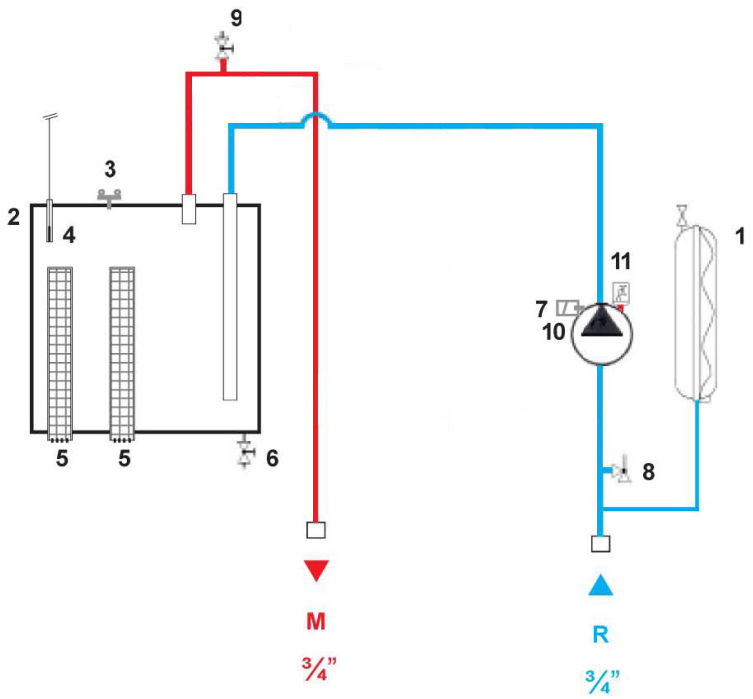
The display has several symbols, signaling in addition to operation modes, also the various alarm or system displays:

Symbol	Meaning
	Anomalies presents
	Power resistors energization request
	Heating request
	Parameter menu enabled
	Antifreeze request
	Winter mode
	Summer mode
	OFF mode
Level of modulation	The instantaneous power of the boiler is indicated from 0 to 100%

At each Power-on the firmware revision of the electronic board appears for a few seconds
Big digit: Number of revision
Small digit: Word res
A different main screen is then shown depending on the type of system set and the operating status.

INSTALLATION
TECHNICAL NOTE FOR THE INSTALLER AND THE MAINTENANCE TECHNICIAN.

PLUMBING DIAGRAM
(version: SMALL N 12 kW)

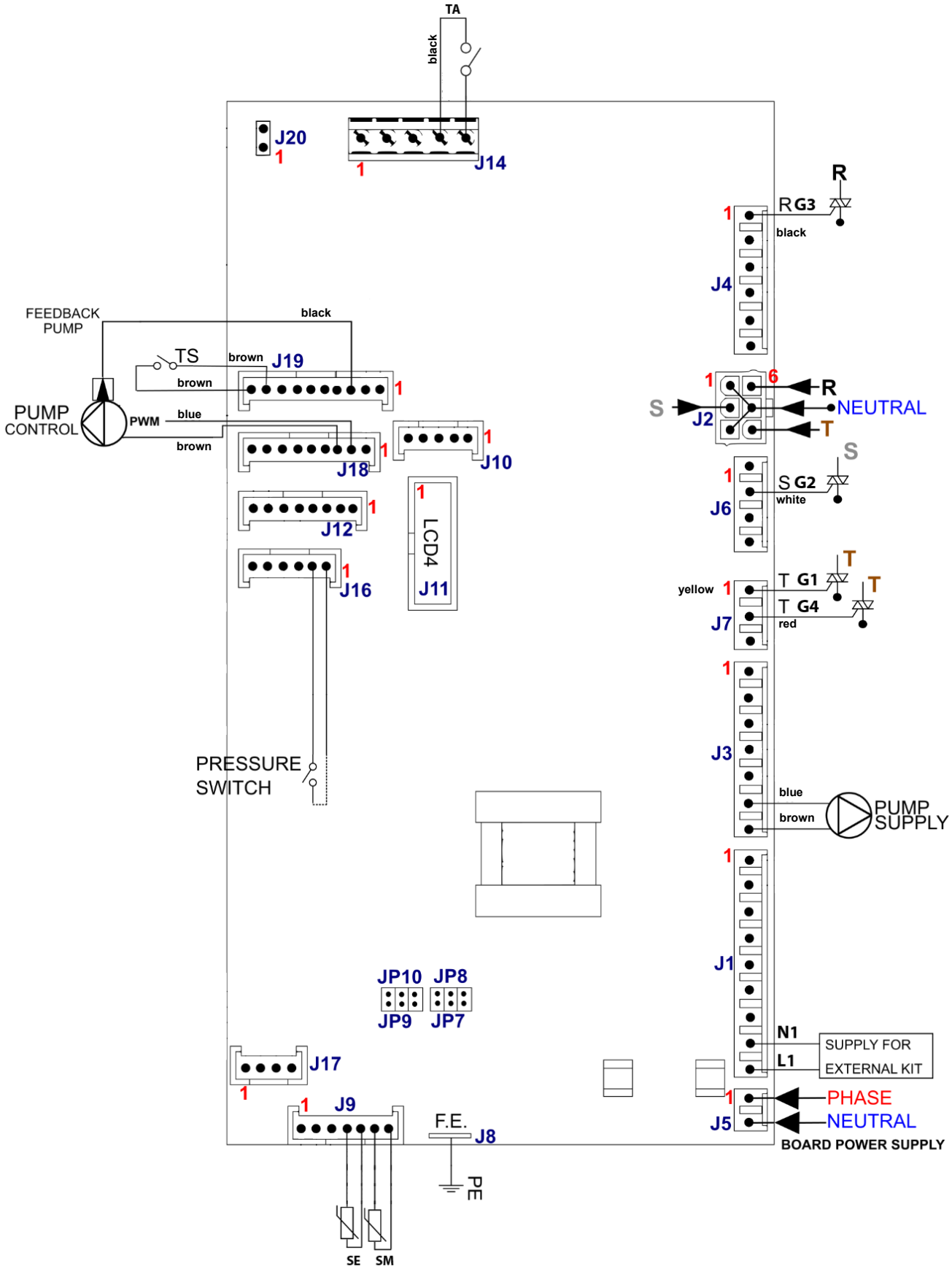


SYSTEM DIAGRAM LEGEND:

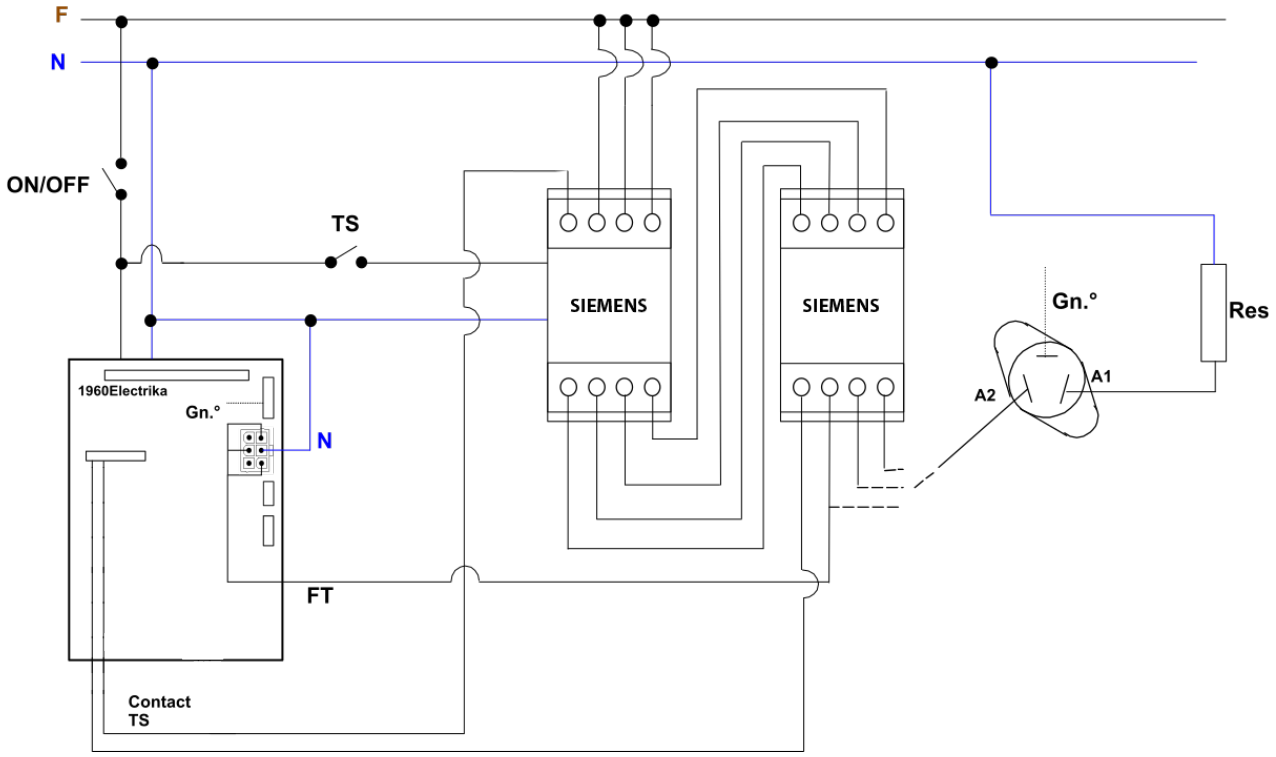
1 Central heating circuit expansion tank 9 litres
2 Electric boiler body 12 kW
3 Bimetal safety thermostat 100°C
4 Central heating water temperature probe
5 Heating elements 3x2 kW - 230V/50Hz
6 Boiler body drain tap
7 Pressure switch
8 Safety valve 3 bar (central heating)
9 Exhaust tap (air vent)
10 Variable head circulator
11 Automatic vent valve

R Central heating system return
M Central heating system delivery

WIRING DIAGRAM (single phase)



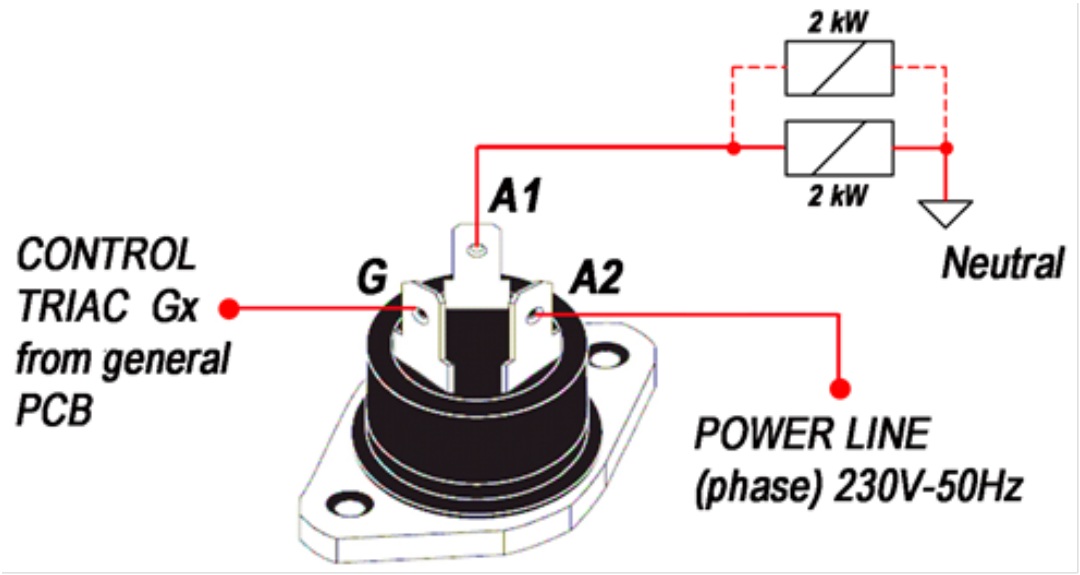
GENERAL WIRING DIAGRAM - POWER (Single-phase)



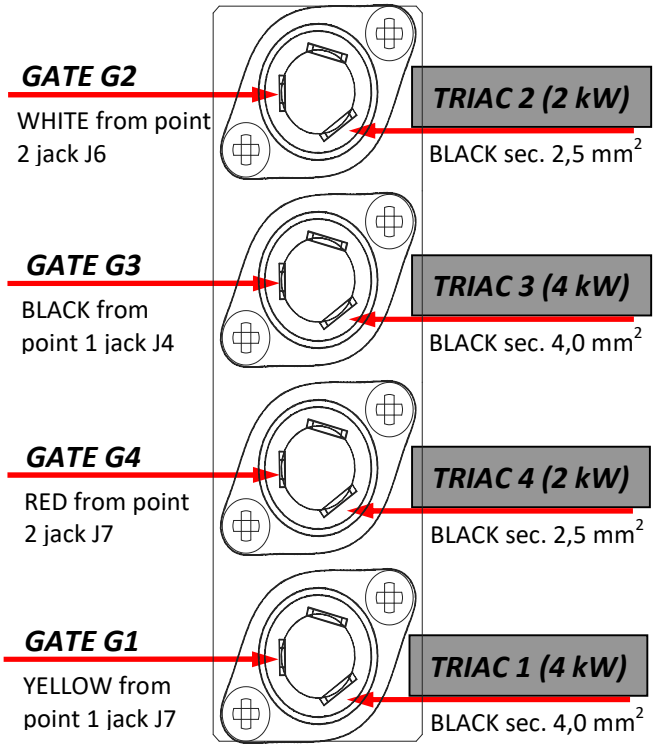
Legend of wiring diagrams

Phase 230 Vac	**F**
Neutral 230 Vac	**N**
Contactor sectioned phase	**FT**
Pump	**PI**
Gate command, triac no. 1 (12 kW version - 4 kW load)	**G1**
Gate command, triac no. 2 (12 kW version - 2 kW load)	**G2**
Gate command, triac no. 3 (12 kW version - 4 kW load)	**G3**
Gate command, triac no. 4 (12 kW version - 2 kW load)	**G4**
Delivery probe	**SM**
External probe	**SE**
Pressure switch	**PS**
Safety thermostat	**TS**
Room thermostat (prearranged terminals)	**TA**
Main switch (also disconnects the board)	**ON/OFF**
Functional earth derived from the earth point	**F.E.**
Safety earth point on the application	**PE**

TRIAC - Wiring diagram



..12 kW



FACTORY CONSTANTS

Function	Value
Maximum primary circuit temperature	**80 °C**
Circulator lock prevention operation time	**10 sec**
Circulator lock prevention activation time	**24 hours**
Anti-freeze temperature On (circulator only)	**< 8 °C**
Anti-freeze Temperature On (circulator and power)	**< 5 °C**
Anti-freeze Temperature Off	**> 20 °C**

SETPOINTS AND PARAMETERS

Function	Default	Range
Central heating setpoint	**60 °C**	30 - 75 °C
Underfloor central heating setpoint	**30 °C**	10 - 40 °C
Room setpoint (with external probe present)	**20 °C**	10 - 30 °C

PARAMETERS

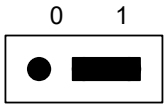
Funzione	Display	Def.	Range
External probe enable (SE)	**P1**	**0**	0 - 1
Building dispersion coefficient	**P2**	**35**	5 - 35 °C
Central heating post-circulation duration	**P4**	**30**	1 - 180 sec
Primary exchanger ON delay	**P5**	**0**	0 - 240 sec
PWM circulator operation speed	**P7**	**4**	1 = 400 l/h 2 = 800 l/h 3 = 1,000 l/h 4 = 1,200 l/h
Min. temperature of primary exchanger for circulator ON	**P8**	**30**	0 - 50 °C
Type of sanitary water storage tank	**P9**	**0**	0 = internal with probe 1 = external with thermostat 2 = external with probe
Boiler power selection	**P11**	**2**	1 - 7
System pressure sensor type	**P12**	**0**	0 ÷ 2

Value P11	Total power [kW]	No. TRIAC	No. of heating elements used and power of each element	G1 [kW]	G2 [kW]	G3 [kW]	G4 [kW]	-
2	**12**	**4**	no. 2 heating elements, power 3 x 2kW	**4**	**2**	**4**	**2**	**-**

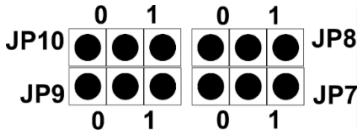
Value P12	Description
0	Boiler with PSA water pressure switch connected to poles 1 and 2 (J16 PCB)
1	Boiler with pressure transducer connected to poles 1, 2 and 3 (J16 PCB)
2	The board is configured for operation with **P12=1**, but the presence of errors F1 and F10 is ignored. This is necessary in the event that the pressure transducer fails and technical support does not have the spare part available. However, the boiler has a needle hydrometer that indicates the correct pressure of the system. When **P12=2**, the pressure shown on the display is 0.0 bar

SELECTION JUMPERS (move jumpers with the board not powered)

Jumper in position 0



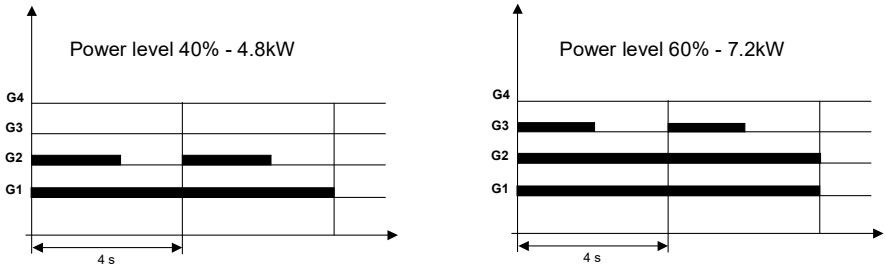
Jumper in position 1



Jumper	0	1	Default
JP7	High temperature heating system (radiators)	Low temperature heating system (floor)	**0**
JP8	Combined application	Central heating only application	**1**
JP9	DHW system with storage tank	Instantaneous DHW system	**0**
JP10	Boiler application	Scaldamassetto	**0**

PRIMARY EXCHANGER MANAGEMENT (BOILER BODY)

Depending on the power level required during the "heat demand", all or part of the controls from G1 to G4 relating to the primary exchanger are switched on. The activation of each command is controlled within an interval of 4 seconds. The higher the power required, the more the command will remain active in this interval. The power during a central heating or sanitary hot water request is calculated using a PID algorithm. Below are two examples for powers equal to 40% and 60% of the total power (12 kW).



Rotation of commands

The order in which the G1÷G4 triac commands are switched on is rotated every hour, so that the use of all the heating elements is evenly distributed over time.

EXTERNAL PROBE MANAGEMENT (SE)

Installation and sliding temperature operation

The connection of the External Probe (SE) requires the use of the Original Kit code F.532, offered as part of the accessories for Elektra series electric boilers. The electric connection must be to the terminals (S and E) outside the main electric panel already arranged in the standard wiring of the boiler. The connection requires connection cables and wires with a minimum cross section of 1.5 mm, possibly avoiding the proximity of power lines or digital lines of inverters or anything else not compatible. After connection, the external probe must be enabled by entering a variation of parameter **P1** from **0** to **1**.

The setpoint followed by the central heating delivery probe will be calculated using the following formula:

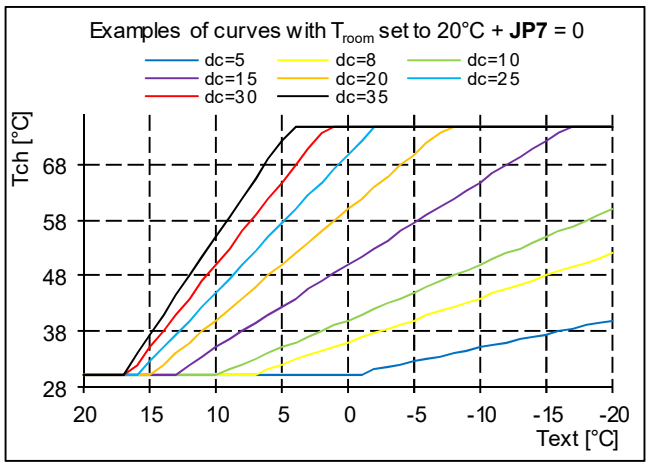
$$\mathbf{T_{ch}\ [°C] = [(\ T_{room}\ [°C] - T_{ext}\ [°C])\ *\ dc/10\ ] + T_{room}\ [°C]}$$

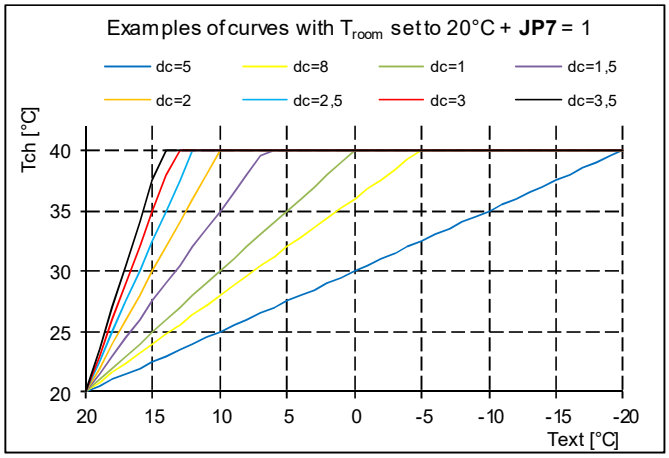
T_{ch} : central heating setpoint calculated by the system

T_{room}: room temperature set by the user

T_{ext}: external temperature measured by the probe

dc: dispersion coefficient of the building, set using the parameter **P2**.





HEATING REQUEST

At the closure of the contact of the Room Thermostat (TA), or following the request by the weekly program, if the board is in winter mode, the system circulator is activated only If the temperature of the primary exchanger detected by the delivery probe is higher than the temperature set by means of the parameter **P8**. If the temperature value detected by the delivery probe is less than the set heating setpoint, the triacs are switched on sequence based on the required power. This occurs only after a time settable through the parameter **P5**, to allow for example the opening of any zone valves. The instantaneous power of the boiler and the relative control of the Triac G1, G2, G3 and G4 is equal to 50% of the maximum power if the delivery probe detects a temperature lower than the temperature value defined in the parameter **P8**, otherwise it takes place by regulator PID. At the end of the request, the circulator remains powered for a time equal to the value set by the parameter **P4** by implementing a post circulation on the heating system.

ANTI-FREEZE FUNCTION

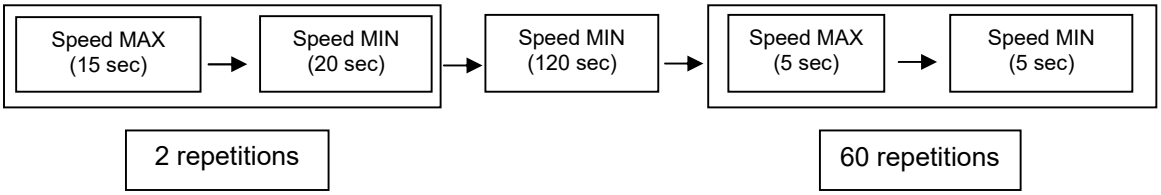
The anti-freeze function is active in all the modes of operation SUMMER – WINTER – OFF (in stand-by mode but with the illuminated main switch on). When the delivery probe detects a temperature below 8°C, the circulator is activated. If the temperature drops below 5°C, the main exchanger is switched on until the delivery temperature is raised to 20°C. At the end of the anti-freeze request, the circulator remains powered for a time equal to the value set by the parameter **P4** by implementing a post circulation on the heating system.

CIRCULATOR LOCK PREVENTION

When the circulator has not performed an operation cycle in a 24h period, it is activated for 10 sec. to avoid locking due to long period of inactivity. At the end of the post-circulation phase, activated following the demand for sanitary hot water, the electric diverter valve is activated for 2 sec. in order to avoid locking due to long period of inactivity.

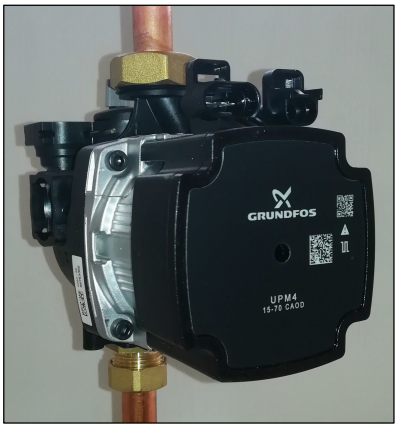
DEGASSING FUNCTION

During the degassing function activated by simultaneously pressing the **MODE** (**J4**) button and **ON / OFF** (**J7**). During this function it is alternating operating states of maximum and minimum speed of the circulator PWM in order to facilitate the escape of air bubbles from the hydraulic circuit. The sequence is illustrated below.



When this function is active, a timer appears on the display to indicate the time required to complete the function.

GRUNDFOS UPM4 "PWM" Version 2022 PUMP INSTRUCTIONS

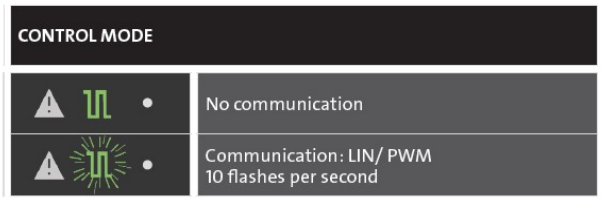


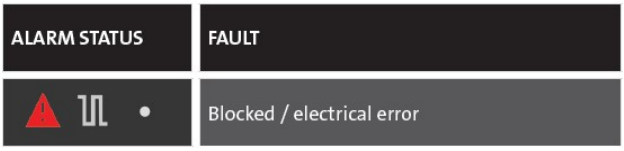
The new UPM4 pump version 2022 is equipped with four default variable speeds via the PWM signal, wich can be set by control panels.

Pump programming

Select the parameter **P7** and choose one of the four flow rates available, setting the values from 1 to 4. Set 1 for minimum flow rate, or 4 for maximum flow rate, set 2 and/or 3 for intermediate flow rates.

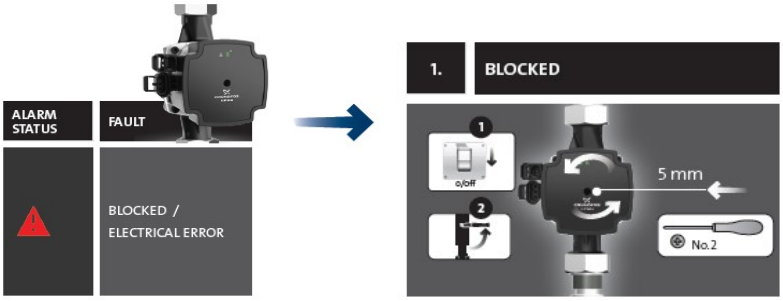
View operating / Alarms



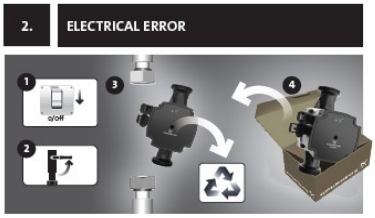


Allarms solution

1. Blocking error

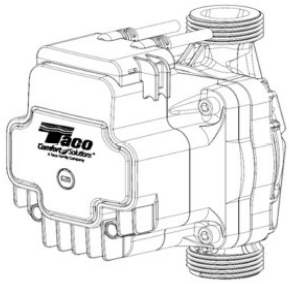


2. Electrical error



TACO 3GS "PWM" PUMP

The 3GS series is a high-efficiency synchronouscirculator with a permanent magnet motor designed for heating systems. 3GS circulators offer a variety of solutions in terms of performance, connectivity and communication protocols. 3GS platform can communicate



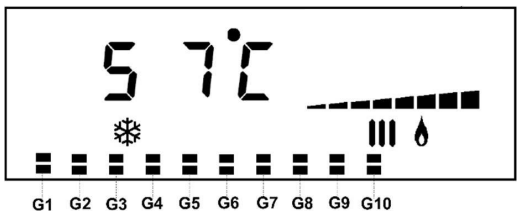
with the appliance with pulse with modulation (PWM) signal. The pump can be set by the external appliance but also can provide information to the appliance. The circulators are speed controlled by an internal frequency converter set by the external signal (PWM). To change the pump speed only the external signal is permitted. An external speed control shall not beused.

MAIN SCREEN

Status of Elements

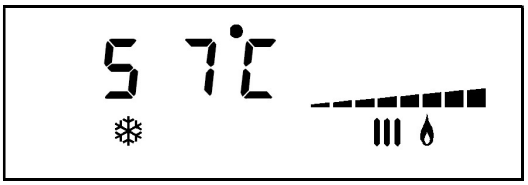
The dashes placed at the bottom and top indicate the status of the heating elements. At the bottom, the number of dashes corresponds to the number of active heating elements. A single dash or double dash is displayed based on the power of the element according to the following rule:

▬	4 kW or 6 kW heating element
▬	2 kW or 3 kW heating element



"Heating request"

When there is a heating request, the temperature detected by the flow probe is displayed and the III symbol starts flashing. The instantaneous boiler power is indicated by the modulation bar. It is possible to observe at any time which triacs are on.

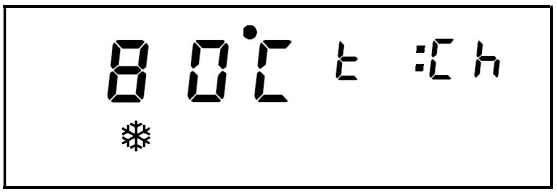


INFORMATION or TEMPERATURE MENU: Temperature display

From the main screen, enter the “INFORMATION MENU” by pressing and holding the **-III** (J3) + **-⌐** (J5) keys for 4 seconds. Within the menu, the keys take on the following meanings:

Key	Function
ON/OFF (J7)	Exit - Return to main screen
+III (J2)	Index increment
-III (J3)	Index decrement

On small digits, the information indication is displayed (e.g. “t :” if temperature), while on large digits, the value is shown (e.g. 80°C). In the absence of the device or if the device in not enabled, the indication “--“ will appear.



In the table, a list of the information available in the menu:

Index	Info	Unit	Description
1	t :Ch	°C	Supply temperature, main exchanger, or collector probe temperature
2	t :dh	°C	Temperature of the sanitary probe
3	t :Ep	°C	Temperature of the external probe
4	t :SE	°C	Compensated heating set-point based on the temperature detected by the external probe
5	Fl.Mt	liters/minute	Flow rate of the sanitary flowmeter
6	duty	%	Duty cycle of the PWM feedback signal for the circulator
7	PH2o	Bar	System pressure detected by the pressure transducer
8	EHc1	°C	Temperature of the probe for the first heat exchanger (double exchanger)
9	EHc2	°C	Temperature of the probe for the second heat exchanger (double exchanger)

PARAMETER MENU: Parameter display

Pressing the +III (J2) and +⚗ (J6) keys simultaneously and holding them for 4 seconds will display the symbol ✋ on the screen. Within the “PARAMETER” menu, the keys take on the following meanings:

Key	Function
-⚗ (J5)	Decrease displayed parameter value
+⚗ (J6)	Increase displayed parameter value
ON/OFF (J7)	Exit Parameters Menu
+III (J2)	Increase parameter index
-III (J3)	Decrease parameter index

On small digits, the parameter index is displayed, while on large digits, the value is shown.

FAULT CODES

Faults are indicated by an " ERR FX " message, with X being the corresponding error code.

"ERROR" Code	Meaning
F 1	Functional system shutdown due to system pressure below 0.7 bar (P12 val:1)
F 3	Central heating probe fault (SM)
F 7	Block by error of circulator feedback signal
F 8	Safety thermostat (TS) trip. To reset the system press **ON-OFF** (**J7**)
F 9	EEPROM memory hardware failure

UNLOCKING THE APPLIANCE (RESET)

Following a block, once the fault is restored, you can restore the system by pressing the appropriate button on the user interface display **ON-OFF** (**J7**).

DESCRIPTION ANOMALIES

Err F 1: Anomaly pressure system water system	
Anomaly	Following the values of the pressure transducer under the set threshold
Operating effects	The heat request is not served in all operating states
Effects on loads	*TRIAC primary exchanger:* OFF *Circulator:* DEACTIVATED after possible postcirculation *Zone valve:* DEACTIVATED
Actions to be carried out	System loading. Correct verification of operation and connection of the water pressure transducer.
Block	NO

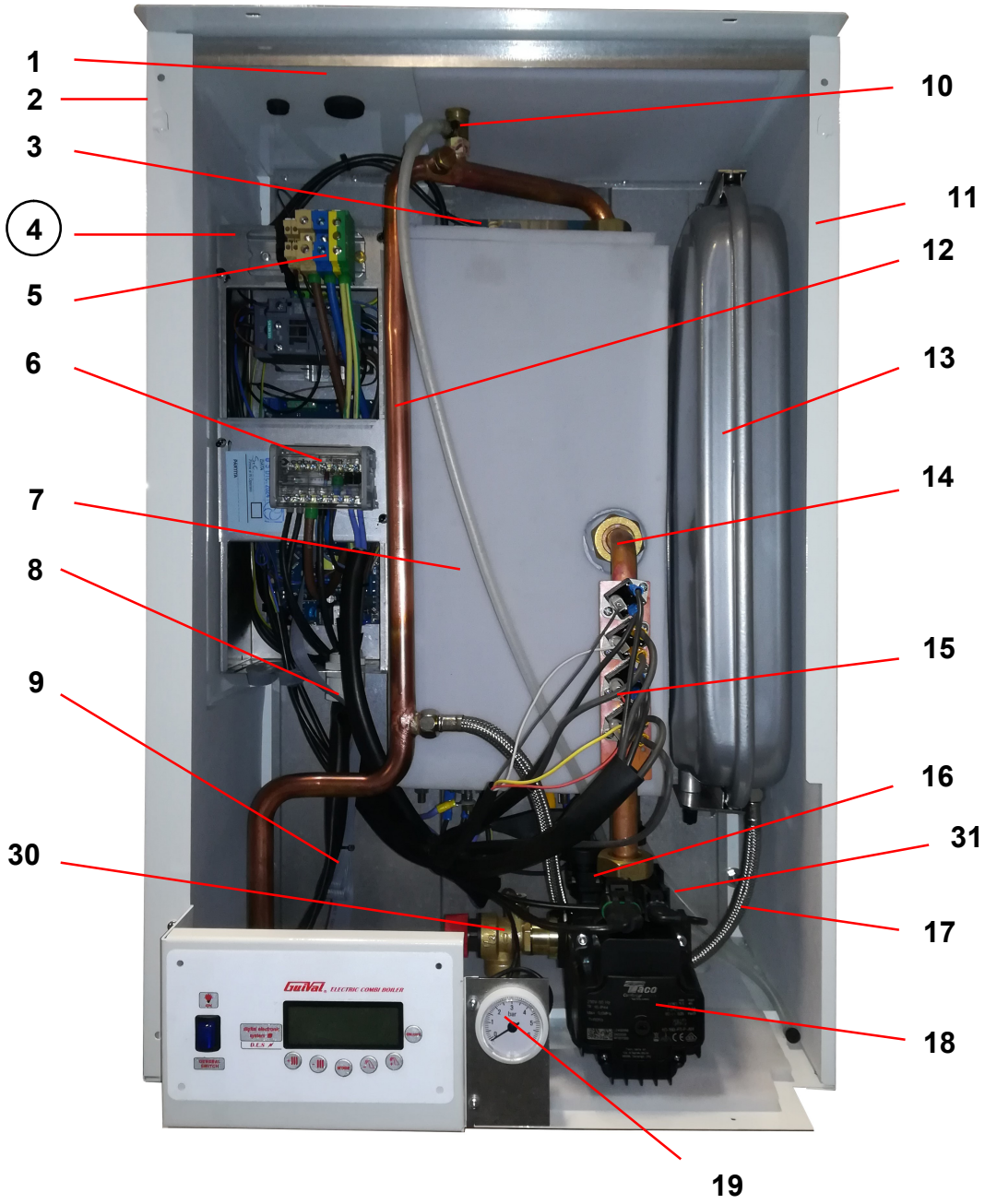
Err F 3: Heating probe anomaly (SM)	
Anomaly	Primary short circuit exchanger probe or open circuit
Operating effects	The heat request is not served in all operating states
Effects on loads	*TRIAC primary exchanger:* OFF *Circulator:* DEACTIVATED after possible postcirculation *Zone valve:* DEACTIVATED
Actions to be carried out	Verification of operation and connection of the heating probe (SM)
Block	NO

Err F 7: Circulator feedback signal anomaly	
Anomaly	The circulator's feedback signal takes on a non regular value
Operating effects	After 1 minute the PCB is sent to block
Effects on loads	After 1 minute: *TRIAC primary exchanger:* OFF *Circulator:* DEACTIVATED after possible postcirculation *Zone valve:* DEACTIVATED
Actions to be carried out	Verification of operation and circulator connection. Requirement correct water flow in the plant.
Block	YES

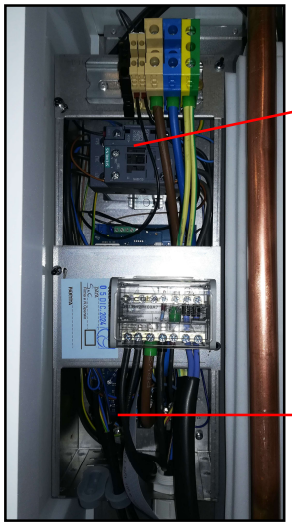
Err F 8: Block for Security Thermostat intervention (TS)	
Anomaly	Above temperature in the primary exchanger or in the heating system
Operating effects	The heat request is not served in all operating states
Effects on loads	*TRIAC primary exchanger:* OFF *Circulator:* DEACTIVATED after possible postcirculation *Zone valve:* DEACTIVATED
Actions to be carried out	Requirement correct water flow in the plant. Verification of circulator operation. Verification of security thermostat operation (TS).
Block	YES

Err F 9: Hardware Anomaly Memory EEPROM	
Anomaly	Breakage or malfunction of the storage in Eeprom that stores the parameters
Operating effects	The heat request is not served in all operating states
Effects on loads	*TRIAC primary exchanger:* OFF *Circulator:* DEACTIVATED after possible postcirculation *Zone valve:* DEACTIVATED
Actions to be carried out	Reset power supply and verification of the correctness of the stored parameters. PCB replacement.
Block	NO

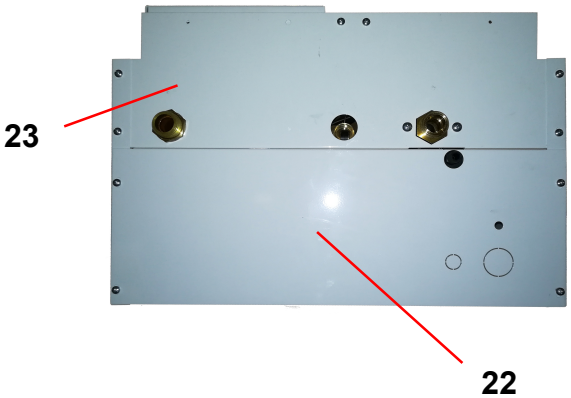
SPARE PARTS



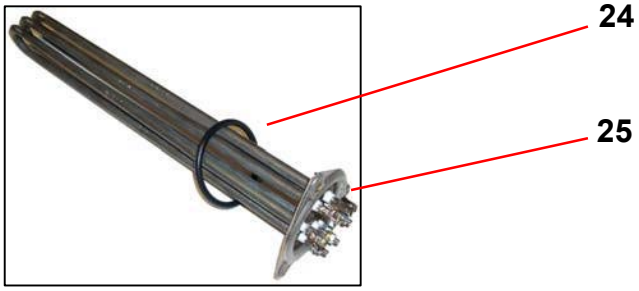
4 **Detail view: Electric Box**

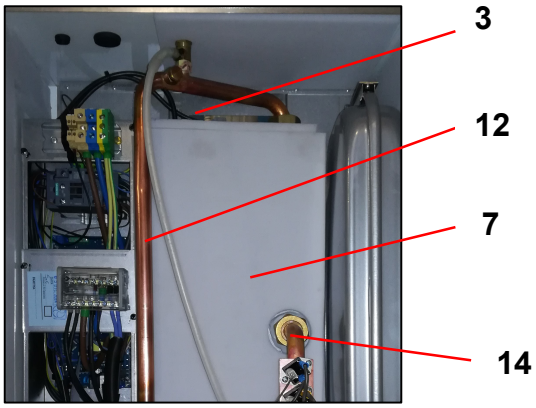


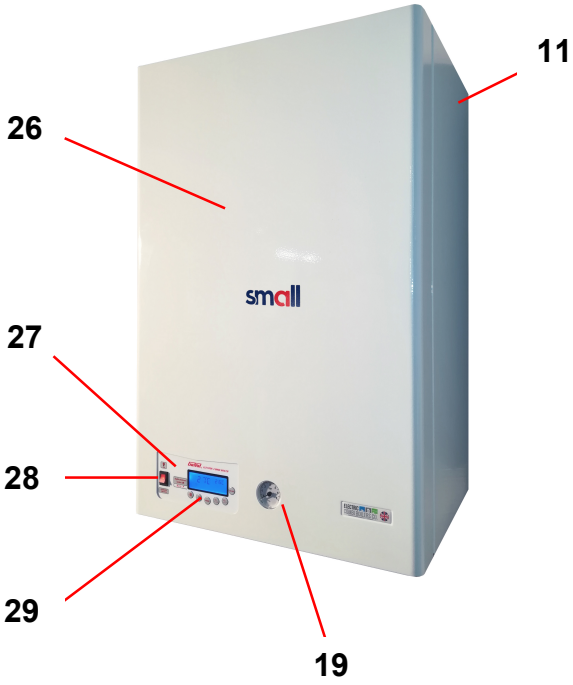
Detail view: Hydraulic connections



Boiler front







Spare parts legend

1	Small upper sheet metal cover	Cod.FGB.8496
2	Left side shell	Cod.FGB.8489
3	Contact safety thermostat 100°C	Cod.FGB.1195
4	General electric box (contactor/electronic board panel)	
5	Power supply line terminal 230-240 V (L) x 10 pcs	Cod.FGB.2073
	Neutral power supply terminal 230-240 V (N) x 10 pcs	Cod.FGB.2072
	Earth terminal (⏚) x 10 pcs	Cod.FGB.2074
6	Two-pole power terminal block	Cod.P.8550
7	Small boiler body	Cod.FGB.1949
8	Small C/N Wiring	Cod.P.8495
9	Lcd display connection cable	Cod.FGB.7561
10	Drain tap ¼"	Cod.FGB.225
11	Right side shell	Cod.FGB.8488
12	Small N delivery pipe	Cod.FGB.8531
13	Small 9 litre expansion tank	Cod.P.8459
14	Return pipe (pump/body)	Cod.FGB.8498
15	Power Triacs (40 A - 600 V)	Cod.FGB.247

16	Pressure switch (max./min. pressure)	Cod.RIT.7609
17	Expansion vessel hose	Cod.FGB.1531
18	Variable head circulator Grundfos (electronic pump)	Cod.FGB.8415
	Variable head circulator Guival (electronic pump)	Cod.FGB.8422
	Variable head circulator Taco (electronic pump)	Cod.FGB.8064
19	Hydrometer	Cod.FGB.155
20	Electronic board	Cod.FGB.8182
21	Power contactor	Cod.P.2153
22	Small C/N bottom grid	Cod.FGB.8490
23	Hydraulic connection template	Cod.FGB.8530
24	O-Ring seal x heating element 3x2 kW	Cod.FGB.238
25	Heating element 3x2 kW	Cod.FGB.255
26	Small C/N front cover	Cod.FGB.8487
27	Small Instrument Panel	Cod.P.8278
28	Illuminated main switch	Cod.FGB.248
29	Lcd Display	Cod.FGB.1763
30	Central heating safety valve 0.3 MPa (3 bar)	Cod.FGB.158
31	Automatic vent valve	Cod.FGB.263

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GuiVal®

DICHIARAZIONE DI CONFORMITA'

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DECLARATION OF CONFORMITY

In accordo con - *According to:*

2014/35/EU	Direttiva Bassa Tensione (BT) – *Low Voltage Directive (LVD).*
2004/30/EU	Direttiva Compatibilità Elettromagnetica - *Electromagnetic compatibilità Directive (EMC).*
2011/65/EU	Direttiva restrizione uso di determinate sostanze pericolose in apparecchiature elettriche ed elettroniche. *Directive on the restriction of use of certain hazardous substances (RoHS).*
1935/2004	Regolamento riguardante i materiali e gli oggetti destinati a venire a contatto con i prodotti alimentari. *Regulation on materials and articles intended to come into contact with food.*
813/2013/EU	Regolamento per la progettazione ecocompatibile degli apparecchi per il riscaldamento d'ambiente e degli apparecchi di riscaldamento misti. - *Ecodesign requirements for space heaters and combination heaters.*
811/2013/EU	Regolamento riguardante l'etichettatura indicante il consumo d'energia degli apparecchi per il riscaldamento d'ambiente, degli apparecchi di riscaldamento misti. *Regulation regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device.*

N° di identificazione - *Identification No.* :	Vedi numero di matricola / *See the serial number*
Costruttore - *Manufacturer :*	**FIAMMA GIRO s.r.l.**
Indirizzo-*Address :*	via L. Landucci n°.2/B - 51100 PISTOIA - ITALY
Telefono -*Telephone :*	(+39).0573.532812
Fax / e-mail – *Telefax / E-mail :*	(+39).0573.532890 - info@fiammagiro.it
Tipo di apparecchio -*Type of equipment :*	Caldaia murale elettrica / *Electric wall boiler*
Marchio commerciale - *Trademark :*	GuiVal (dicitura **GUIVAL** / ***GUIVAL*** *marked*)
Tipo / Modello – *Type / Model :*	Vedi Modello su targhetta dati / *See the model in data code* ELEKTRA.. 6 ÷ 24 … *ELEKTRA.. 6 ÷ 24…*

Le norme armonizzate o le specifiche tecniche (designazioni) che sono state applicate in accordo con le regole della buona arte in materia di sicurezza in vigore nella Unione Europea sono :
The following harmonised standards or technical specifications (designations) which comply with good engineering practice in safety matters in force within the European Union have been applied :

Norme o altri documenti normativi - *Standards or other normative documents*
IEC 60335-1:2010+A1:2013+A2:2016 – IEC 60335-2-21:2012+A1:2018
EN 60335-2-21:2003+A1:2005+A2:2008
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019
Le caldaie della serie ELEKTRA.. sono certificate CB con documento n°.IT-22669/A1.
The boilers of the ELEKTRA.. series are CB certified with document number IT-22669/A1.

Rapporto di collaudo - Schede tecniche
Test report-Technical file
Nr. EP20-0059463-01 rev.1

EN 61000-3-11:2011; EN 61000-3-12:2011; EN 61000-3-11:2001; EN 61000-3-11:2000; EN 55014-1; EN 55014-2
Le caldaie della serie ELEKTRA sono state verificate con Test-Report n°.TRA-030968-36-00A
The boilers of the ELEKTRA series have been verified with Test-Report n ° .TRA-030968-36-00A.

In qualità di costruttore e/o rappresentante autorizzato della società all'interno della Unione Europea, si dichiara sotto la propria responsabilità che gli apparecchi sono conformi alle esigenze essenziali previste dalle Direttive e Regolamenti su menzionate/i.
As the manufacturer's authorized representative established within European Union, we declare under our sole responsibility that the equipment follows the provisions of the Directives and Regulations stated above.

Pistoia, 15/07/2022

Giro Luca
presidente consiglio di amministrazione
Board Chairman of amministration

Fiamma-giro s.r.l.

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FILIALE: 37049 VILLA BARTOLOMEA (VR) - ITALIA - Via P. Bettini ,19 Z. I. Tel. (+39).0442.659028 - Telefax (+39).0442.659045
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http\\: *www.fiammagiro.com*

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Fiamma GAS & ELECTRIC BOILER ®

GuiVal®

DECLARATION OF CONFORMITY

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DICHIARAZIONE DI CONFORMITA'

According to - *In accordo con* :

Electrical Equipment (Safety) Regulations 2016. - *Regolamento Apparecchiature Elettriche (Sicurezza) 2016.*

Electromagnetic Compatibility Regulations 2016. – *Regolamento Compatibilità Elettromagnetica 2016.*

The Restiction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

Restrizioni all'Uso di Certe Sostanze Pericolose in Apparecchiature Elettriche ed Elettroniche 2012.

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Telephone - *Telefono :*	(+39).0573.532812
Telefax / E-mail – *Fax / e-mail :*	(+39).0573.532890 - info@fiammagiro.it
Type of equipment - *Tipo di apparecchio :*	Electric wall boiler / *Caldaia murale elettrica*
Trademark - *Marchio commerciale :*	GuiVal (marked **GUIVAL** / ***GUIVAL*** *dicitura*)
Type / Model - *Tipo / Modello :*	See the model in data code / *Vedi Modello su targhetta dati* ELEKTRA.. 6 ÷ 24 … *ELEKTRA.. 6 ÷ 24…*

The following standards or technical specifications (designations) which comply with good engineering practice in safety matters in force have been applied :

Le norme o le specifiche tecniche (designazioni) che sono state applicate in accordo con le regole della buona arte in materia di sicurezza sono :

Standards or other normative document - *Norme o altri documenti normativi*

IEC 60335-1:2010+A1:2013+A2:2016 – IEC 60335-2-21:2012+A1:2018
EN 60335-2-21:2003+A1:2005+A2:2008
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019
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Test report-Technical file
Rapporto di collaudo - Schede tecniche
Nr. EP20-0059463-01 rev.1

EN 61000-3-11:2011; EN 61000-3-12:2011; EN 61000-3-11:2001; EN 61000-3-11:2000; EN 55014-1; EN 55014-2
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Le caldaie della serie ELEKTRA sono state verificate con Test-Report n°.TRA-030968-36-00A

As the manufacturer's authorized, we declare under out sole responsibility that the equipment follows the provisions of the Regulations stated above.

In qualità di costruttore e/o rappresentante autorizzato della società, si dichiara sotto la propriaresponsabilità che gli apparecchi sono conformi alle esigenze essenziali previste da i Regolamenti su menzionati.

Pistoia, 15/07/2022

Giro Luca
Board Chairman of amministration
presidente consiglio di amministrazione

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ELECTRIC COMBI BOILERS CO.

FIAMMA GIRO s.r.l. Company group

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