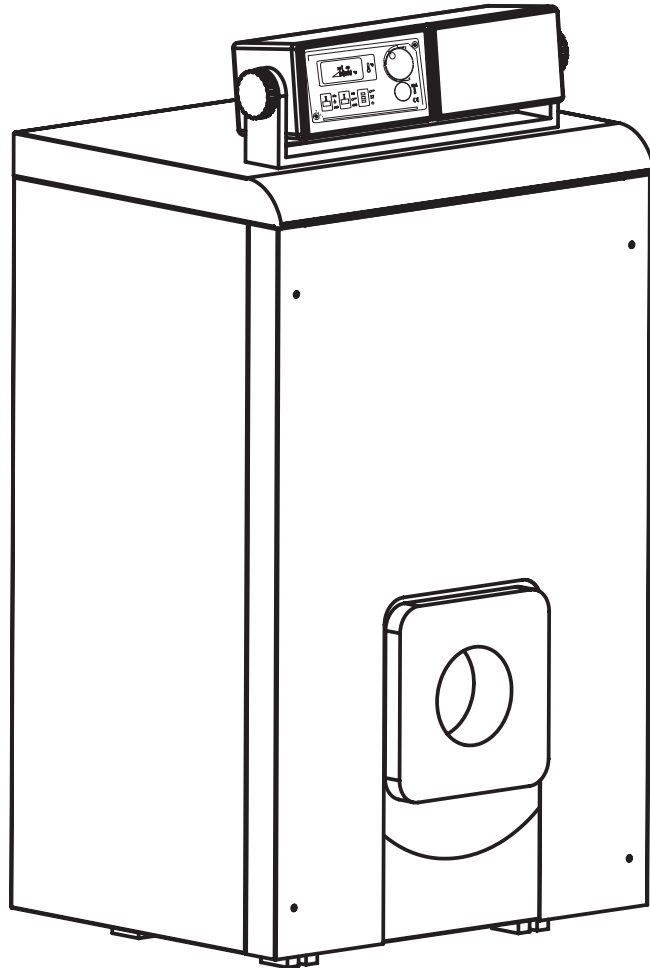




Lamborghini
CALORECLIMA

AZIENDA CERTIFICATA UNI EN ISO 9001
UNI EN ISO 9001 CERTIFIED COMPANY



CE

CALDAIA A BASAMENTO
FLOOR-STANDING BOILER
CHAUDIÈRE AU SOL
KOTEL НАПОЛЬНЫЙ
CALDERA SOBRE BASE

IT

UK

FR

RU

ES

EL_DB
EL_DB 3

Manuale di installazione, manutenzione e uso
Installation, use and maintenance manual
Manuel d'installation, entretien et utilisation
Руководство по установке, эксплуатации и техническому обслуживанию
Manual para la instalación y el mantenimiento

GENERAL INSTRUCTIONS

- Carefully read the instructions contained in this instruction booklet.
- After boiler installation, inform the user regarding its operation and give him this manual, which is an integral and essential part of the product and must be kept with care for future reference.
- Installation and maintenance must be carried out by professionally qualified personnel, according to current regulations and the manufacturer's instructions. Do not carry out any operation on the sealed control parts.
- Incorrect installation or inadequate maintenance can result in damage or injury. The Manufacturer declines any liability for damage due to errors in installation and use or failure to follow the instructions.
- Before carrying out any cleaning or maintenance operation, disconnect the unit from the power supply using the system switch and/or the special cut-off devices.
- In case of a fault and/or poor operation, deactivate the unit and do not attempt to repair it or directly intervene. Contact professionally qualified personnel. Repair/replacement of the products must only be carried out by professionally qualified using original spare parts. Failure to comply with the above could affect the safety of the unit.
- This unit must only be used for its intended purpose. Any other use is considered improper and therefore dangerous.
- The packing materials are potentially hazardous and must not be left within the reach of children.
- The images given in this manual are a simplified representation of the product. In this representation there may be slight and insignificant differences with respect to the product supplied.

OPERATING INSTRUCTIONS

Introduction

Dear Customer,

Thank you for choosing a boiler featuring advanced design, cuttingedge technology, high reliability and quality construction. Please read this manual carefully since it provides important information on safe installation, use and maintenance.

is a high-efficiency heat generator for the production of heating hot water, suitable for operation with blown oil or gas burners. The boiler shell consists of cast iron elements, assembled with steel stays and double cones, whose profile is specially designed with optimum division of the fins, offering high thermal efficiency and therefore high energysaving.

DESCRIPTION

The boiler base can be supplied in three versions:

- Version Bs: dashboard version only heating;
- Version Md: dashboard version only more heating boiler management unit to be mounted on the dashboard base;
- Version Hg: dashboard version only more heating unit temperature control and health management to be mounted on the dashboard base (for instructions see the manual supplied with the unit thermo-regulation).

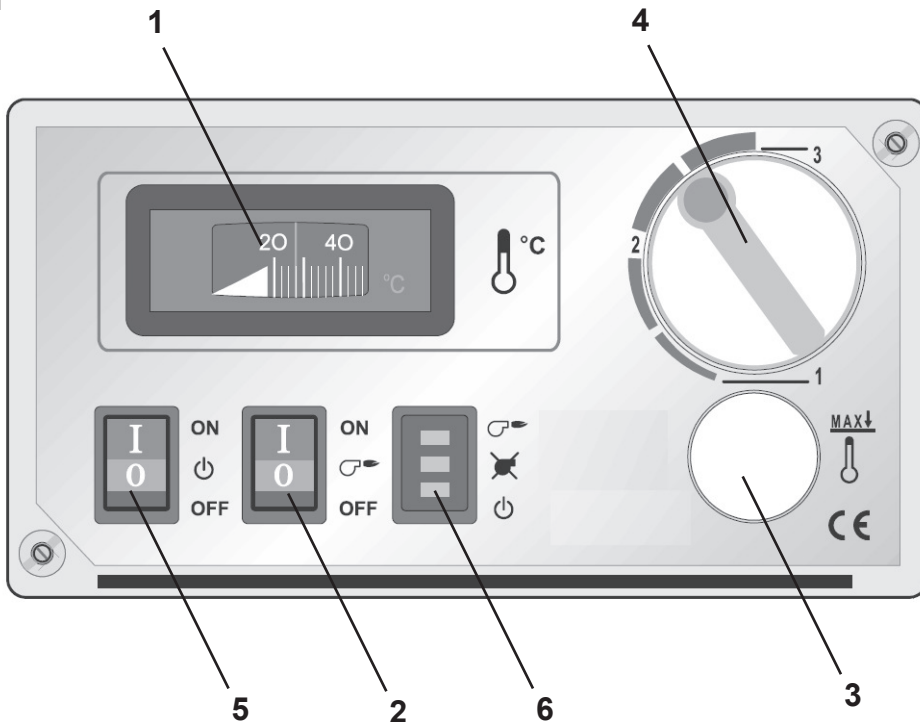



Control panel


Fig.1

Key

- 1 = Thermometer
- 2 = Ignition switch
- 3 = Manual reset safety thermostat
- 4 = Temperature adjustment knob (30-85 °C)
- 5 = System pump switch
- 6 = Indicator LED

-  ON
-  Burner stalled
-  ON heating pump

Turning on and off

Open the fuel shutoff valves.

Switch on the power to the unit.

Press button 2 of fig. 1 to feed the boiler and burner. Refer to the burner manual for operation.

Turning the boiler off

For brief shutdown periods just press button 2 of fig. 1 on the control panel, bringing it to position "0".

For long shutdown periods, as well as operating button 2 also close the fuel shutoff valve. To avoid damage caused by freezing during long shutdowns in winter, add a suitable antifreeze to the system or completely drain the system.

Adjustments
Heating temperature adjustment

Set the required system temperature by means of control thermostat 4 of fig. 1.

Room temperature adjustment (with optional room thermostat)

Using the room thermostat, set the temperature desired in the rooms. If the room thermostat is not installed the boiler will keep the heating system at its setpoint temperature.

System water pressure adjustment

The filling pressure read on the boiler water gauge with the system cold must be approx. 1.0 bar.

Operating the filling cock, bring the system pressure to a value above 1.0 bar.

A Always close the filling cock at the end of the operation.

INSTALLATION

General Instructions

BOILER INSTALLATION MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL, IN ACCORDANCE WITH ALL THE INSTRUCTIONS GIVEN IN THIS TECHNICAL MANUAL, THE PROVISIONS OF CURRENT LAW, THE PRESCRIPTIONS OF NATIONAL AND LOCAL STANDARDS AND THE RULES OF PROPER WORKMANSHIP.

Place of installation

The boiler must be installed in a special room with ventilation openings towards the outside in conformity with current regulations. If there are several burners or extraction units that can work together in the same room, the ventilation openings must be sized for simultaneous operation of all the units. The place of installation must be free of flammable objects or materials, corrosive gases, volatile substances or dusts which, sucked by the burner fan, can obstruct the pipes inside the burner or the combustion head. The room must be dry and not exposed to rain, snow or frost.

If the unit is enclosed in a cabinet or mounted alongside, a space must be provided for removing the casing and for normal maintenance operations. In particular, after boiler installation with burner on the front door, make sure the front door can open freely without the burner striking walls or other obstacles.

Plumbing connections

The heating capacity of the unit must be previously established by calculating the building's heat requirement according to the current regulations. The system must be provided with all the components for correct and regular operation. It is advisable to install shutoff valves between the boiler and heating system allowing the boiler to be isolated from the system if necessary.

The safety valve outlet must be connected to a funnel or collection pipe to prevent water spurting onto the floor in case of overpressure in the heating circuit.

Otherwise, if the discharge valve cuts in and floods the room, the boiler manufacturer cannot be held liable.

Do not use the water system pipes to earth electrical appliances.

Before installation, carefully wash all the pipes of the system to remove any residuals or impurities that could affect proper operation of the unit.

Carry out the relevant connections according to the diagram in and the cap. 5 symbols given on the unit.

The unit is not supplied with an expansion tank; its connection must therefore be carried out by the Installer. The pressure in the system, when cold, must be 1 bar.

Plumbing connections

In the presence of water harder than 25° Fr (1°F = 10ppm CaCO₃), use suitably treated water in order to avoid possible scaling in the boiler. Treatment must not reduce the hardness to values below 15°F (Decree 236/88 for uses of water intended for human consumption).

Treatment of the water used is indispensable in case of very large systems or with frequent introduction of replenishing water in the system.

If water softeners are installed at the boiler cold water inlet, make sure not to reduce the water hardness too much, as this could cause early deterioration of the magnesium anode in the hot water tank.

Antifreeze system, antifreeze fluids, additives and inhibitors If it becomes necessary, it is permissible to use antifreeze fluid, additives and inhibitors only if the manufacturer of these fluids or additives guarantees they are suitable for this use and cause no damage to the heat exchanger or other components and/or materials of the boiler unit and system. It is prohibited to use generic antifreeze fluid, additives or inhibitors that are not expressly suited for use in heating systems and compatible with the materials of the boiler unit and system.

Burner connection

An oil or gas burner, with blown air for pressured furnaces, can be used if its operation characteristics are suitable for the size of the boiler furnace and its overpressure. The choice of burner must be made beforehand, following the manufacturer's instructions, according to the work range, fuel consumption and pressures, as well as the length of the firebox. Install the burner in compliance with the Manufacturer's instructions.

Electrical connections

Electrical power supply

The electrical safety of the device is only ensured when it is correctly connected to an effective earthing system as required by current safety standards. Have professionally qualified personnel check the efficiency and adequacy of the earthing system. The manufacturer is not liable for any damage or injury caused by failure to earth the system. Also make sure that the electrical system is suitable for the maximum power absorbed by the device, shown on the boiler rating plate.

The connections to the mains must be permanent and equipped with a bipolar switch whose contacts have a minimum opening of at least 3 mm, interposing fuses of max 3A between the boiler and the line. It is important to respect the polarities (LINE: brown wire / NEUTRAL: blue wire / EARTH: yellow-green wire) in the connections to the electrical line. While installing or replacing the power cable, the earthing conductor must be left 2 cm longer than the others.

If the cable is damaged, turn the device off and contact professionally qualified personnel only to replace it.

For the electric power cable, use a "HAR H05 VV-F" 3x0.75 mm² cable with a maximum outer diameter of 8 mm only.

Cruscotto comandi

Il cruscotto viene fornito smontato. Per il montaggio e il cablaggio del cavo di alimentazione procedere come da istruzioni.

Room thermostat (optional)

IMPORTANT: THE ROOM THERMOSTAT MUST HAVE VOLTAGE-FREE CONTACTS.

When connecting time controls or a timer, do not take the power supply for these devices from their breaking contacts. Their power supply must be by means of direct connection from the mains or with batteries, depending on the kind of device.

System pump

For the electrical connection of the system pump, see the wiring diagram.

Control panel

The control panel is delivered unassembled. For assembly and wiring, see the instructions.

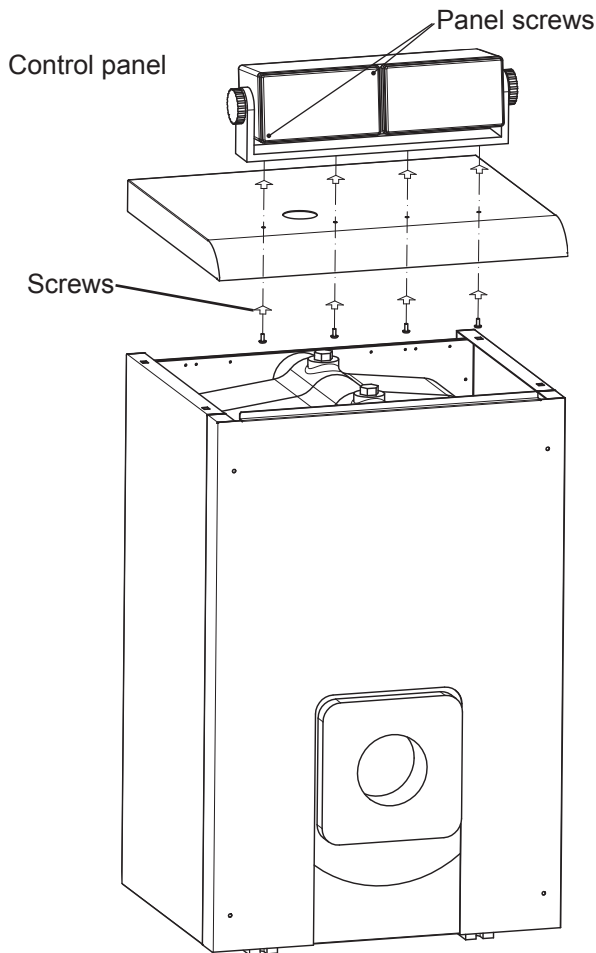


Fig.2

Assembling the control panel (figure 2)

Lifting up the boiler lid, you can assemble the boiler control panel.

Secure the panel using the 4 screws supplied, as shown in figure 2.

To access the terminal block inside the panel, unscrew the panel screws (fig. 2).

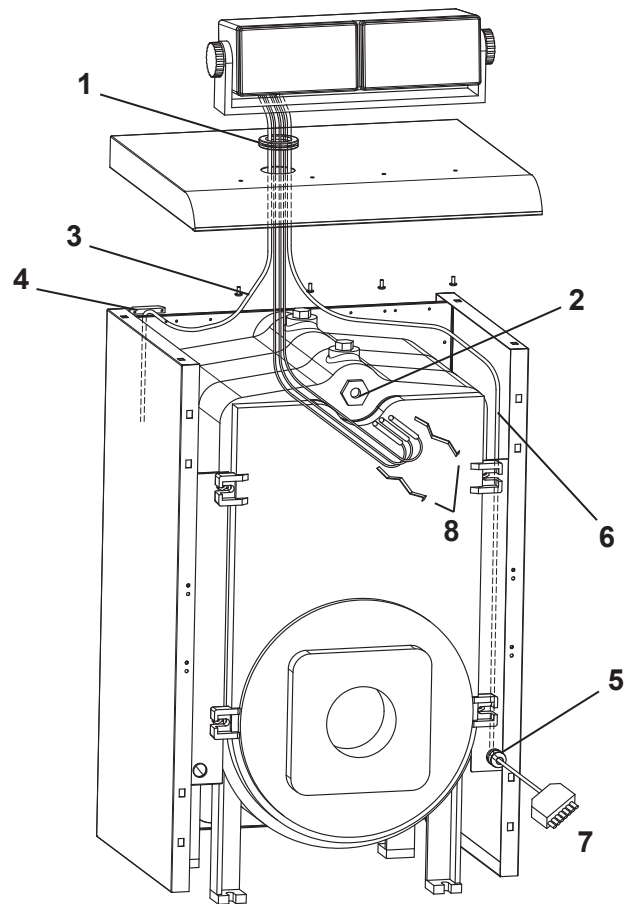


Fig.3

Routing the cables (figure 3)

To secure the cables and temperature probes, proceed as follows:

- Route the power cables, burner cable, temperature probe, safety probe and thermometer probe through the fairlead (1).
- Insert the probe into the sheath probe holder (2) with the two contact plates (8)
- Secure the power cable (3) using one of the fairleads supplied (4).
- Route the burner power cable along the side of the boiler and secure it using the fairlead (5).
- Wire the burner connector (7) (supplied with the burner) on the burner cable (6), following the wiring diagram.

Connection to the flue

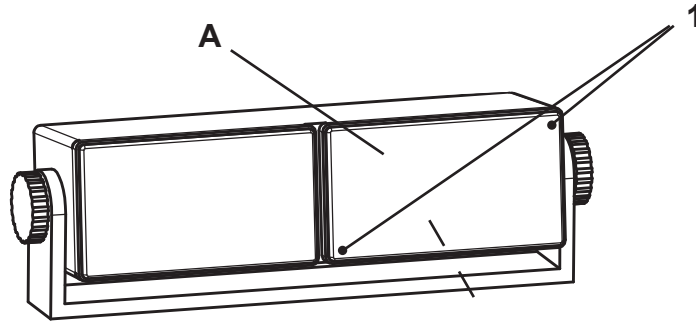
The unit must be connected to a flue designed and built in compliance with current regulations.

The pipe between the boiler and flue must be made from material suitable for the purpose, i.e. heat and corrosion resistant. Ensure the seal at the joints and insulate the entire pipe between boiler and flue, to prevent the formation of condensate.

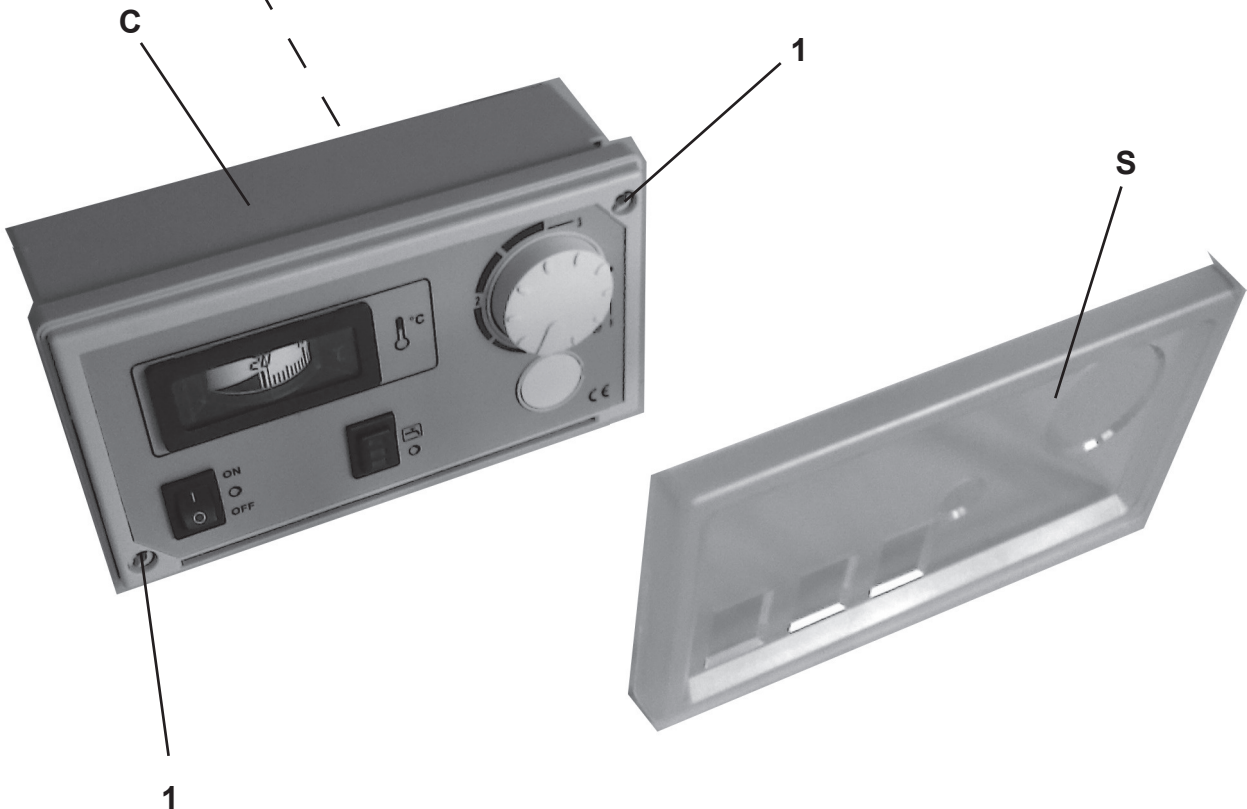


Mounting instruction DHW control unit

To mount the DHW control unit (version Md), remove the panel (A) using the screws (1) of the basic control panel.



Remove the transparent screen from the control unit (S), then fix the control unit (C) with the screws (1) to the basic control panel after making the connections as per the diagram.



SERVICE AND MAINTENANCE

All adjustment, conversion, commissioning and maintenance operations described below must only be carried out by Qualified Personnel (meeting the professional technical requirements prescribed by current regulations) such as those of the Local After-Sales Technical Service.

The manufacturer disclaims any liability for damage to property and/or injury resulting from tampering with the device by unqualified and unauthorised persons.

Adjustments

Burner adjustment

Boiler efficiency and correct operation depend above all on accurate burner adjustments.

Carefully follow the Manufacturer's instructions. The two-stage burners must have the first stage adjusted to a power level not below the boiler's rated min. power. The power of the second stage must not be higher than the boiler's rated max. power.

Start-up

Checks to be made at first lighting, and after all maintenance operations that involved disconnecting from the systems or work on safety devices or parts of the boiler:

Before lighting the boiler

- Open any on-off valves between the boiler and the systems.
- Check the seal of the fuel system.
- Check correct prefilling of the expansion tank.
- Fill the water system and make sure that all air contained in the boiler and the system has been vented, by opening the air valve on the boiler and any air valves on the system.
- Make sure there are no water leaks in the system, domestic hot water circuits, connections or boiler.
- Check correct connection of the electrical system and efficiency of the earthing system
- Make sure there are no flammable liquids or materials in the immediate vicinity of the boiler

Checks during operation

- Turn the unit on as described
- Make sure the fuel circuit and water systems are tight.
- Check the efficiency of the flue and air/fume ducts while the boiler is working.
- Check correct water circulation between the boiler and systems.
- Check correct boiler lighting by doing various tests, turning it on and off with the room thermostat or remote control.
- Make sure the smoke box and burner door are tight.
- Make sure the burner works properly.
- Carry out a combustion analysis (with boiler stable).

Maintenance

Periodical check

To ensure correct operation of the unit over time, have qualified personnel carry out a yearly check, providing for the following:

- The control and safety devices must function correctly.
- The fume evacuation circuit must be perfectly efficient.
- Make sure there are no obstructions or dents in the fuel supply and return pipes.
- Clean the filter of the fuel suction line.
- Measure the correct fuel consumption
- Clean the combustion head in the fuel outlet zone, on the swirl disc.
- Leave the burner on at max. for about ten minutes, then analyse the combustion, checking:
 - Correct setting of the elements specified in this manual.
 - Temperatures of fumes at the flue
 - CO₂ percentage content
- The air/fume terminal and ducts must be free of obstructions and leaks
- The burner and exchanger must be clean and free of deposits. For cleaning do not use chemical

products or wire brushes.

- The fuel and water systems must be tight.
- The water pressure in the system when cold must be approx. 1 bar; otherwise bring it to that value.
- The circulating pump must not be blocked.
- The expansion tank (not supplied) must be filled.

The boiler casing, control panel and aesthetic parts can be cleaned with a soft damp cloth, if necessary soaked in soapy water. Do not use any abrasive detergents and solvents.

Boiler cleaning

1. Disconnect the power supply to the boiler.
 2. Remove the front top and bottom panel.
 3. Open the door by undoing the knobs.
 4. Clean the inside of the boiler and the entire path of exhaust fumes, using a tube brush or compressed air.
 5. Then close the door, securing it with the knob.
- To clean the burner, refer to the Manufacturer's instructions.

Troubleshooting

Fault

Two shutdown conditions resettable by the user can occur :

A Burner shutdown signalled by the special indicator. Refer to the burner manual.

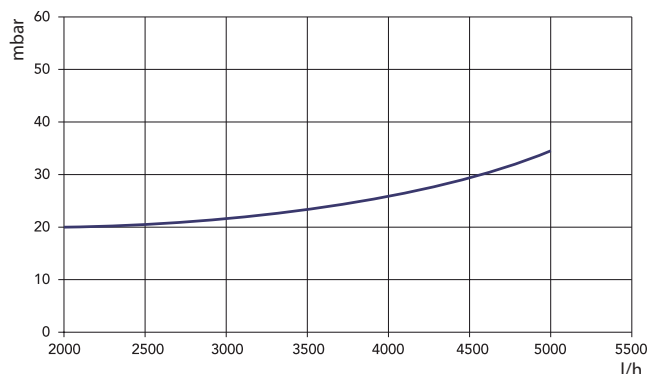
B Cutting in of the safety thermostat, which occurs when the boiler temperature reaches a value beyond which a dangerous condition may be created. To restore operation, unscrew cap 3 of fig. 1 and press the reset button below.

If the problem persists, request the assistance of Qualified Personnel or the After-Sales Centre.

In case of a fault and/or poor operation, deactivate the unit, do not try to fix the problem or directly carry out any operation. Contact authorised and professionally qualified personnel.

TECHNICAL DATA AND CHARACTERISTICS

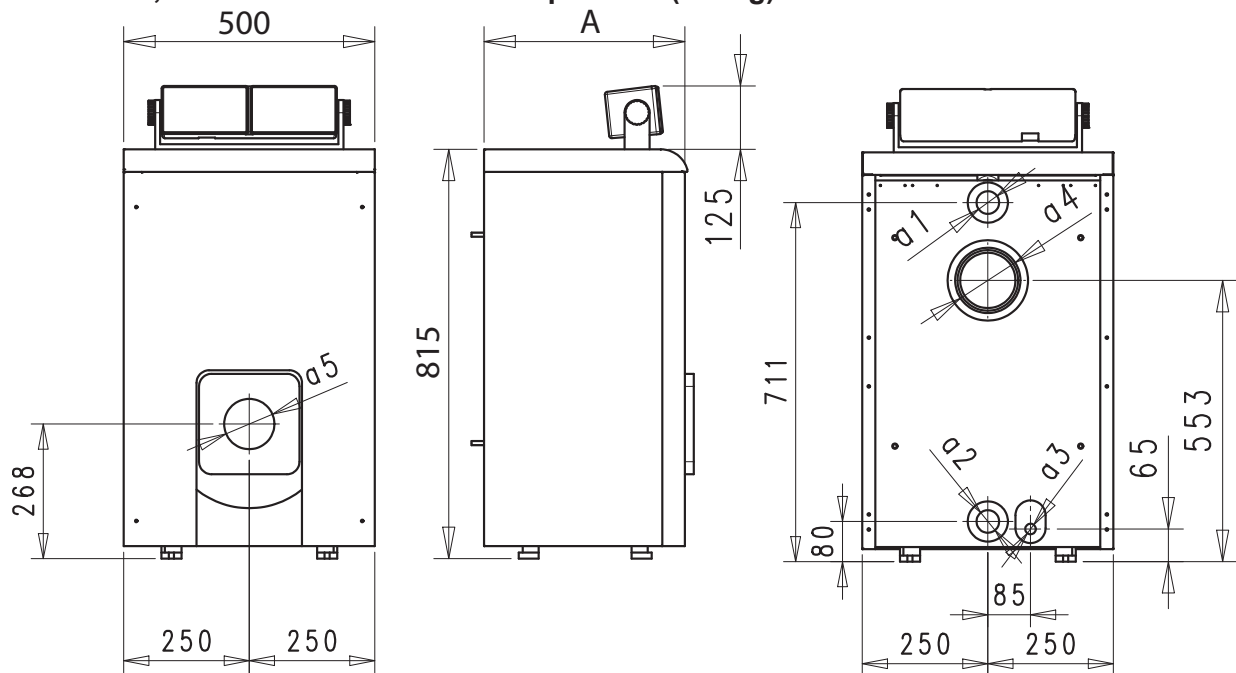
Pressure loss water side





TECHNICAL DATA AND CHARACTERISTICS

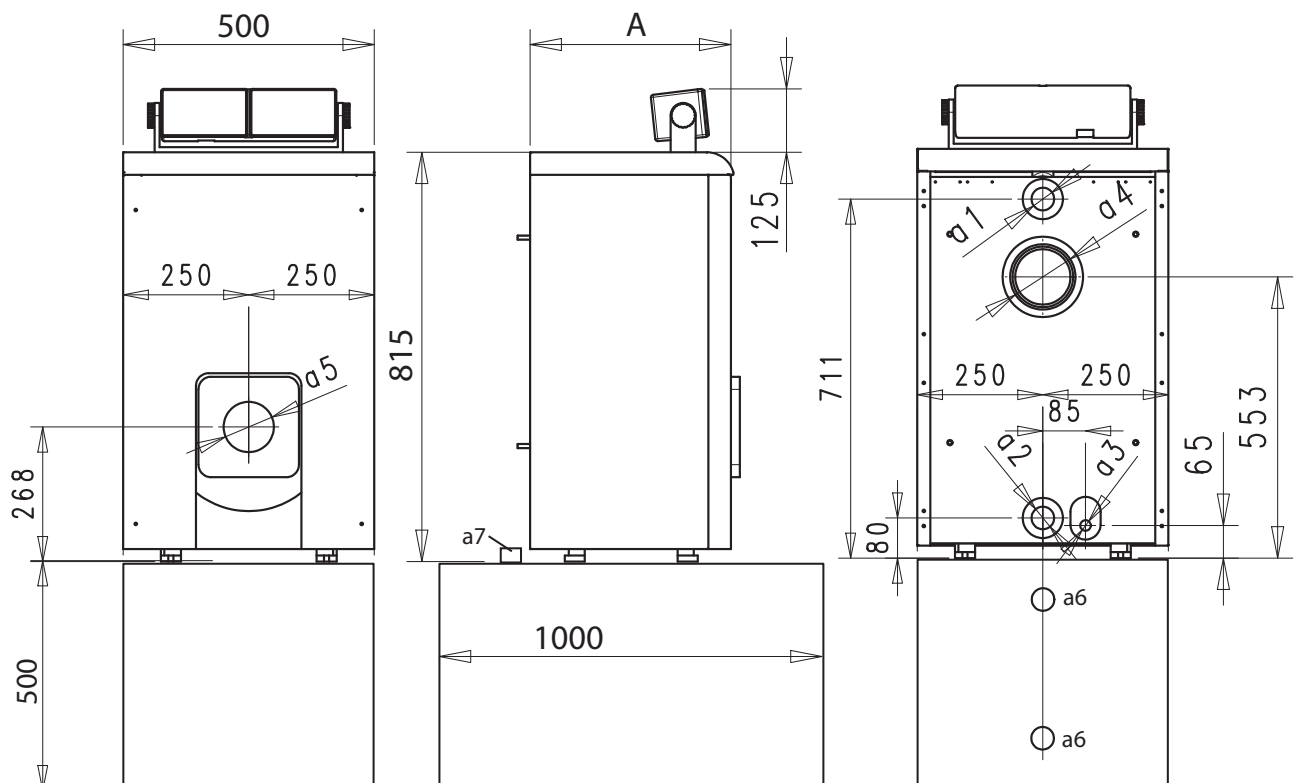
Dimensions, connections and main components (Bs-Hg)



Model	A	a1	a2	a3	a4	a5	a6	a7
32 - 3 32	400	1" 1/2	1" 1/2	1/2"	120-130	105	3/4"	3/4"
47 - 3 45	500	1" 1/2	1" 1/2	1/2"	120-130	105	3/4"	3/4"
63 - 3 59	600	1" 1/2	1" 1/2	1/2"	120-130	105	3/4"	3/4"
80 - 3 74	700	1" 1/2	1" 1/2	1/2"	120-130	105	3/4"	3/4"
98 - 3 90	800	1" 1/2	1" 1/2	1/2"	120-130	125	3/4"	3/4"

- A = Width
- a1 = System delivery
- a2 = System return
- a3 = Boiler drain
- a4 = Flue connection
- a5 = Attack kettle
- a6 = Water connection

Dimensions, connections and main components (Md)





Technical data table

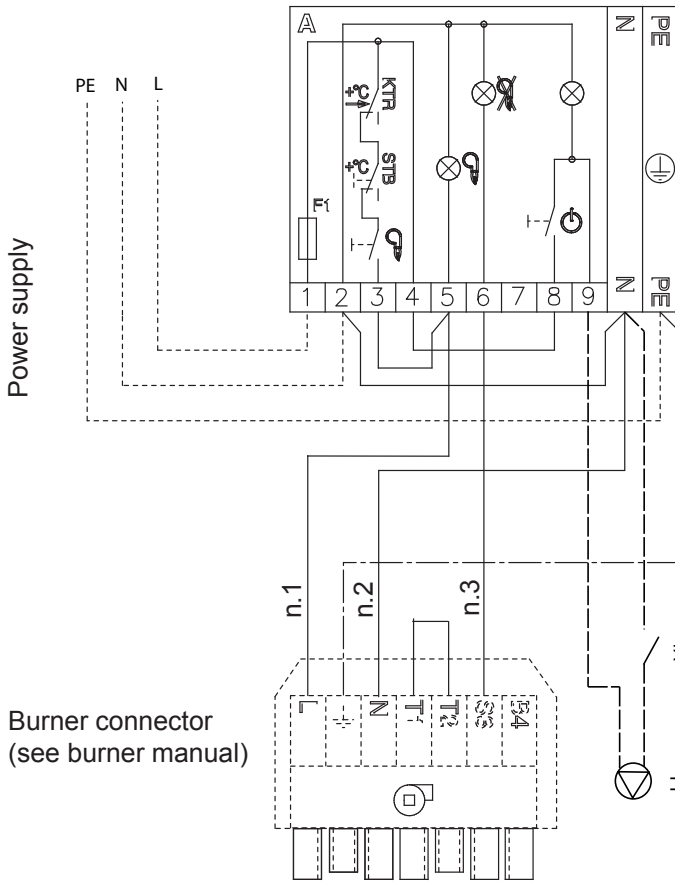
Model EL_DB		32	47	63	80	98
Number of elements		3	4	5	6	7
Max. heating capacity	kW	34.9	51.6	69.0	87.8	106.5
Min. heating capacity	kW	17.0	34.3	45.8	59.0	75.0
Max. heat output in heating	kW	32	47	63	80	98
Min. heat output in heating	kW	16	32	43	55	70
Efficiency Pmax (80-60°C)	%	91.6	91.5	91.5	91.8	92.1
Efficiency 30%	%	94.1	93.9	93.7	93.4	93.3
Efficiency class Directive 92/42 EEC		**	**	**	**	**
Max. working pressure in heating	bar	6	6	6	6	6
Min. working pressure in heating	bar	0.8	0.8	0.8	0.8	0.8
Max. heating temperature	°C	95	95	95	95	95
Heating water content	L	12.5	17.0	21.5	26.0	31.0
Protection rating	IP	41	41	41	41	41
Power supply voltage	V/Hz	230/50	230/50	230/50	230/50	230/50
Electrical power input	W	5	5	5	5	5
Empty weight	Kg	133	175	216	259	301
Combustion chamber length	mm	365	465	565	665	765
Combustion chamber diameter	mm	326	326	326	326	326
Pressure loss on fume side	mbar	0.05	0.20	0.30	0.50	0.60

Model EL_DB 3		32	45	59	74	90
Number of elements		3	4	5	6	7
Max. heating capacity	kW	34.3	48.2	62.9	78.8	95.7
Min. heating capacity	kW	16.9	34.1	46.8	59.5	72.0
Max. heat output in heating	kW	32	45	59	74	90
Min. heat output in heating	kW	16	32	44	56	68
Efficiency Pmax (80-60°C)	%	93.3	93.4	93.8	93.9	94.0
Efficiency 30%	%	94.3	94.1	94.0	94.3	94.5
Efficiency class Directive 92/42 EEC		***	***	***	***	***
Max. working pressure in heating	bar	6	6	6	6	6
Min. working pressure in heating	bar	0.8	0.8	0.8	0.8	0.8
Max. heating temperature	°C	95	95	95	95	95
Heating water content	L	12.5	17.0	21.5	26.0	31.0
Protection rating	IP	41	41	41	41	41
Power supply voltage	V/Hz	230/50	230/50	230/50	230/50	230/50
Electrical power input	W	5	5	5	5	5
Empty weight	Kg	137	179	221	263	305
Combustion chamber length	mm	365	465	565	665	765
Combustion chamber diameter	mm	326	326	326	326	326
Pressure loss on fume side	mbar	0.16	0.30	0.40	0.50	0.60



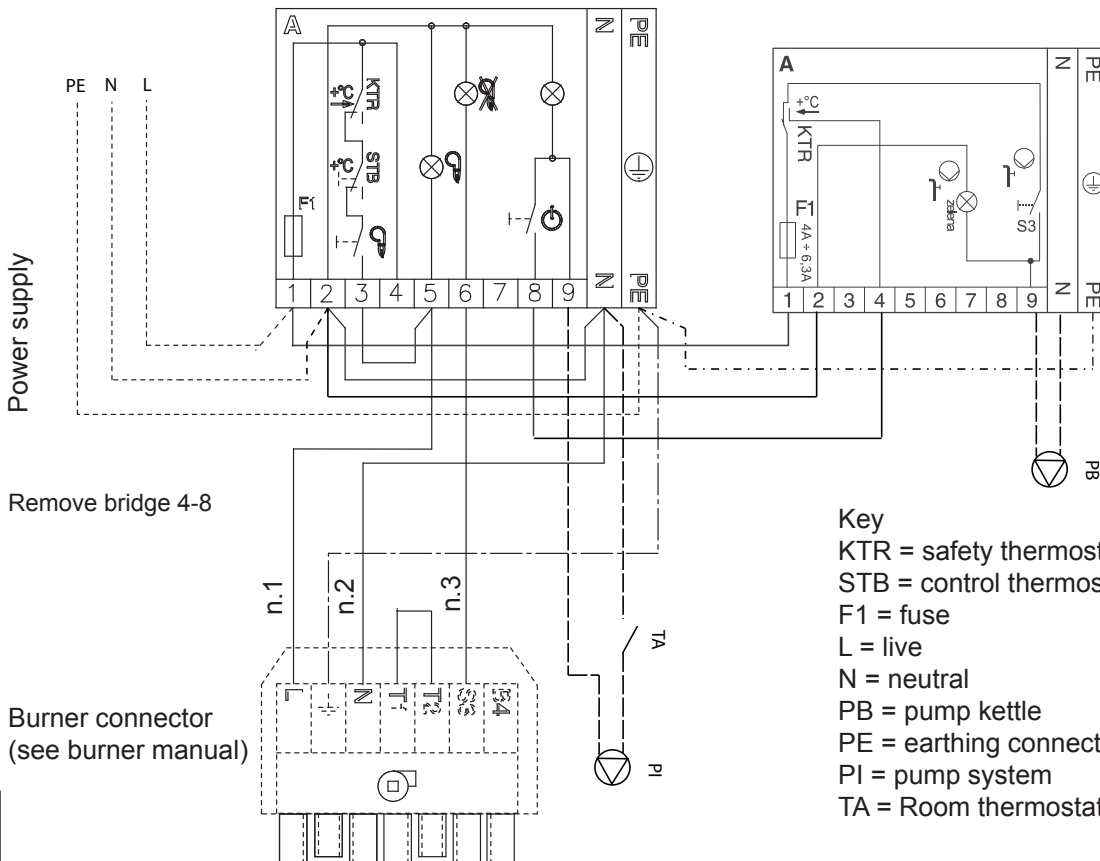
Electrical drawing

Version Bs (base)



- Key
- KTR = safety thermostat
 - STB = control thermostat
 - F1 = fuse
 - L = live
 - N = neutral
 - PE = earthing connection
 - PI = pump system
 - TA = Room thermostat

Version Md (boiler)

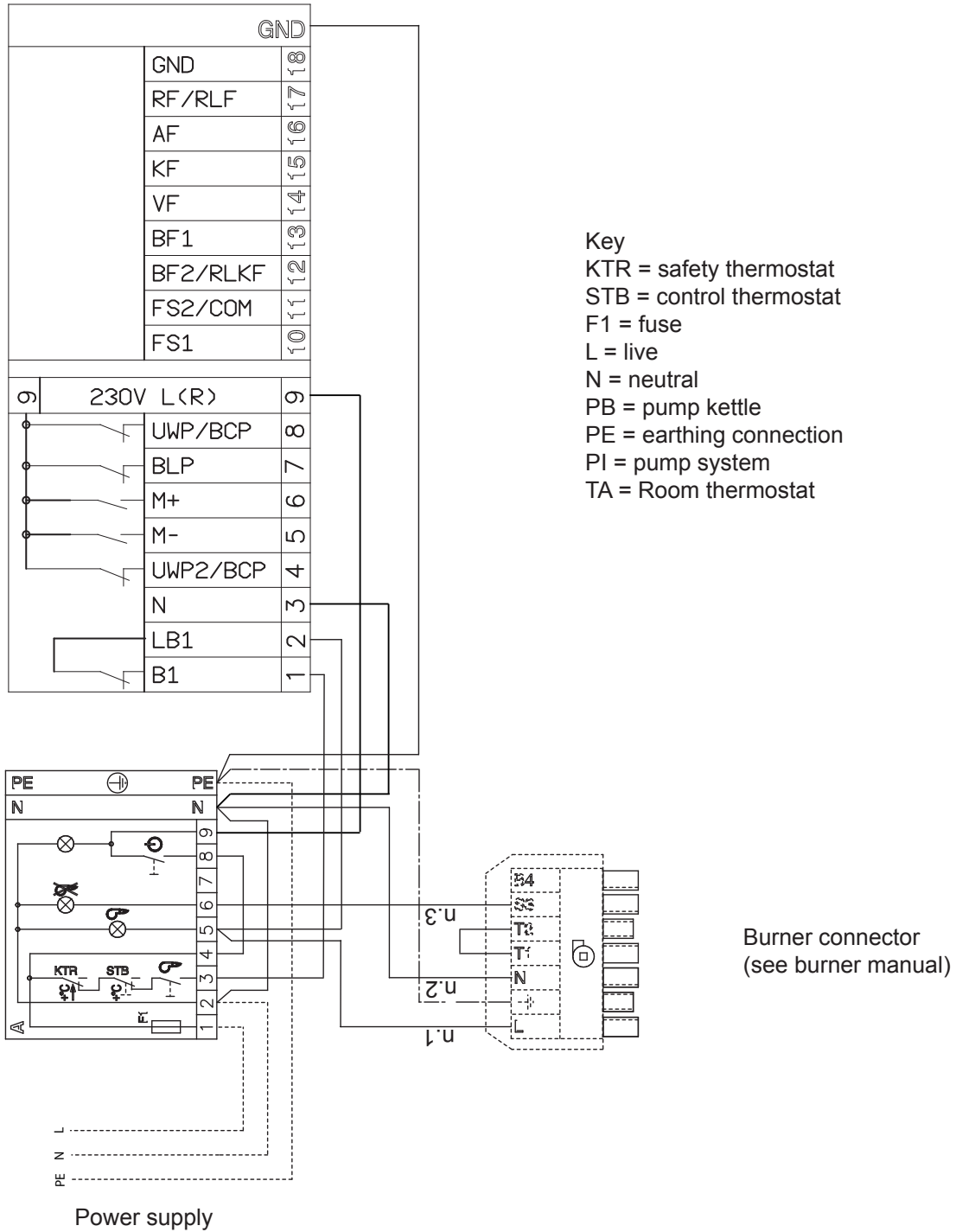


- Key
- KTR = safety thermostat
 - STB = control thermostat
 - F1 = fuse
 - L = live
 - N = neutral
 - PB = pump kettle
 - PE = earthing connection
 - PI = pump system
 - TA = Room thermostat



Electrical drawing

Version Hg
(climate control unit)



The electrical connections are the installer

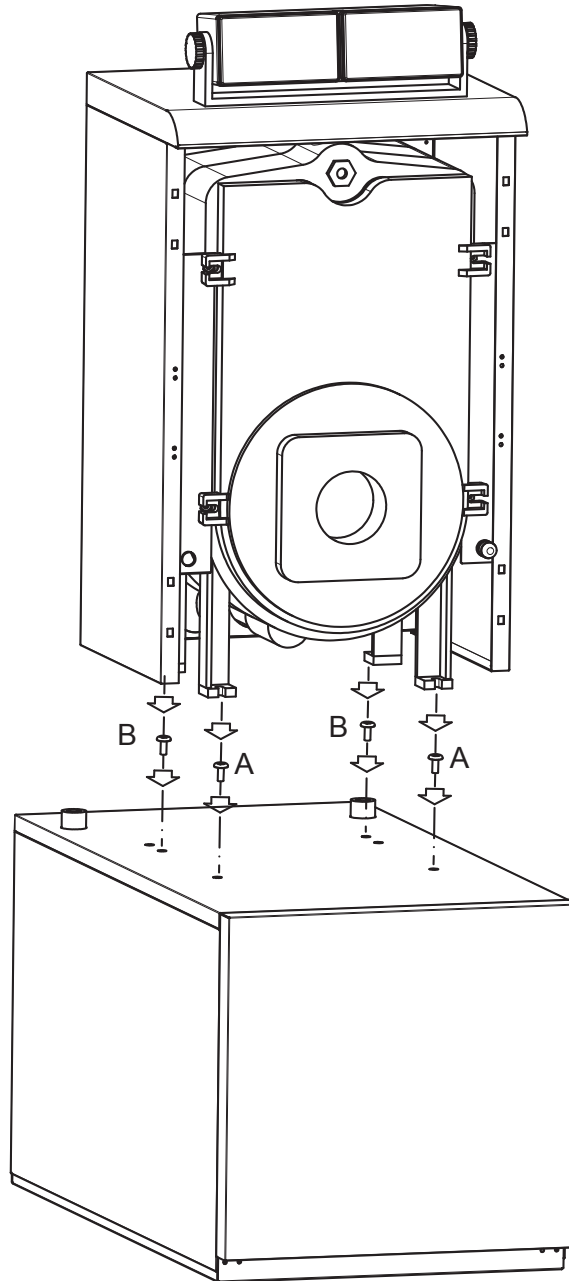


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Mounting kettle

To mount the boiler on the kettle, put the screws in the front, put your feet in front of the boiler screws A.

Tighten the screws B on the hind feet and tighten.



IT - DICHIARAZIONI DI CONFORMITA'

Direttiva Compatibilità Elettromagnetica (2004/108/CE)
Direttiva Bassa Tensione (2006/95/CE)
Direttiva Apparecchi a Gas (2009/142/CE)
Direttiva Rendimenti (92/42 CE)

UK - DECLARATION OF CONFORMITY

Electromagnetic Compatibility Directive (2004/108/CE)
Low Voltage Directive (2006/95/CE)
Gas Appliances Directive (2009/142/CE)
Efficiency Directive (92/42 CE)

FR - DECLARATION DE CONFORMITE'

Directive Compatibilité Électromagnétique (2004/108/CE)
Directive Basse Tension (2006/95/CE)
Directive Appareils a Gaz (2009/142/CE)
Directive Rendement (92/42 CE)

RU - ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Директиве по электромагнитной совместимости (2004/108/CE)
Директиве по низкому напряжению (2006/95/CE)
Директиве по газу (2009/142/CE)
Эффективность Директивы(92/42 CE)

ES - DECLARACIÓN DE CONFORMIDAD

Directiva Compatibilidad Electromagnética (2004/108/CE)
Directiva Baja Tensión (2006/95/CE)
Directiva Gas (2009/142/CE)
Directiva Rendimiento (92/42 CE)

IT

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RU

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SI

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EL

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