

**INSTALLATION, USER
AND SERVICING INSTRUCTIONS
for**

**EURA
Condensing**



WALL HUNG COMBINATION BOILER

IMPORTANT





THE FIRST IGNITION OF THE BOILER MUST BE EXECUTED BY AN AUTHORIZED TECHNICIAN ACCORDING TO THE LAW 46/90.

Assigning all the operations for the first ignition to a Hermann Authorized Service Center the particular and exclusive Hermann Conventional Warranty is activated. For further information consult the coupon which you can find in the boiler's documents envelope.

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MANUFACTURER DECLARATION

Hermann boilers have obtained the CE certification (DM dtd. April 2nd 1998, Law 10/91, art. 32) and meet minimum efficiency requirements, both at normal and 30% load, provided by DPR 412/93 (according to Law 10/91, art. 4, sub-section 4). They are in conformity with following Directives: Directive on appliances burning gaseous fuels (90/396), Directive on electro-magnetic compatibility (CE 89/336), Efficiency Directive (CE 92/42), Low Voltage Directive (CE 73/23), and relevant modifications.

-  **DANGER: All warnings preceded by this symbol MUST be carefully respected so as to avoid any accident of mechanical (e.g. wounds or contusions) or general origin.**
-  **DANGER: All warnings preceded by this symbol MUST be carefully respected so as to avoid any accident of ELECTRICAL origin (fulguration).**
-  **DANGER: All warnings preceded by this symbol MUST be carefully respected so as to avoid any accident of THERMIC origin (scalds).**
-  **Attention: All warnings preceded by this symbol MUST be carefully respected so as to avoid any disfunctioning and/or damage to the appliance or other objects.**

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sections for the user

sections for the technician

WARNING

The instructions manual is an essential and complementary part of the product and it is supplied together with the boiler.



Carefully read the manual, achieving all important information for a safe installation, use and servicing.

- Carefully keep the manual for any further consultation you may need.
- The installation must be carried out by a qualified technician, in accordance with manufacturer instructions and with the relevant requirements of the current issue.
- A qualified technician is a person with a specific technical competence in the field of the heating appliances for domestic use and domestic hot water production, as indicated by the Law *[ID of Your National rule, if any, regarding Technicians competence]*.
- Operation that User can perform are limited to those described in “USER INSTRUCTIONS” section.
- The manufacturer has no contractual and extra-contractual responsibility for any damage arising from wrong installation, wrong use and non-observance of current laws and instructions given by the manufacturer himself.
- *Important: this gas boiler is used to heat the water at a temperature lower than the boiling one, at atmospheric pressure; it must be connected to an heating system and/or to a domestic hot water system, in accordance with its features and power.*
- Packing items (cartons, nails, plastic bags and so on) must not be left within children easy reach, as they are potentially dangerous.
- Before any cleaning or servicing operation, switch off the main electrical switch of the heating system and/or any other suitable switch providing electrical disconnection of the gas boiler.
- In case of fault and/or bad operation of the appliance, disconnect it immediately and do not try to repair it by yourselves.
- Do not obstruct either momentarily or partially inlet/outlet terminals;
- Do not leave inflammable materials, neither liquid or solid (i.e. paper, rags, plastic, polystyrene) next to the boiler.
- Do not put any object on the boiler.

Boiler servicing and repair must be carried out exclusively by *[HERMANN Authorized Servicing Centres] [qualified technicians]*, which will use original spare parts. Strictly observe the above requirement, avoiding any risk of compromising the appliance safety.

- If the appliance should be definitively disconnected, remove or cut off any potential dangerous item.
- When selling the appliance or leaving it installed after a removal, make always sure that the instructions manual is close to the boiler for the future use of new owners and/or installers.
- This appliance must be used for its clearly recommended utilization only. Any other utilization must be considered dangerous and incorrect.
- It is strictly forbidden to use the appliance for different purposes than the specified ones.
- This appliance must be installed exclusively to wall.

The condensing boiler

We would like to introduce, directly to the end user but giving useful directions also to the Technician, the main features on the boilers which use the **CONDENSING** innovative technology: your **HERMANN EURA Condensing**. In this booklet you will find also the instruction for the installation, the conduction and the maintenance of the parts, which are strictly connected with the condens.

The combustion, which is the chemical reaction between the combustible (i.e. natural gas) and a burning (air), which produces heat and creates carbon dioxide (CO₂), water (water- steam) and traces of carbon monoxide (CO), azote oxide (NO_x) and incombustible.

As we know, to transform 1 Kg of water in vapour it is required about 0,7 KWh, keeping into consideration that 1 m³ of natural gas produces about 1,6 Kg of water, and it is clear that you lose 1,12 KWh only to transform water in vapour without having the need.

The condensing boiler, despite the traditional boilers, make it possible to regain a part of this energy condensing the water steam contained in the flues. So the regained energy will be as bigger as the returned temperature from the heating system is lower, and it is for this reason that the condensing boiler is perfect if it is combined with heating systems with radiant panels.

Therefore the technology of the condensing boilers, despite the traditional boilers, is now the winner answer to the problematic of the **environment respect and energy saving** connected to the domestic heating, because they are able to use the combustion gas with efficiencies much higher (that is, with a parity of produced heat, **they have a lower gas consumption**) and their outlet flues contain (always with a parity of produced heat) **a lower quantity of toxicant substances** for the environment.

The condensing boilers are suitable to be applied in the main cases with few system differences in respect of the traditional boilers.

THE ADVANTAGES FOR THE ENVIRONMENT

Despite of the traditional boilers, **the condensing boilers are able to regain and to use a part of the outlet heat**, as you can see on the facilitated scheme.

The outlet flues which are normally expelled at high temperature in the environment, in the condensing boilers **are used in order to preheat** before the water which enters the boiler, obviously without getting in touch with it. It follows that you need less gas to have the desired heating temperature and that the flues will be colder because they have given a part of their heat to the water. This will lead to the limitation of the pollution, which together with the “glass effect” is responsible of the climatic changes which threaten the world.

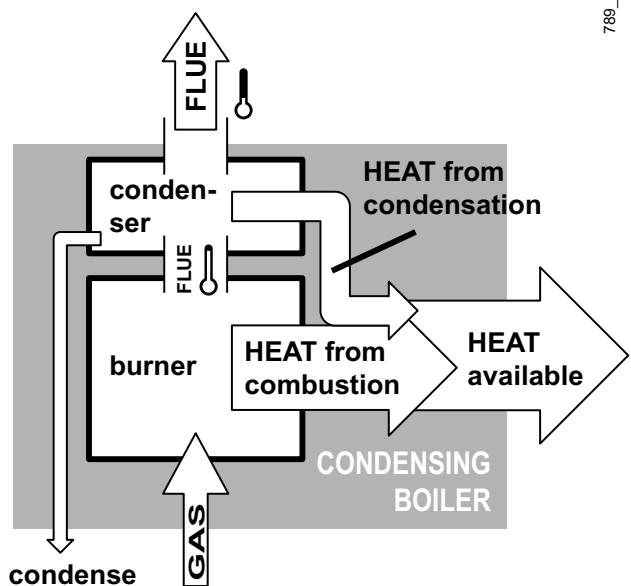
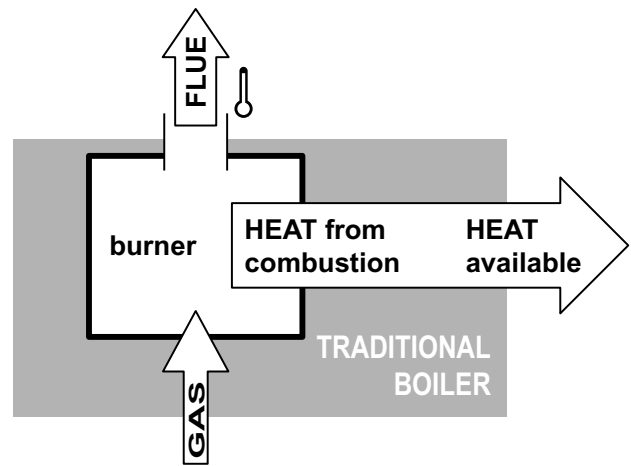
THE OUTLET CONDENSE

There are laws and rules (such us the UNI 11071 for Italy) which establish the correct solutions to realise a simple expelling system. We leave to the professionalism of the installers the details in order to project a system which completely correspond to the rules and to the National and Local Rules.

To install a condensing boiler it is necessary to include an outlet duct for the condense, acids resistant for the all length (in a suitable plastic material, Ø internal 13 mm minimum).

The connection point between the outlet condense of the boiler and the condense duct has to be inspected, so an ideal solution is to connect it to a funnel to be used also for the safety valve. This duct must reach the expelling system of the domestic flowing backs (the sewage), with a minimum slope established by the laws and without the stagnation points, without reductions, which could limit the flow or tracts where the freezing is possible. However all the distance covered by the condense should be acids resistant.

The evacuation system of the condense must prevent combustion products leakage. Therefore, condensing boilers must feature a device which perform this function (usually a syphon trap which must be firstly filled with water). The EURA Condensing is equipped with a special device which works dry also, limiting almost completely this risk, although the seal is guaranteed only when it's filled with liquid.



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To be much more synthetic in realizing the system, **we have noticed that the condense** (acid condense), combined with the domestic flowing backs (basic liquids) **tends to neutralize the pH of the domestic evacuations**, giving them a “better” impact on the environment or in any case provoking a negligible effect because of the dilution. **The normal domestic outlet is sufficient to optimise this equilibrium without any chemical treatments are required** (the detergent waters , which are wasted washing the dishes after a bath/shower etc.)

Only if the boiler is used **where the production of flowing backs (basic liquids) is not sufficient** (i.e. office rooms with less then 10 persons), **an installation of a condense neutralisator** is required (that is a device which neutralize the pH of the condensates, raising it up). These devices need periodical maintenance to be executed following their producer’s instructions.

THE FLUE OUTLET

Also the flue outlet of the condensing boilers, is ruled by dedicated laws (i.e. the UNI 11071). Since the acid condense tends to form itself also inside the flue components, these should be suitable to reach the purpose. **It is mandatory and necessary to use original flue components, especially designed for EURA Condensing and properly signed, to realize the outlet duct, because they are integral part of the same component. See “Chimney connections” for further details about it.**

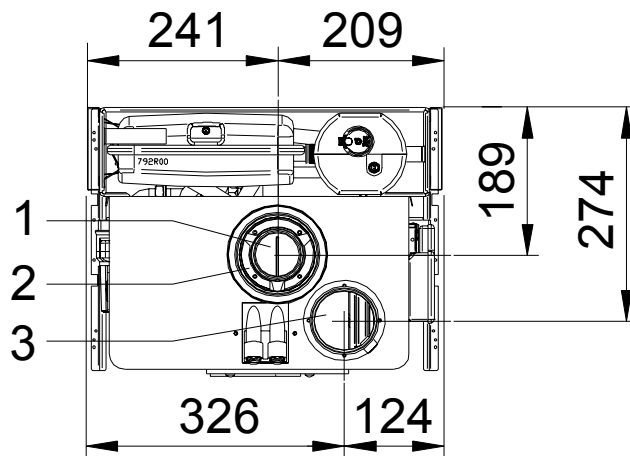
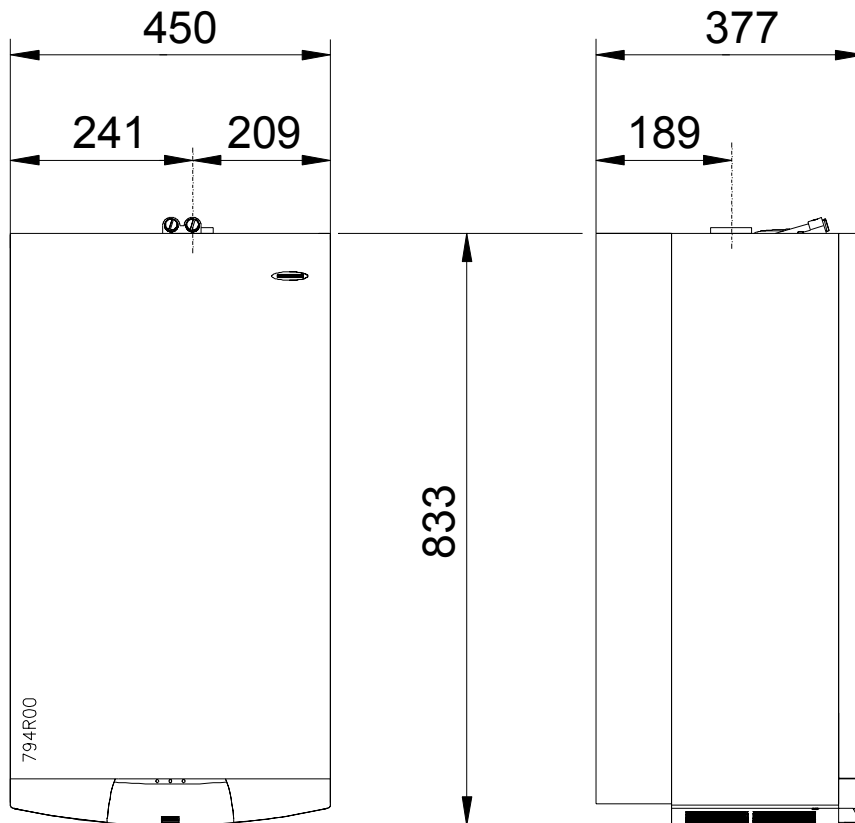
Without being much more detailed, **the outlet duct must have an upwards slope** (relatively to the direction of the flues) so as to take the condense towards the boiler (despite of the traditional sealed combustion chamber boilers and forced draught boilers, the condensing boiler is projected to work in “wet” conditions) and however must not have stagnation points and traces where it can freeze. In case where the condense stagnation is unavoidable, this must be drained by the proper mechanism to be connected to the expelling condense system produced by the boiler and which prevents the flues passage. Like the normal sealed combustion chamber boilers, **it is always mandatory to use the upwards slope for the horizontal tracts of the aspiration duct, in case of separated outlets** (concerning the direction of the inlet air flow), so as to avoid water raining inlet in the combustion chamber of the boiler.

TECHNICAL DATA

TECHNICAL DATA	U.M.	EURA Condensing
CE certification	n°	0694BO3712
Class		l2H
Type		C13 C33 C43 C53 C63 C83
Gas type		G20
Max heat input (Hi)	kW	26.0
Min heat input (Hi)	kW	7.5
Max heat output (Hi) 60°/80°C *	kW	25.0
Min heat output (Hi) 60°/80°C *	kW	7.2
Max heat output (Hi) 30°/50°C **	kW	27.6
Min heat output (Hi) 30°/50°C **	kW	7.7
NO _x Class		5
Weighted NO _x	mg/kWh	45.6
CO at nominal input	ppm	86.0
CO at reduced input	ppm	12.0
CO ₂ at nominal input	%	9.10
CO ₂ at reduced input	%	8.90
Condense quantity at Qn (at 30°/50°C **)	l/h	3.00
Condense quantity at Qr (at 30°/50°C **)	l/h	0.64
Condense acidity	pH	2.90
EFFICIENCY		
Nominal efficiency at 60°/80°C *	%	98.3
Efficiency at 30% load at 60°/80°C *	%	100.2
Nominal efficiency at 30°/50°C **	%	106.7
Efficiency at 30% load at 30°/50°C **	%	106.8
HEATING		
Temperature selection range in Main heating circuit (min+max) normal range / low temperature range	°C	30+80 / 20+45
Temperature selection range in Secondary heating circuit (min+max)	°C	20+80
Expansion vessel	l	8
Expansion vessel pressure	bar	1
Max working pressure	bar	3
Max system temperature	°C	85
Antifreeze function on / off temperature	°C	5 / 30
HOT WATER		
Flow rate at 30°C temperature rise	l/min	12.0
Min water flow	l/min	2.6
Max supply pressure	bar	6
Min supply pressure (for the activation of the priority switch)	bar	0.4
Temperature selection range (min+max)	°C	30+55
Minitank capacity (heating/hot water)	l	3.2/0.9
Antifreeze function on / off temperature	°C	5 / 50
ELECTRICAL DATA		
Voltage / frequency	V / Hz	230/50
Power consumption	W	195
Level of protection		IP X4D
DIMENSIONS		
Width - Height - Depth	mm	Refer to "DIMENSIONS" diagram
Weight of boiler without water (weight of package)	kg	50 (4)
CONNECTIONS (S=Outlet)		
Heating flow / return	Inc	¾"
Domestic Water inlet / outlet	Inc	½"
Gas connection to the boiler	Inc	¾"
Gas connection to the gas cock of standard connection kit	Inc	½"
Coaxial flue products outlet / air inlet Ø	mm	100/60
Coaxial flue length (horizontal) min+max	m	1+10
Coaxial flue length (vertical) min+max	m	1+11
Separate flue products outlet / air inlet Ø	mm	60
Separate Ø60mm flue length (horizontal) min+max	m	2+18 (max S=9)
Separate Ø60mm flue length (vertical) min+max	m	2+20 (max S=10)
GAS SUPPLY PRESSURE		
Gas type		G20
Nominal pressure	mbar	20
Injector diameter	mm	5.9
GAS CONSUMPTION		
Qmax	mc/h	2.75
Qmin	mc/h	0.79

* = with a temperature of the reflowing water that DOES NOT allow condensing;
 ** = with a temperature of the reflowing water that allows condensing

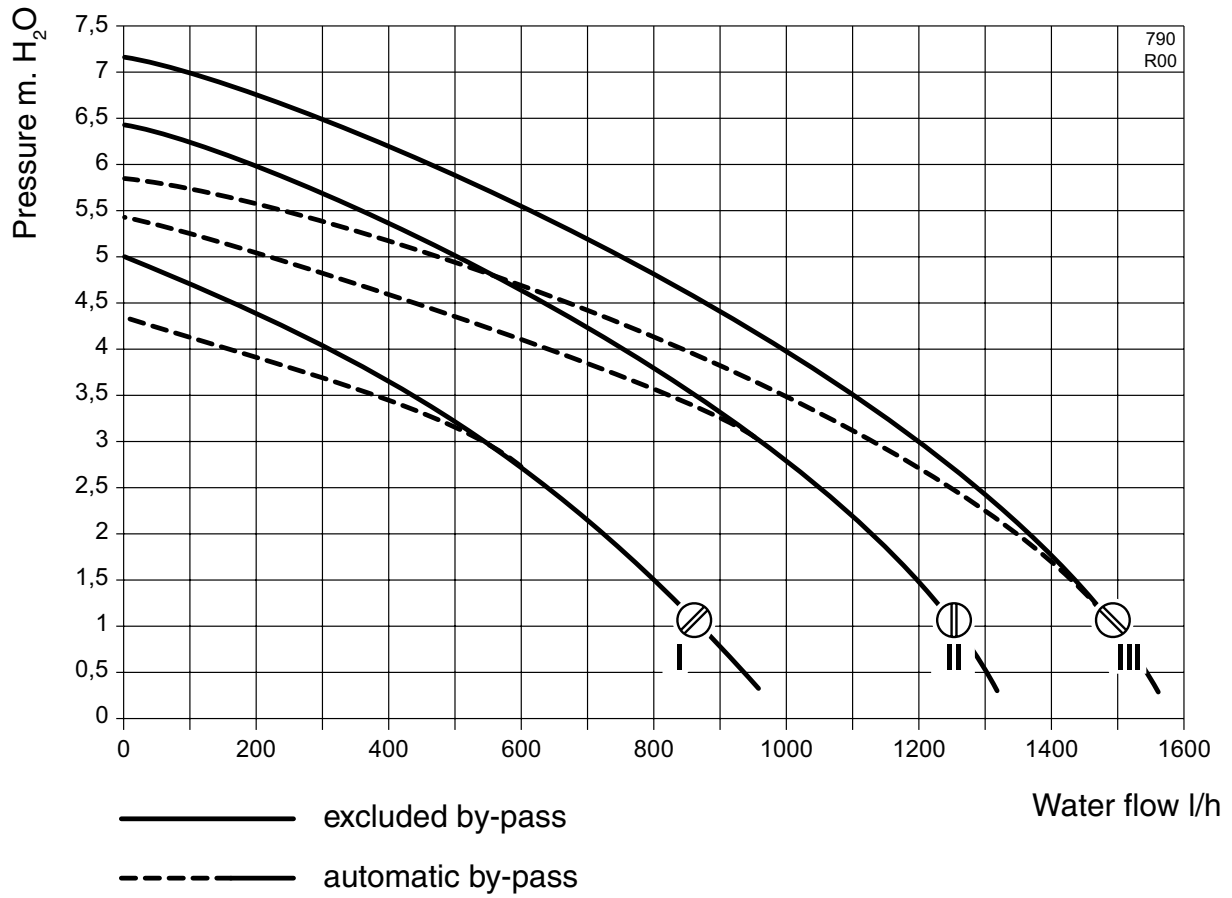
DIMENSIONS



1	Flue products outlet
2	Air inlet for coaxial system
3	Air inlet for separate system

for the technician

**AVAILABLE PUMP CAPACITY
 EURA CONDENSING**
 pump speed selector on position I, II and III (automatic by-pass)

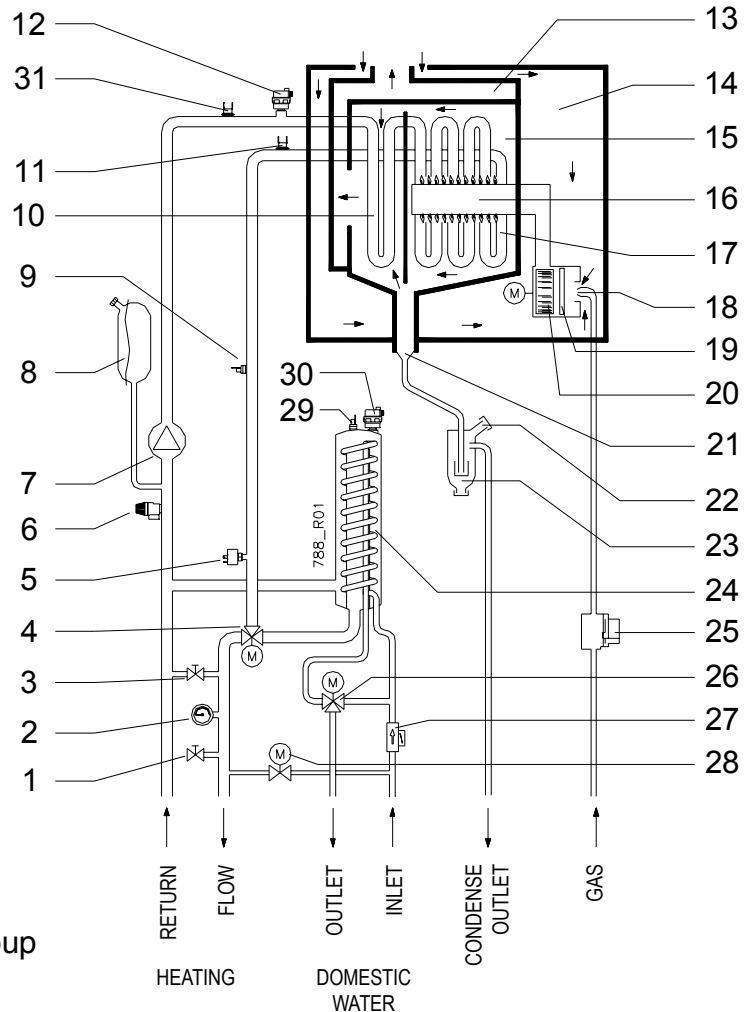


for the technician

BOILER SCHEMATIC

WARNING: This scheme is made for information only. To make boiler hydraulic connection either use fixing jig or the drawing inserted in the section "Installation".

- 1 Drain valve
- 2 Manometer
- 3 By-pass
- 4 Three way motorised valve
- 5 Loss of water switch
- 6 Heating system safety valve 3 bar
- 7 Pump
- 8 Expansion vessel
- 9 Flow temperature sensor
- 10 Primary exchanger (condensing sector)
- 11 High temperature safety switch
- 12 Automatic air vent
- 13 Flue conveyor
- 14 Sealed combustion chamber
- 15 Combustion chamber
- 16 Burner
- 17 Primary exchanger (combustion chamber)
- 18 Gas injector
- 19 Gas/air melting system
- 20 Ventilator
- 21 Outlet condense of the condensing group
- 22 Seal outlet too full
- 23 Condense syphon with safety float
- 24 Domestic heat exchanger
- 25 Gas valve
- 26 Motorised mixing valve
- 27 Priority flowstat
- 28 Electric filling valve
- 29 Domestic minitank temperature sensor
- 30 Domestic minitank automatic air vent
- 31 Safety thermostat on system return (manual reset)



for the technician

INSTALLATION

Safety laws and rules referred to technicians assigned to boilers installation

Place here all necessary advices according to national rules about WORK SAFETY

Exemple:

Law number XXXX

“Actuation of 89/391/CEE; 89/655/CEE, 90/296/CEE, 90/934/CEE, 90/679/CEE, (work safety)”

Law number XXXX

“Actuation of 89/686/CEE (21 Dec 1989)”

Other Law number XXXX (if any)

“Other Law title and/or brief description”

Directives

“Directive title and/or brief description”



Always proceed with caution when handling the boiler and carrying out installation/maintenance work as metal parts may cause injuries such as cuts and abrasions. Wear gloves while doing the above mentioned operations.

Reference norms and laws for installation

Place here all necessary advices according to national rules about BOILER INSTALLATION

Exemple:

Rule UNI 11071

“Domestic gas plants for condensing devices and similars”.

Rule UNI EN 677 – Boilers with centralized heating system provided with gaseous flues

“Specific requirements for condensing boilers with thermic rate not bigger than 70 KW”.

Law number XXXX

“Law title and/or brief description”

Boiler location

INSTALLATION ROOM

When having an heat output lower than 35 kw (about 30000 Kcal/h), particular features for the installation room are not required. Shortly, all installation rules assuring a safe and regular gas boiler operation, must be strictly respected.

**Place here all necessary
advices according to national rules about:**

- Installation room requirements**
- Limitations in power and/or number of boilers and other appliances in the same room**

Exemple:

Law number XXXX

“Law title and/or brief description”

INSTALLATION IN ROOMS WHERE TEMPERATURE CAN DROP DOWN TO 0°C:

The gas boiler is homologated for indoor installation, and it must be completely protected against atmospheric agents with a suitable cover.

In case of boiler installation in rooms where temperature can drop down to 0°, it is advisable to protect the heating circuit with an antifreeze liquid. See the “System Filling” section.

ROOM VENTILATION (**EURA E** - natural draught)



When a natural draught boiler is installed, permanent ventilation of the installation room is mandatory and extremely important. Ventilation must be made and sized in accordance with Laws and Rules in force.

The syphon outlet too full

Before installing the boiler, you must evaluate the opportunity to use the too full outlet of the seal. This safety outlet (particular 26 in the picture “Boiler internal components”) saves the burner in the rare case where the condense is not able to flow down correctly from the seal. This outlet is built closed by the producers. If you desire to use it, take off the tap, connect a treat of flexible duct suitable for the condense and insert it, avoiding foldings and throating, in a suitable outlet, for example the funnel of the condense outlet or of the safety valve.

In alternative, although it is not advisable, you can simply take off the tap and leave free the too full outlet. The burner won't be damaged if accidentally the seal is blocked, but the condense will be flowed in the environment. Keep in mind that the condense acidity could damage the surface with which it gets in touch.

for the technician

Fixing the boiler

For the installation proceed as follows:

Appliance size and clearances for maintenance: 50mm from both sides and 300mm from the bottom are recommended.

- Attach template to the wall (see figure below) with two brackets suitable to carry boiler weight;
- fix up electrical connections and all ducts for heating flow and return, cold water, hot water and gas, as indicated on template;
- remove template and hang boiler;

Remark: The template is only used as a guide to align the pipework.

- **remove plastic caps and their relevant gaskets** from boiler connections. Remove bottom plastic supports by unscrewing their relevant screws. Keep these screws since you will need them to install bottom grid;

Remark: We suggest not to fix grid until the boiler is definitively commissioned.

- Connect boiler to the pipework installing a cold water inlet cock. We also suggest to install cocks on heating flow and return.

Boiler template



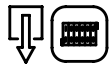
Gas (3/4" on the boiler, 1/2" facing the wall with the gas cock supplied with the standard kit)



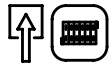
Hot water OUTLET (1/2")



Cold water INLET (1/2")



Heating RETURN (3/4")



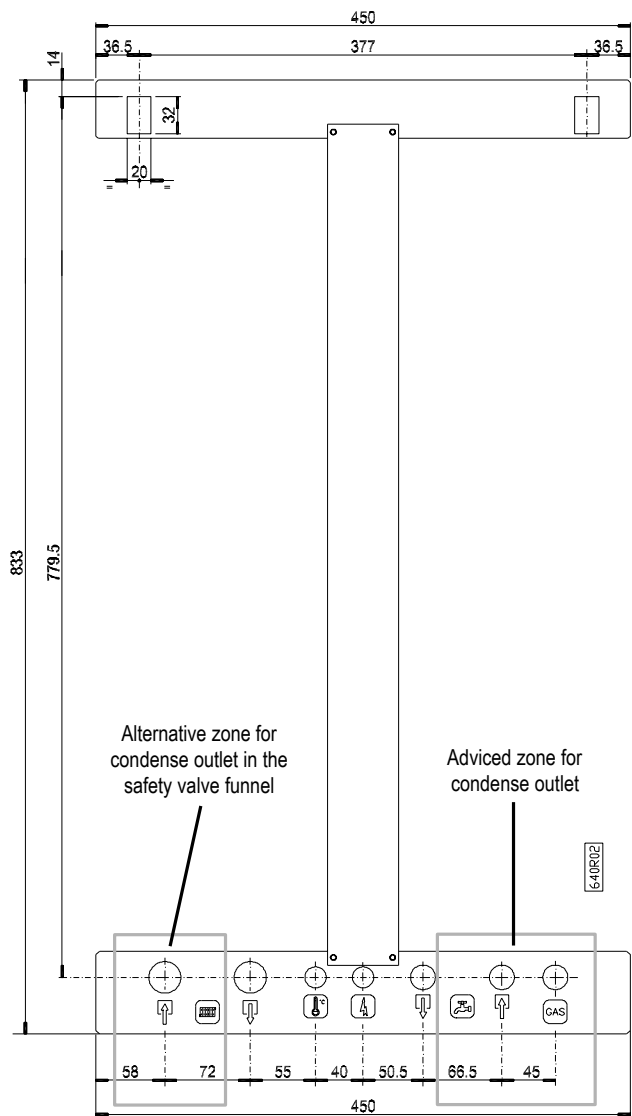
Heating FLOW (3/4")



Electrical power supply



Room thermostat(s)



Hydraulic connections

Remark: If gas cock position is foreseen near the WALL, install first gas cock, then water inlet tap.

Advices and suggestions to avoid vibrations and noises in the system

- Do not use pipes with reduced diameters;
- Do not use bends with small radius and reductions of important sections;
- ***It is recommended an hot washing of the system*** in order to purge the pipes and the radiators from impurities (in particular oils and fats) that ***could damage the pump.***

DOMESTIC WATER SUPPLY

The pressure of entrance cold water inlet pressure must be lower than 6 bar. Furthermore, for an optimal boiler functioning, water pressure should be more than 1 bar. A lower pressure could make difficult to restore correctly the pressure in the heating system, and reduce the flow of hot water available from the boiler.

i If pressure is higher, a PRESSURE REDUCER must be fitted upstream the boiler.

The cleaning frequency of the coil exchanger depends on the water supply hardness. Besides, the presence of solid residuals or impurities in the water (for example in case of new systems) could compromise the correct functioning of the boiler.

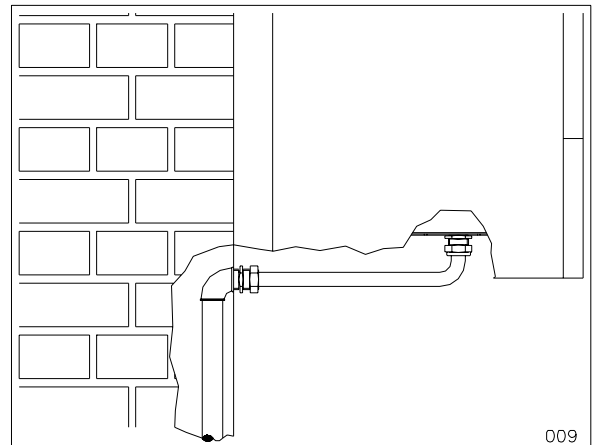
So, may be necessary to install suitable water treatment device, depending on the water features.

HEATING SYSTEM

- Considering that during boiler operation, the water inside the heating system increases its pressure, make sure that its maximum value does not exceed the maximum hydraulic pressure indicated on the appliance data plate.
- Connect the safety evacuation ducts of the boiler to an evacuation funnel. If safety valves are not connected to an evacuation device, their intervention could flood the room. Hermann cannot be held responsible for any damage arising from that situation.

⚡ **Make sure that the hydraulic and heating systems ducts are not used as earth connections of the electrical system. They are absolutely NOT SUITABLE for such a use.**

CONNECTION EXEMPLE



CONDENSE OUTLET

Insert the flexible pipe of condense outlet inside the outlet funnel (or other fitting inspectable mechanism) properly adapted as foreseen by **UNI EN 677**, or in the outlet funnel of the safety valve, in case of the above mentioned outlet is able to receive the acid liquids of the condense as foreseen by **UNI EN 677 and/or UNI 11071**.

The system must be realized in order to avoid the condense freezing. Before the activation of the appliance be sure that the condense can be evacuated correctly.

System filling

Once the boiler is hydraulically connected, it is possible to fill the system.

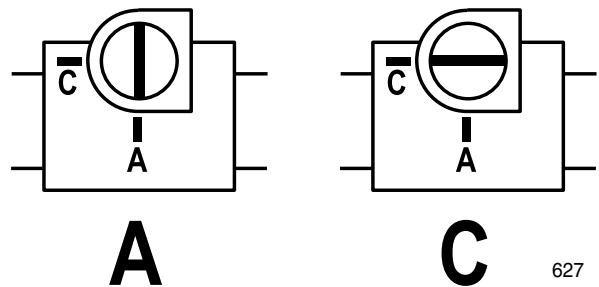
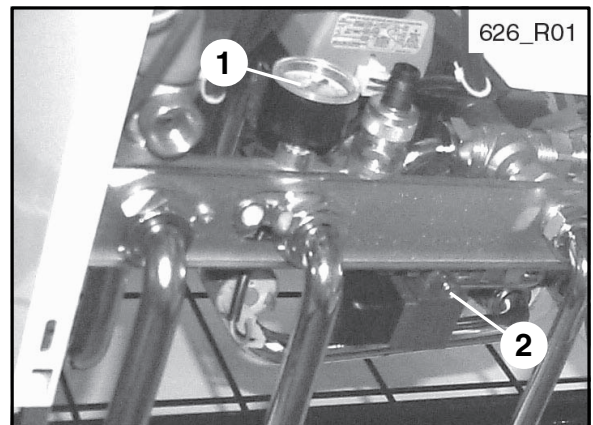
i Warning: if boiler is installed in a room where temperature can drop below 0°C, it is recommended to fill the heating system with an anti freezing mixture.

While filling, please follow carefully the following phases:

- Open air vent in radiators;
- open filling tap;
- slowly unscrew screw [2] located in water filling electro-valve, from position “C” to position “A” (see picture), taking care of all air vent installed in the system;
- as soon as water flows out of air vent radiators, close air vents;
- check on the manometer [1] that pressure reaches the optimal value of 1 ÷ 1.5 bar (minimum: 0.5 bar), then reset screw [2] in position “C” (closed);
- repeat previous operations until all air in the system has been blown out.

Note: Boiler is equipped with a special automatic filling device, which automatically fills boiler to reset its pressure provided that boiler is electrically fed.

BOILER BOTTOM VIEW



Gas connection

Remark: If gas cock position is foreseen near the WALL, install first gas cock, then water inlet tap.

Boiler installation must be carried out from a qualified technician, [example: as indicated by the Law XXXXX] because an incorrect installation can cause damages to people, animals or things, for which the manufacturer cannot be held responsible.

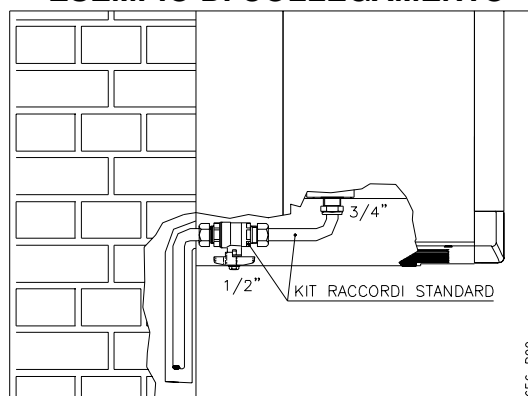
Verify what follows:

- cleaning of all system gas pipes in order to avoid the presence of residual combustion products that could compromise the correct boiler functioning;
- gas line and ramp conformity with laws and rules actually in force (example: Laws UNI-CIG 7129/01, 7131/99 - DM 12/04/96);
- internal and external tightness of the gas system and connections;
- supply pipe must have a section greater than or equal to the boiler one;
- an interception valve must be installed upstream the appliance;

Open the meter valve and purge the air that is inside the system pipes (including all the appliances).

! While connecting gas inlet pipe of the boiler to the pipe coming from gas network, it is **MANDATORY** to insert a **TIGHT GASKET**, whose dimensions and material must be adequate. Connection is **NOT** suitable for hemp, teflon strip or similar materials.

ESEMPIO DI COLLEGAMENTO



Electrical connections

GENERAL WARNINGS

The cable for electrical supply must be connected to an electrical line of 230V-50Hz, respecting the polarities L-N (Live-Neutral) and the earth connection.

! PLACE UPSTREAM THE BOILER A BIPOLAR SWITCH in accordance with the rules actually in force.

For the general electrical supply of the appliance, the use of adaptors, multiple taps and extensions is not allowed.

It is mandatory the earth connection in accordance with the CEI rules actually in force.

for the technician



Electrical safety of the appliance is only achieved when it is well connected to an efficient earthing system, executed as indicated by the safety rules actually in force.

A qualified technician must check that the electrical system is in line with the maximum power allowed by the boiler, indicated on the data plate, with particular attention to the cables section.

Remark: HERMANN Ltd. declines any responsibility for damages to persons, animals or things caused by the non-connection of the boiler earthing and by failure to comply with the rules.

ELECTRICAL CONNECTIONS TO THE BOILER

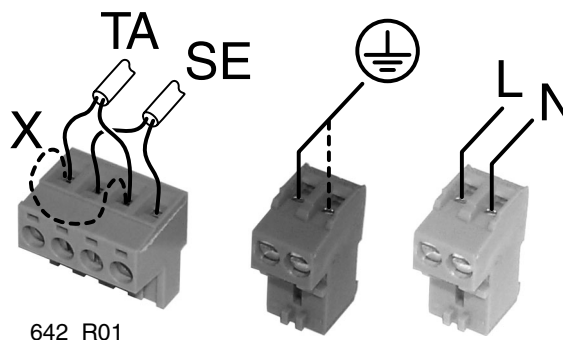
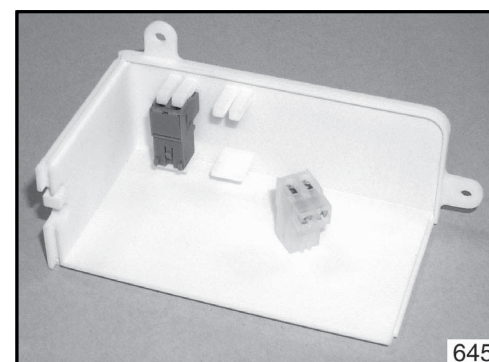
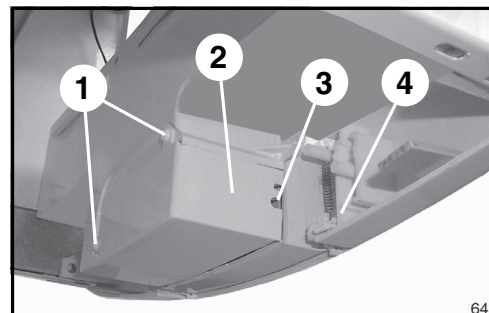
- Unscrew the two screws [1] and remove cover [2];
- extract yellow and white connectors;
- make electric connections as shown in the picture situated on the other side of the cover:

- connect earth wire to yellow connector;
- connect NEUTRAL cable (N) and PHASE (L) to WHITE connector, precisely as shown in the picture;



If PHASE and NEUTRAL wires are reversed, the boiler will not work.

- when a Room Thermostat or commercial Chrono Thermostat (TA, principal) and/or Outdoor Temperature Probe (SE) are foreseen, unplug GREEN connector from PCB and make connections as shown in the picture. If TA is installed, disconnect jumper [X].
- If you foreseen to install a room thermostat (or a commercial cronothermostat) SECONDARY (TA2) and/or the safety thermostat for low temperature floor heating system (TP) connect them to the connector M19 directly on the modulation board (see the “Electrical Schedule”). The connector M19 is located between the green connector TA-SE (M10) a the connector of the electrical supply L-N (M11).



In the paragraph “System with secondary zone” you will find an example of installation with zone at high and low temperature, using the optional kit Hermann.

- i** TA, TA2, SE and TP terminals work at **safety extra low voltage (SELV)**: only connect NON POWERED wires coming from simple contact of Thermostat / Chrono Thermostat, and/or Outdoor Temperature Probe. **DO NOT connect live wires, for any reason.**
 - i** Original Hermann remote control (optional kit) must NOT be connected to green connector. Special interface card, supplied in the remote control kit, must be used.
 - i** All low-voltage wirings (e.g. TA, SE and original Hermann remote control) must be kept separate from power supply cables, as to avoid boiler malfunctionings due to electrical noise. It is advisable to use separate tubes for them.
- all the relevant connections must be inserted in modulation PCB, FOLLOWING THE CORRECT COLOURS. They have been provided with special plugs for correctly connect them.
 - close cover inserting cables in the provided holes [3] and screw the screws [1];
 - block cables with the special device [4].

Connections to the chimney

EURA Condensing

MAIN INDICATIONS TO INSTALL INLET AND OUTLET DUCTS

To grant the functionality and efficiency of the appliance it is indispensable to realize inlet and outlet ducts using original flue accessories, specific for condensing boilers, and duly signed.

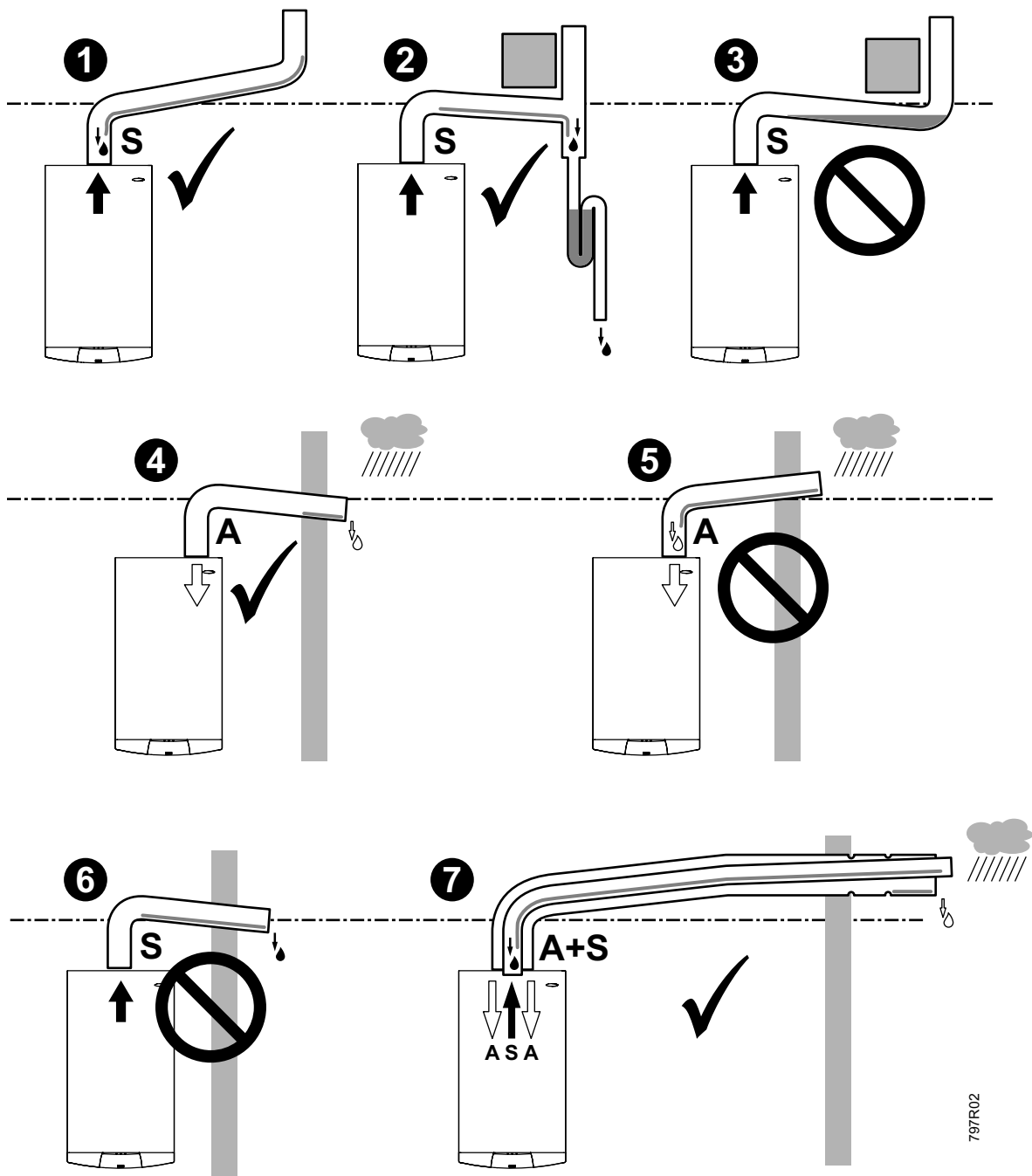
- i** **WARNING:** the specific flue accessories components for condensing boilers, especially the parts which are in touch with the flues inlet, are so projected because they are made with **plastic materials acids resistant**, but because of their nature, **they are not suitable to resist to the higher temperature** of the flues of the traditional boilers. **So it is not possible to use traditional flue components for the outlet ducts of the condensing boilers, neither vice versa.**

If it is possible, we recommend to foreseen (referring to the direction of the air/flue) an upwards slope for all the inlet and outlet ducts, in order to:

- **PREVENT** the water or dust or other objects entrance inside the INLET duct. In case of coaxial ducts, use the special horizontal terminal, which is especially built to respect these slopes only for the first tract of the inlet duct;
- **TO FACILITATE**, in the OUTLET duct, the flowing back of the condense towards the combustion chamber, which is built to work in these conditions and to discharge the condense. If so it is not possible, or if there are some points where the condense stagnates inside the outlet duct and if it is not possible to avoid this through a modification of the slope of the ducts, these points must be drained using the specific kit of condense collector (consult the commercial catalogues of the original accessories), and ducting the condense formed towards the outlet duct **as indicated in the UNI 11071.**

We give you some correct and wrong examples of installation of inlet and outlet duct (the slope are voluntarily represented in an exaggerated way).

A = Inlet; **S** = Outlet. **1**: the most functional and economic solution is to let the condense come back towards the boiler. **2-3**: if an obstacle prevents to install the ducts upwards, it is necessary to install condense collectors, so as to avoid stagnations. **4**: the slope upwards of the inlet ducts, for their all length or at least only for the external tract, is sufficient to prevent that the rain water reaches the combustion chamber. **5**: so the inlet must not be downwards. **6**: do not let the condense go out from the flue outlet terminal. **7**: the coaxial inlet/outlet duct must be installed so as the flues are upwards, and so the condense discharge itself towards the boiler. The terminal tract with inlet head and outside with an outlet out axis must be horizontal placed and it is equipped with ribs which prevents the water entrance in the external inlet duct. The internal outlet duct is upwards and canalises the condense in the correct direction.



797R02

Air inlet and flue outlet terminals should be protected by suitable approved flue accessories, to avoid environmental elements penetration.

Carefully follow the indications foreseen by the specific laws in force.

Place here all necessary advices according to national rules about CHIMNEY CONNECTIONS of CONDENSING boilers

The outlet duct is the assembly components necessary to connect the boiler to the point where the flues are discharged, and being an integral part of the appliance, **it must be original**. The outlet can be directly outdoor only in the case foreseen by the law in force and using at the end of the outlet duct a specific original terminal.

In case you foreseen to discharge the combustion products through a chimney (for single user) or common chimney (for multiple users) the part of the evacuation system (the chimney or the flue) which unblocks the outlet duct of the condensing boilers must be properly declared by its producer. In case of common chimney, keep in mind the laws in force regarding the typologies and rates of users.

In general situations the **evacuation systems** of the combustion products **must be properly declared from the producer of the same system** for wet functioning, **or must be supplied by the appliance's producer** (gas boiler).

If the chimney (or the flue) were not proper , it would be indispensable, to use it, to canalise it through specific ducts, so for example through the original flue accessories.

LOSS OF LOAD OF THE BEND

The minimum and maximum lengths indicated by the law for the inlet/outlet ducts refers to the configurations indicated in the following pictures. In case of necessity it is possible to add supplementary bends, keeping in mind that, referring to the total length:

- **any additional bend at 90°** (simple or coaxial Ø60mm) and each "T" condense collectors correspond to 1 linear meter of pipe.
- **any additional bend at 45°** (simple or coaxial Ø60mm) correspond to 1/2 linear meter of pipe.

for the technician

In case of evacuation to wall, the positions indicated in the following drawing and table must be respected:

Positioning of flue terminals for forced draught boilers, depending on their heat input

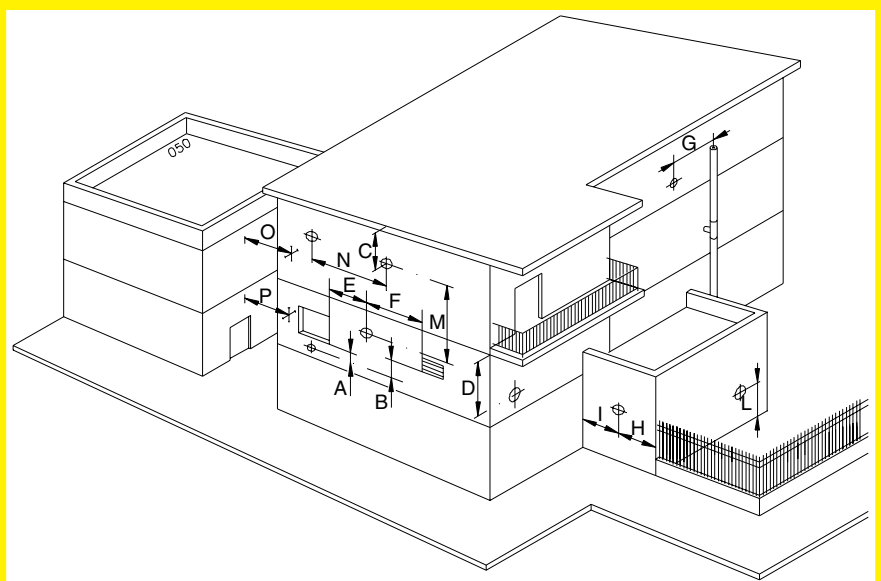
Terminal positioning	Distances	Appliances		
		from 4 kW * to 7 kW mm min.	from 7 kW to 16 kW mm min.	from 16 kW to 35 kW mm min.
Under a window	A	300	500	600
Under an air vent	B	300	500	600
Under a gutter	C	300	300	300
Under a balcony **	D	300	300	300
From an adjacent window	E	400	400	400
From an adjacent air vent	F	600	600	600
From vertical or horizontal evacuation pipes***	G	300	300	300
From a corner of the building	H	300	300	300
From a recess of the building	I	300	300	300
From the ground or from another floor	L	400 ♦	1500 ♦	2500
Between two terminals vertically	M	500	1000	1500
Between two terminals horizontally	N	500	800	1000
From a surface facing another surface, having no openings or terminals within a distance of 3 mts. from the evacuation hole	O	1500	1800	2000
As above, but with openings or terminals within a distance of 3 mts. from the evacuation hole	P	2500	2800	3000

* Appliances with an heat input lower than 4 Kw are not subjected to any limitation for the terminals positioning, except for the points O and P.

** The terminals under a practicable balcony must be positioned in such a way that the total flue run, from the terminal outlet to its own outlet from the external balcony perimeter, included the height of the eventual protection banisters, is no lower than 2000 mm.

*** In the terminal positioning, it will be necessary to keep distances not inferior to 500 mm. in case of close proximity to materials sensible to the combustion products action (e.g., plastic gutters and downpipes, wood projections and so on), unless adequate measures of protection have been adopted.

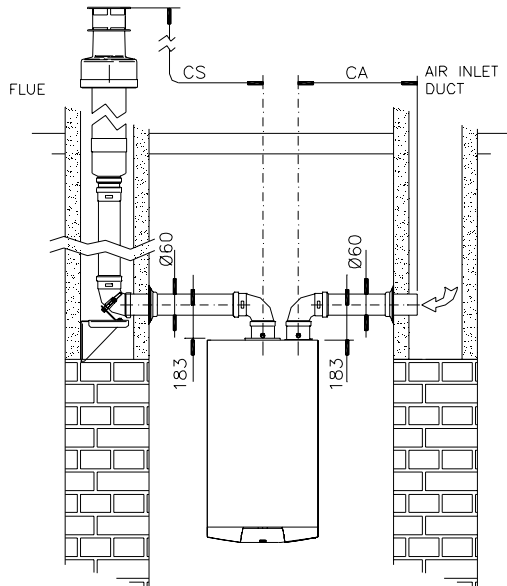
♦ The terminals must be designed in such a way that the combustion products flow is as much as possible ascensional and protected from the temperature effects.



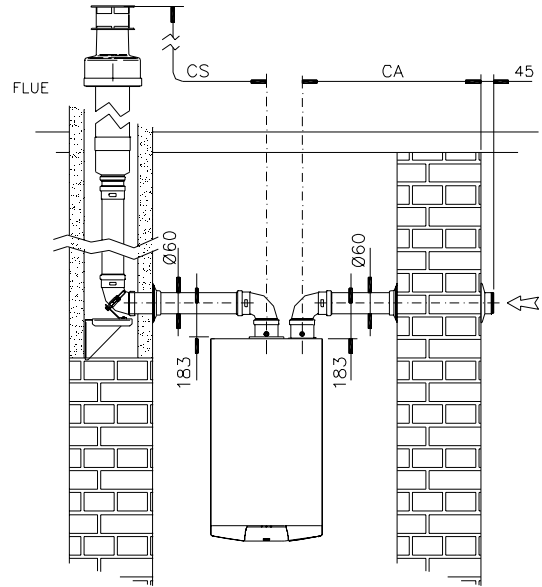
Flue options

EURA Condensing

AIR INLET AND PRODUCTS OUTLET THROUGH SEPARATE PIPES



AIR INLET THROUGH DUCT
PRODUCTS OUTLET THROUGH PIPED FLUE



AIR INLET THROUGH WALL
PRODUCTS OUTLET THROUGH PIPED FLUE

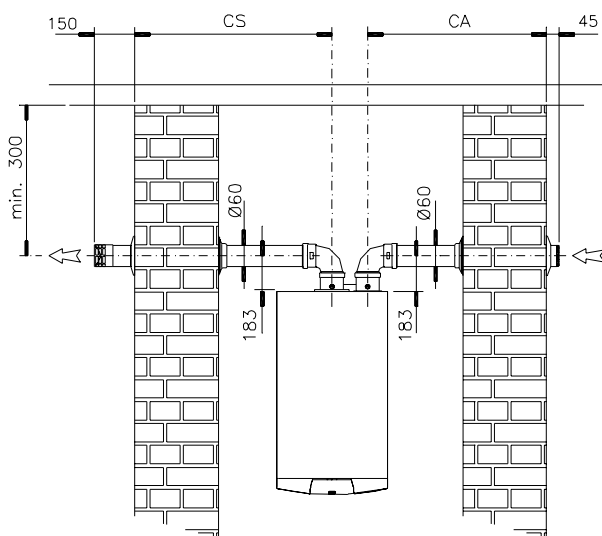
CA = Inlet duct; CS = Outlet duct

CA+CS = min. 2 m – max 18 m

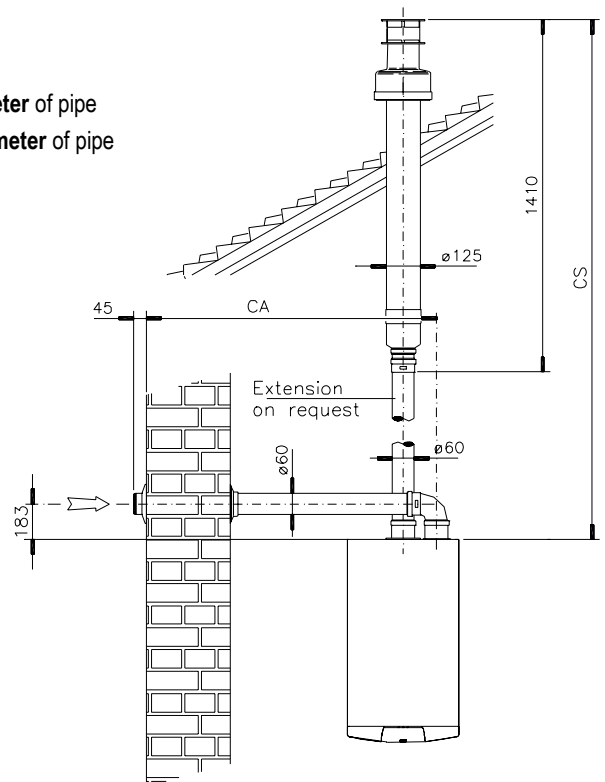
CS = max. 9 m

Each supplementary **bend at 90°** corresponds to **1 linear meter** of pipe

Each supplementary **bend at 45°** corresponds to **1/2 linear meter** of pipe



AIR INLET AND PRODUCT OUTLET THROUGH WALL

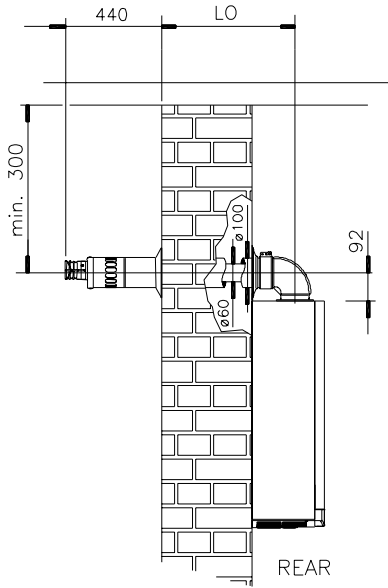


SEPARATE PIPES
VERTICAL OUTLET
(EXAMPLE OF AIR INLET ON THE LEFT)

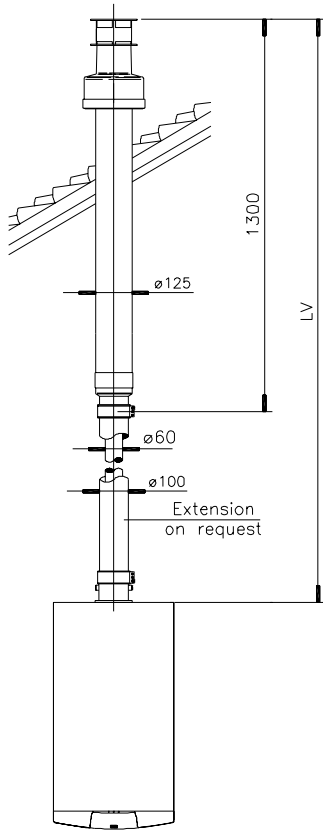
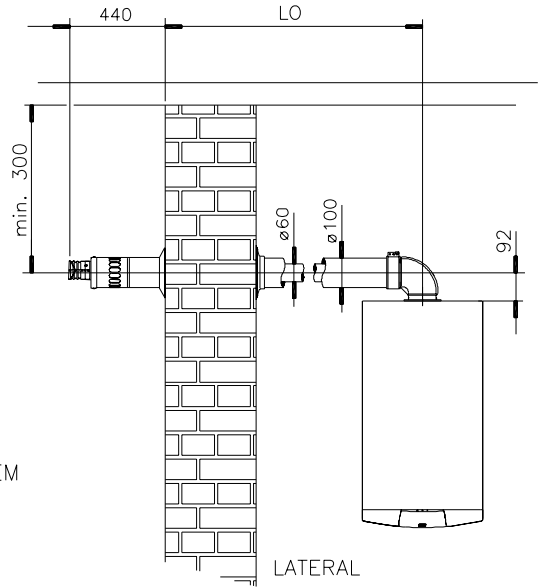
795ING_R00

for the technician

AIR INLET AND PRODUCTS OUTLET THROUGH COAXIAL SYSTEM



HORIZONTAL COAXIAL SYSTEM



VERTICAL COAXIAL SYSTEM

LO = Length of the duct (inlet + outlet) horizontal coaxial: min. 1 m – max 10 m

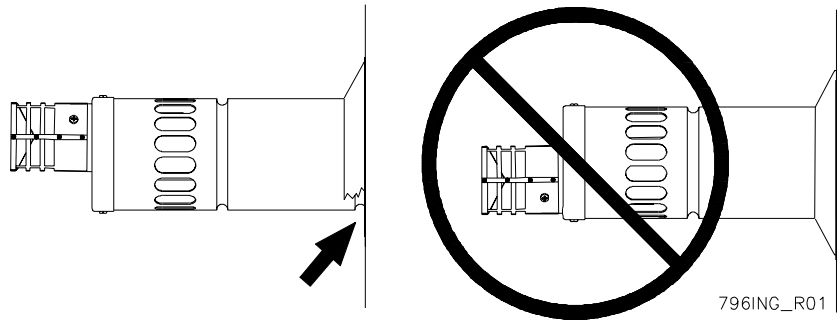
LV = Length of the duct (inlet + outlet) vertical coaxial: min. 1 m – max 11 m

Each supplementary **bend at 90°** corresponds to **1 linear meter** of pipe

Each supplementary **bend at 45°** corresponds to **1/2 linear meter** of pipe



Put the outlet coaxial horizontal terminal with the outlet head **UPWARDS**, and with the wall and the external sealing collar matching the **SECOND** groove, as indicated in the picture:



796ING_R01

System with secondary zone

Eura Condensing is pre-arranged for the management of two zone at high and low temperature, controlled by two thermostats or cronothermostats. The system solutions can be multiple, but here we present an example particularly suitable to the EURA Condensing features and which uses the specific optional kit for systems with two zone at high+low temperature.

The main objective is to allow the boiler functioning at a low temperature when possible, (condensing mode) obtaining the well-known efficiency given by the condensing.

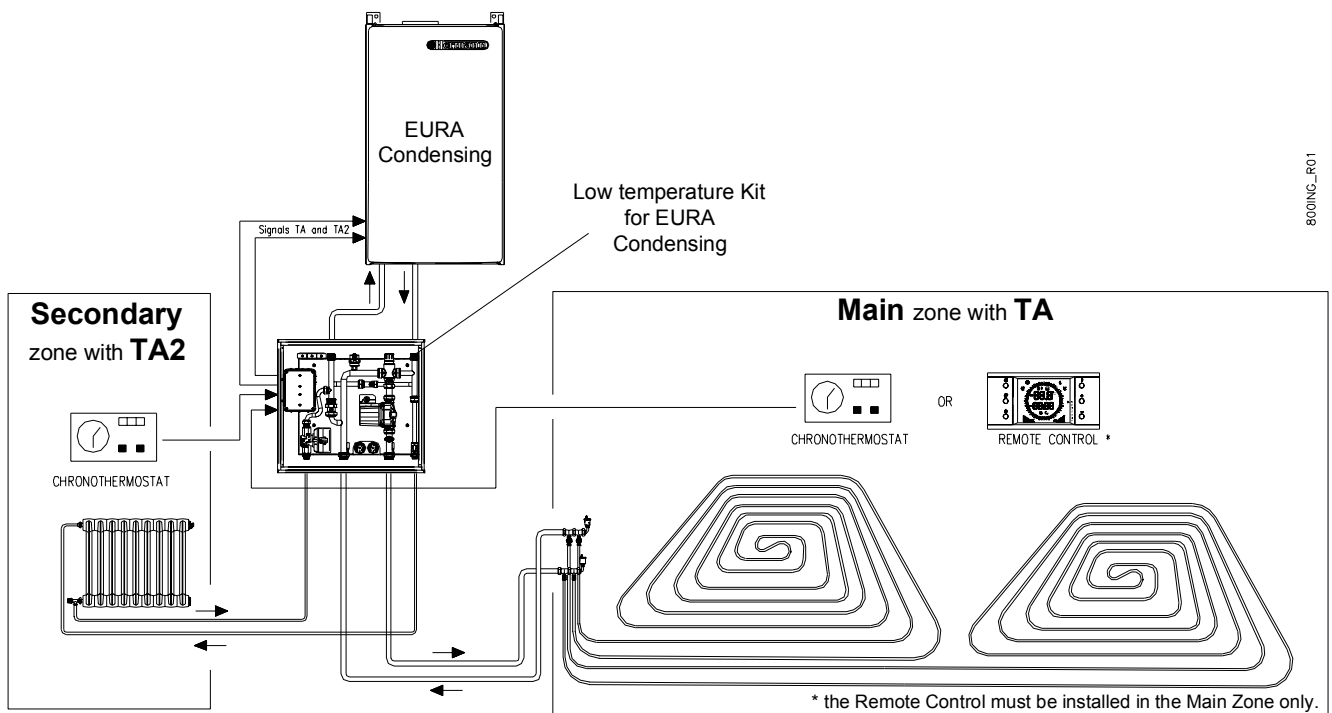
In this case, when the zone at high temperature does not require heat (room thermostat TA2 switched off) the boiler works at a low temperature and directly supplies the floor system controlled by the environment thermostat TA. When the zone at high temperature controlled by TA2 require heat, the boiler work at high temperature and the kit supplies the inlet to the radiators. If both the zones require heat, the kit provide the direct inlet to the radiators and to reduce the temperature for the floor system supplying.

Furthermore the kit provides to elaborate signals of the room thermostats to correctly lead the boilers. For further details concerning the connections, refer to the instructions which you will find in the same Kit.

Remark:

In case of optional remote control installation , this will always replace the room thermostat of the main zone and not the one of the secondary.

In despite of the illustrated example, the main zone (controlled by the TA or by the Remote Control) can be also at high temperature and the secondary zone (controlled by TA2) at low temperature.



800ING_R01

for the technician

FIRST FIRING, REGULATION AND SERVICING INSTRUCTIONS

⚠ **WARNING:** Hereby described operation can be performed by qualified technicians only.

⚠ When regulation/measuring is over, remember to tighten pressure tapping point screws and to verify the absent of gas leakages only from net pressure plug (PIN, see the picture of the gas valve) and from the connection upwards the gas valve.

i The gas valve, exception the PIN plug and the upwards connections, works in DEPRESSION mode. We do not recommend to use products for the detection of the gas leakages where not expressly indicated, because these products could penetrate inside the gas valve disturbing its normal functioning.

⚠ **Do not use free flames to detect gas leakages**

⚠ **Verify that the combustion products do not go out from the outlet of the condense.**

i The condense syphon trap of the boiler is equipped with a special device which closes when dry. Anyway, the seal is guaranteed only when the syphon trap is filled with liquid. So, at the end of the first firing / commissioning operation, it is recommended to check that the syphon trap contains liquid, e.g. checking that liquid exits the condense drain of the boiler.

- *When boiler is electrically connected (or is ignited) it is necessary to wait about 90 seconds before having the complete control of the boiler. Such delay can be temporary excluded through programming parameter n° 9 (see "Regulation programming") and it must be activated to guarantee perfect boiler working.*
- *The Ignition unit makes several ignition attempts, so as to send the boiler in block status only if there is a real ignition problem.*
- *When in the supply gas pipe the air is present (i.e. in case of new installation) it can be necessary to repeat more ignition attempts.*
- *The boiler comes out from the production line already regulated and tested to work with natural gas. However in the first ignition process it is advisable to verify that the regulation is correct.*

First ignition operations

The first ignition operations consist in verifying the correct installation and functioning, and in the eventual regulations which are necessary:

- verify that the data of the plate correspond to those of the net supply (electrical, water, gas);
- verify the absence of the gas leakages from the connections upwards the boiler;
- verify the proper realization and the efficiency of all the boiler connections (water, gas, heating system and electrical system);
- verify the presence of the permanent air/ventilation outlets, correctly dimensioned and working, as foreseen by the National and Local laws depending on the appliances installed;
- verify that the evacuation flue duct corresponds to the National and Local laws and that is in good and efficient conditions;
- verify the correct functioning of the system of the outlet condense, also in the external parts of the boilers, i.e. the eventual condense collector installed on the flue outlet: verify that the liquid flow is not obstructed and that there are not inlets of gaseous combustion products inside the system itself;
- verify that the passage of the air burning and the evacuations of the flues and of the condense will be made correctly accordingly to National and Local laws in force (DM 12/04/96; Law UNICIG 7129/01; D.P.R. 412/93; UNI EN 677; UNI 11071 and further modifications);
- verify that the conditions for the air inlet are granted, in case of a boiler placed inside a piece of furniture;



Before turning on the boiler, verify that the pump is not blocked due to inactivity: unscrew the cap located at the center of the pump's body, locate the rotor shaft behind the cap and turn it manually using a screwdriver or other suitable tool.

- verify that the combustion is correctly regulated: go on in this chapter as described in the paragraph "Checking and combustion regulation";



During the first ignition of the brand new boiler, it is necessary that burner works for at least 30 minutes, before performing combustion checks. During this time, the fumes of the eventual residual manufacturing materials are produced, and they could alter the measured values.

- regulate the maximum power of the installed heating system: go on in this chapter as described in the paragraph "Max power regulation in heating system" ;
- verify the correct functioning of the boiler in heating and domestic hot water version;
- fill in the foreseen documentation and leave to the user the copy of his competence.

Maintenance operations

The periodically maintenance operations consist in cleaning the main parts of the boiler, in the further functioning proof (especially those described by the laws in force), and in the eventual regulations, which could be necessary:

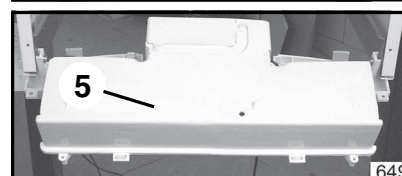
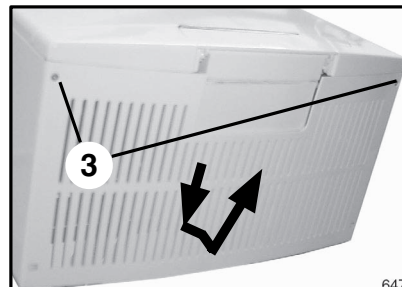
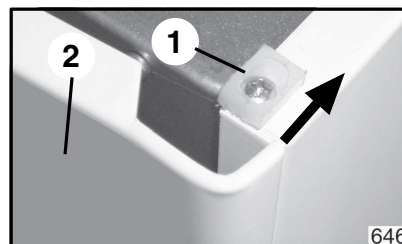
- verify the absent of the gas leakages from the connections upwards the boiler;
- verify the conformity, efficiency and goods condition of the connections to the boiler (water, gas, heating and electrical system);
- verify the presence of the permanent air/ventilation outlets, correctly dimensioned and working, as foreseen by the National and Local laws depending on the appliances installed;
- clean the burner, the exchanger and the funnel of the condense: go on as described in the paragraph "Cleaning the combustion group";
- check that the internal parts of the boiler are in good condition and clean;
- verify that the passage of the air burning and the evacuations of the flues and of the condense will be made correctly according to National and Local laws in force (DM 12/04/96; Law UNICIG 7129/01; D.P.R. 412/93; UNI EN 677; UNI 11071 and further modifications);
- verify the correct functioning of the system of the outlet condense, also in the external parts of the boilers, i.e. the eventual condense collector installed on the flue outlet: verify that the liquid flow is not obstructed and that there are not inlets of gaseous combustion products inside the system itself;
- verify that the conditions for the air inlet are granted, in case of a boiler placed inside a piece of furniture;
- when described, or if it is necessary (i.e. if you find excessive residual in the combustion group or in the funnel of the condense), verify that the combustion is correctly regulated: go on in this chapter as described in the paragraph "Checking and combustion regulation";
- verify the correct functioning of the boiler in heating and domestic hot water version;
- fill in the foreseen documentation and leave to the user the copy of his competence.

Gaining access to manual regulation devices

1. Unscrew screws located above boiler, shift small blocking plate 1, remove front cover 2 lifting it up.
2. To remove lower grid, if any, unscrew screws [3], push, lower and shift it forward.

Note: lower grid is spare inside packing, not assembled.

3. Unscrew fixing screws [4] and extract control panel [5] forward, rotating it around hinges.
4. Once you have terminated the maintenance which requires the access to the internal parts, close the boiler following the above operation in the contrary sense.



Cleaning the combustion group



Switch off the boiler and disconnect it from the electrical supply.



Be sure that the parts are not hot and eventually wait the time necessary to cool them;



Because some contacts with the fine dust and acid condense may occur, we recommend to wear the proper devices for the personal protection (i.e. glasses, gloves, masque)



Warning: do not wash or damage the covers made with ceramic fibres.

- Open the sealed chamber;
- Disconnect the two fan connectors [10];
- Disconnect from the ignition unit [6] the cables of the ignition electrodes and flame modulation control and take them off from the chock on sealed chamber cell bottom (do not dismantle the electrodes from the combustion group);
- Unscrew the connector which links the gas pipe [4] to the injector group [3];
- Unscrew the 6 nuts which fix the burner group (composed of fan, hose and burner) to the primary exchanger. Remove the burner group;



Do not disassemble the burner group and do not dismantle the ceramic fibre plate from the bottom of the exchanger.

- Check that the burner do not present deposits, foulings or excessive oxidations and that all the holes are free;
- Clean softly the burner electrodes, avoiding to bend it or to move it;
- DRY Clean the cylinder of the burner ONLY IF IT IS NECESSARY through a NOT METALLIC brush, with movements on the burner's axis, from cover outwards;

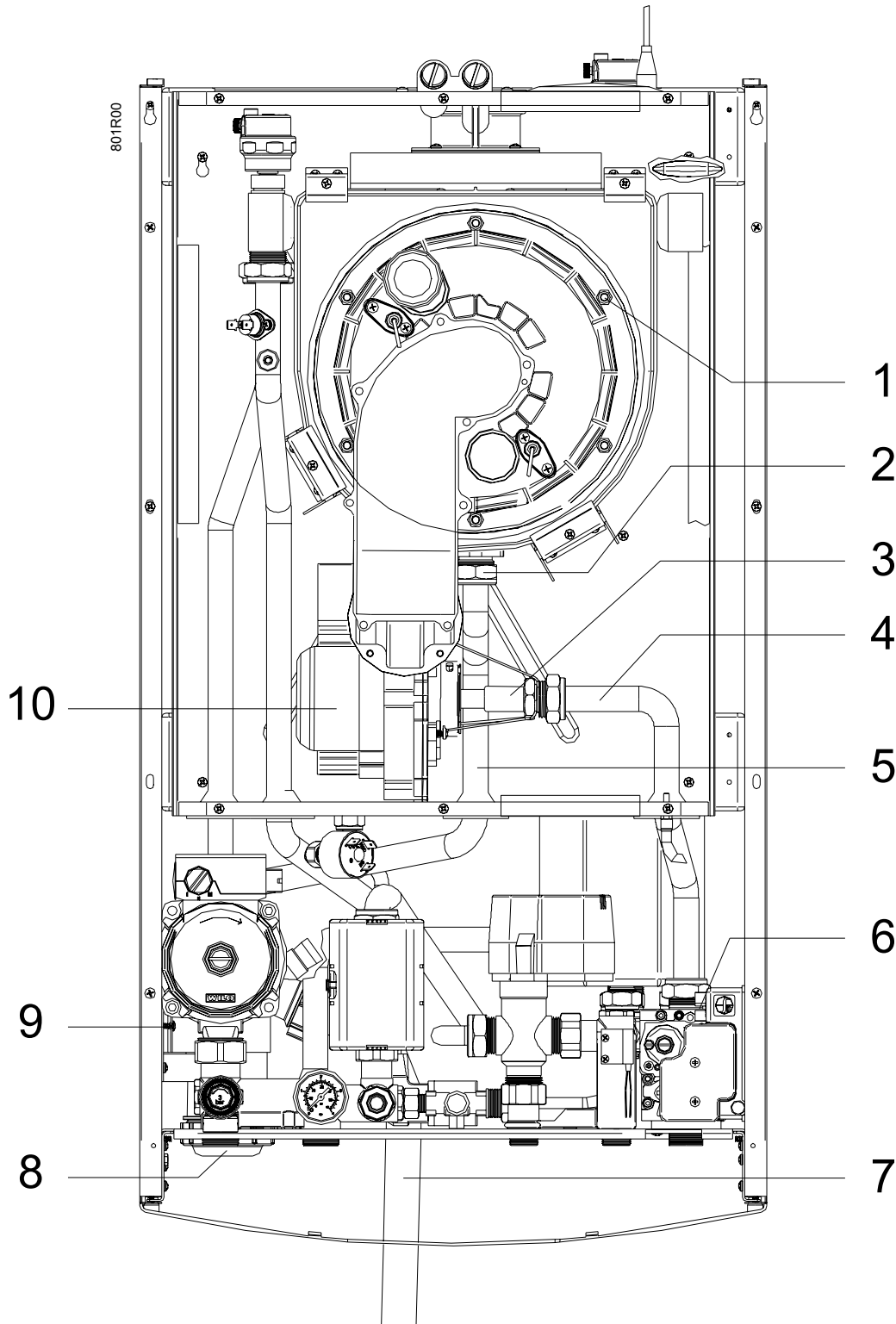


Do not damage the ceramic fibre cover or deform the holes of the burner. If the burner works correctly, it will be of black colour but clean or in any case with few deposits, not scaled and easy to remove.

- on the burner cover, verify the integrity of the gaskets made by flame resistant fibre and rubber;
- unscrew the connector of the outlet condense [2] on the base of the primary exchanger. Move laterally the pipe and put a suitable basin under the outlet, or link in it a proper pipe to eliminate the clean water;
- with a brush, avoiding to wash the cover of the ceramic fibre, distribute a domestic detergent specific for stainless steel on the exchanger coils and wait for 15 minutes. Remove the eventual deposits by a brush NOT METALLIC, so eliminate the detergent residuals and the dirty, with water;
- locate the lower cover [8] of the funnel (where you can access from the lower side of the boiler, behind the returned connector of the system), put in the low side a collector for liquids. Unscrew the cover. Let the funnel empty itself. Inside the cover a layer of residual could be present (max 1÷2mm). You have to remove it;

Remark: an excessive quantity of residual is an indicator of malfunctioning or in any case it is not a normal situation. Locate the reasons and solve the problem, so remove the funnel unscrewing the superior and lateral connectors, and the screw [9] of the bracket support. Accurately clean the funnel and be sure that its inlet pipes [5] and outlet condense [7] are free (it could be obstructed by the residuals). The pipe which links the funnel to the primary exchanger can not be removed.

- Reassemble all the components in the right order and on the contrary side and check the combustion.



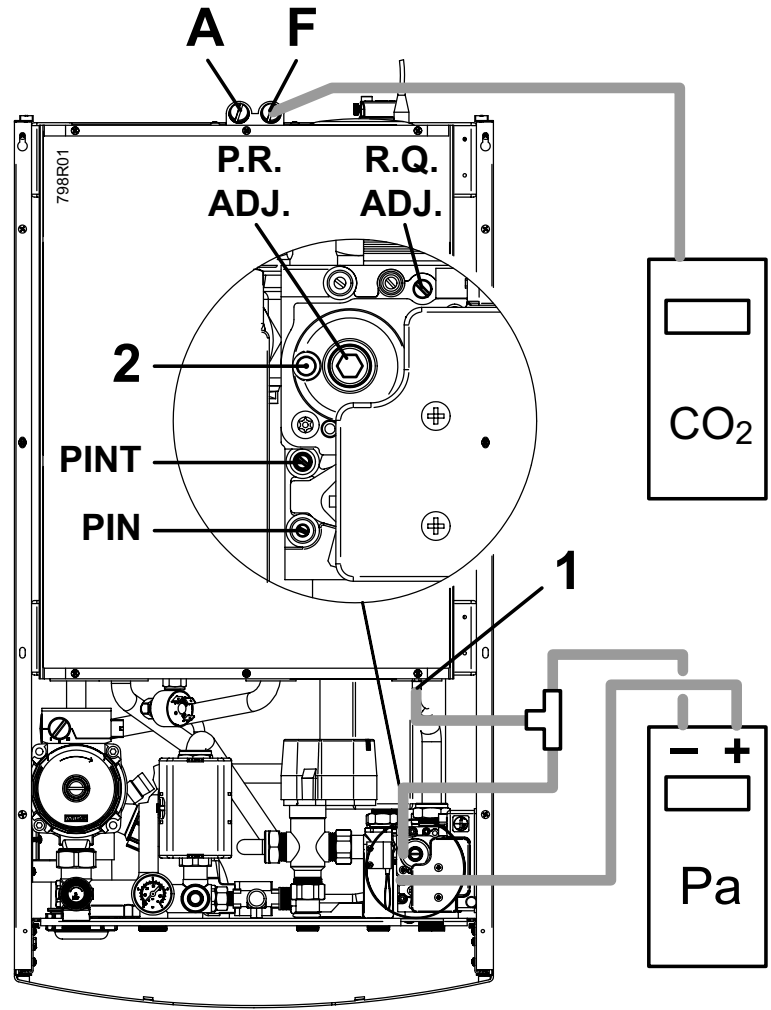
for the technician

Checking and combustion regulation

i Before checking the combustion, clean the burner and the exchanger as described in the paragraph “Cleaning of the combustion group” (excluding the first ignition process).

To check and regulate the boiler you need a differential **micromanometer** with a resolution of 1 Pa and a flue **analyser**, which are **together correctly calibrated** (in the condensing boiler the precision and the correctness of the measures is particularly important the precision and the correctness of the measures). So we ignite the burner with a reduced flow and then at the maximum flow through a function on the electronical panel and we do the measure and regulations in both the conditions.







i Be sure that the heat produced by the boiler can be eliminated by the heating system through the radiators and/or radiant panels/floor systems.



- 1) Put the boiler in stand-by using the button $\circ / |$ (the green led is flashing);
- 2) Connect the positive inlet of the differential micromanometer to the pressure plug [PINT] (**not PIN**) of the gas valve. Remove the pipe which links the compensation plug [1] of the combustion chamber to the pressure plug [2] of the gas valve and connect the plug [1] and [2] to the negative inlet of the micromanometer through the “T” connector as showed in the picture;
- 3) Insert in the flue plug [F] the analyser sensor, taking care of the seal of the socket;

Remark: The device placed at the top of sensor must be placed as possible in the centre of the flow outlet: we advise you to insert well the sensor and so to extract it of 3 cm. Insert the sensor so that the protection bow of the sensor, placed at the top, is transversal (the flow must pass through it and directly touch the sensor).
- 4) keep pushed for at least 5 seconds the button \odot / \otimes and \oplus : the display shows the writing “service” with a number on the left side (starting from now we call it PARAMETER) and one at the right side (starting from now we call it VALUE);

Remark: if this can not happen, the repositioning of the motorised mixing valve could be in progress: wait 90 seconds and try again.

- 5) select the PARAMETER 12 pushing the bottom buttons  - and  + . The predefined value is 1. Select the value 0 pushing the button  - ;
 - 6) **verify that in the centre of the display a value between 179 and 181 is written** (indicating that the fan turns at 1800 +/- 10 laps/min – the value can oscillate within these limits);
 - 7) the burner ignites at a low flow. Wait until the boiler is on standard functioning (about 5 minutes). If the value of CO₂ in the flues is included between **8,2% and 9,6%** and the off-set measured by the micromanometer is included between **- 19 and 16 Pa**, please go to point 8) for checking/regulation of the nominal flow, otherwise it is necessary to bring again the CO₂ within the correct values, modifying the off-set by turning the screw [P.R.ADJ] (the regulation screw is inside the bush, under the screw cover). **WARNING: turn the screw of 1/8 lap-time** and wait about 1 minute to stabilize the value of the CO₂ measured by the analyser;
 - If the value of the CO₂ is BIGGER then the permitted value, REDUCE the off-set turning the screw [P.R.ADJ] in ANTICLOCK wise;
 - If the value of the CO₂ is LOWER then the permitted value, INCREASE the off-set turning the screw [P.R.ADJ] in CLOCK wise;
-  The off-set MUST NOT BE IN ANY CASE regulated outside the limits – 19 and – 16 Pa. If you are not able to regulate the CO₂ keep the off-set within the limits. If the value of CO₂ would completely out of tolerance, you can suspect a malfunctioning or a wrong measure.
- 8) keeping active the PARAMETER 12, select the value 1 pushing the button  + ;
 - 9) **verify that in the centre of the display a value included between 554 and 556 is showed** (indicating that the fan is working at 5550 +/- 10 laps/min – the value can oscillate within these limits);
 - 10) the burner ignites at the nominal flow. Wait until the boiler is on standard functioning (about 5 minutes). If the value of CO₂ in the flues is included between **8,2% and 9,8%** push the button  / | to esc to the scheduling mode and switch off the boiler, otherwise you have to regulate the gas flow turning the screw [R.Q.ADJ]. **WARNING: the screw has to be turned of 1/4 - 1/2 lap-time**, waiting 1 minute to stabilize the measured values.
 - If the value of the CO₂ is BIGGER then the permitted value, turn the screw [R.Q.ADJ] in ANTICLOCK wise;
 - If the value of the CO₂ is LOWER then the permitted value, turn the screw [R.Q.ADJ] in CLOCK wise;

Remark: if you have regulated the CO₂ at the nominal flow, we advise you to check again the CO₂ and the off-set at the reduced flow.

 **IMPORTANT: at the end of the check or the regulation it is INDISPENSABLE:**













- Close, on the gas valve, the pressure plug [PINT] turning the specific screw;
- Close the flue plug used, turning the specific covers;
- Seal the screw cover of [P.R.ADJ] and the screw [R.Q. ADJ] if they have been used;
- Link the plug [1] and [2] with the original pipe previously taken out.

Regulation programming

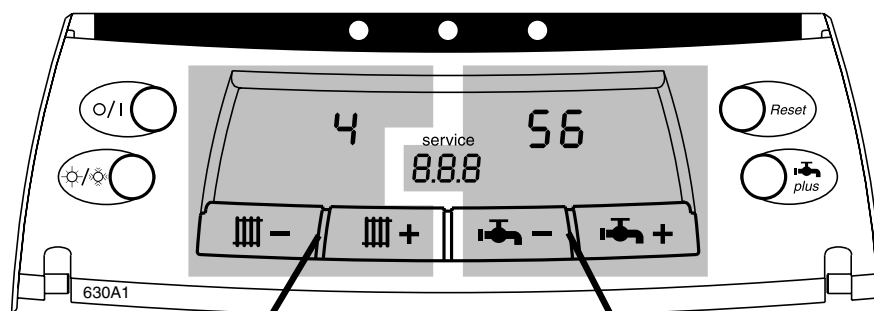
i All these operations must be performed by QUALIFIED TECHNICIANS ONLY. Operations performed by not qualified persons can cause MALFUNCTIONS and/or DAMAGE. **Hermann cannot be considered liable for eventual damages caused by not qualified persons.**

i Do not modify default settings if not necessary

GENERAL PROCEDURE

- With control panel in normal position, open its cover and turn off boiler pushing  knob: green light flashes:
- Keep both knobs  (Summer/Winter) and  pushed for 5 seconds contemporary: display shows “service” with a number on the left (from here on called ‘PARAMETER’) and another number on the right (from here on called ‘VALUE’);
- Select number of PARAMETER to be modified pushing knobs  - and  + ; change VALUE by pushing  - and  + . The value blinks. The three figures values are shown in the centre of the display;
- To STORE a new value push  . If you want NOT to store the value, do NOT push  but simply select another parameter (by pushing  - or  +).
- To quit programming mode push  .

Note: Once quitted program mode, it is necessary to wait about 90 seconds for complete motorised mixing valve calibration. Such delay can be temporary excluded through programming parameter n°9 described here below.



To select the
PARAMETER

To change / read
the VALUE

Parameter numbers, description, available values and default settings:

0: Type of boiler: Default setting: 0

i In Eura Condensing boilers this parameter must be kept to 0.

1: Type of gas used: natural gas = 0 / LPG = 1. Factory setup: 0.

i Since Eura Condensing is forecasted to be used with natural gas only, this parameter must be kept to 0.

1 Gas type: Natural gas = 0 / LPG = 1. Factory setup: 0. See “GAS transformation” for the complete regulation procedure.

2 Temperature range for heating system: Normal = 0 / Reduced = 1. Factory setup: 0. See ‘Other boiler programming’ for more info.

Remark: if you use also the secondary room thermostat TA2, this parameter refers to the main zone checked by the main environment thermostat TA.

3 Power regulation* during slow opening: from 00 to 99. See ‘Slow opening regulation’ for default setting (they may be different depending on boiler model and/or gas type) and for complete regulation procedure.

4 Power regulation* for Maximum heating power: from 00 to 99. Default setting: 99. See ‘Maximum heating power regulation’ for the complete regulation procedure.

** In the paragraph “ MAXIMUM Power heating Regulation” you will find the table for the correspondence between the shown value and its power.*

5 Pump working in Winter mode: Normal = 0; Always on = 1; Always off = 2. Factory setup: 0. See ‘Other boiler programming’ for more info.

6 Switching on delay after reaching set heating temperature: from 0 to 7 minutes. Factory setup: 3. See ‘Other boiler programming’ for more info.

7 Temperature difference between heating flow and domestic set: from 10 to 20 °C. Factory setup: 15°C. We advice to leave factory setup unchanged.

8 Minitank temperature setting according to dhw temperature setting: 0, 1, 2 and 3. Factory setup: 0. See “Other boiler programming” for more info.

Parameters 7 and 8 allow to optimise comfort level of the domestic hot water system, according to water hardness. It is recommended to keep these values to default setting, especially in case of hard water, unless a suitable scale reducing device is fitted.

9 Ignition delay for motorised mixing valve calibration: Activated = 0 - Excluded = 1. Factory setup: 0. See ‘Other boiler programming’ for more info.

i It is MANDATORY that parameter n° 9 is set = 0 for normal boiler functioning.

for the technician

10 External probe indication (not modifiable): No probe / disconnected = 0; Probe detected = 1. See 'Other boiler programming' for more info.

11 Parameter for company test. Factory setup:0. Do not modify the company set up.

12 Calibration OFF –SET: Minimum = 0 / Maximum = 1. Factory setup: 1. This parameter pushes the burner ignition to the nominal and reduced flow for the regulation of the CO₂ and the off-set. For further details see the paragraph "Combustion checking and regulation" before this chapter.

i Do not keep permanently the value to 0 otherwise the boiler will work only with the reduced flow. If this will happen, set permanently the value to 1.

13 Regulation of the minimum ventilator speed: from 100 at 300 revs/minute (x 10).
Factory setup: 180.

i Do not absolutely modify the factory setup.

14 Regulation of the maximum ventilator speed: from 380 at 630 revs/minute (x 10).
Factory setup: 555

i Do not absolutely modify the factory set up.

15 Pre-ventilation setting time: from 1 to 10 seconds. Factory setup: 3. For further details see the paragraph "Other boilers setting" later in this chapter.



16 Post-ventilation setting time: from 10 to 30 seconds. Factory setup: 10. For further details see the paragraph: "Other boilers setting" later in this chapter.

17 Regulation of the inlet temperature using the secondary room thermostat only (TA2): from 20 to 80°C. Factory setup: 20. For further details see the paragraph: "Other boilers setting" later in this chapter.


18 Permanently visualization of the ventilation turns: off = 0 / on = 1. Factory setup: 0.
For further details see the paragraph "Other boilers setting" later in this chapter.

Slow opening regulation

At the ignition the burner is supplied for some seconds with an optimal flow, named “slow opening” flow, that grants the correct and immediate opening, but that’s low enough to avoid noise during ignition. Then the flow is varied until the requested power is supplied.






- with a boiler out (the green lamp is flashing) select the parameter **3** then push one of the buttons  - or  + . The burner ignites allowing the ignition checking. The company value **55** is optimal. The slow opening flow is proportional to the parameter.

Remark: In the paragraph “Max power heating regulation” you will find the table for the correspondance between the showed value and the power associated to it.

- store pressure pushing  plus .

Max heating power regulation

Maximum heating power must be set according to actual heating system design. The several powers and the correspondent values of the parameter and the number of the fan turns are reported in the tables “POWERS - PARAMETERS - TURNS”. To regulate heating output proceed as follows:

- Actual heating system power must be known according to plant design;
- while boiler is not working (green light flashing), select parameter 4 and push once knob  - or  + . The burner will ignite. Push the buttons  - or  + until you reach the required value;
- store pressure pushing  plus .

POWERS - PARAMETERS - TURNS TABLE — EURA Condensing

HEAT OUTPUT		VALUE OF PARAMETERS 3 - slow opening 4 - max heating power	FAN RPM
kW	kcal/h		
MIN. 7.2	6192	0	1800
8.9	7654	10	2150
10.9	9374	20	2500
12.6	10836	30	2900
14.3	12298	40	3300
16.2	13932	50	3650
18.1	15566	60	4000
20.1	17286	70	4400
21.9	18834	80	4800
23.9	20554	90	5200
MAX. 25.0	21500	99	5550

for the technician

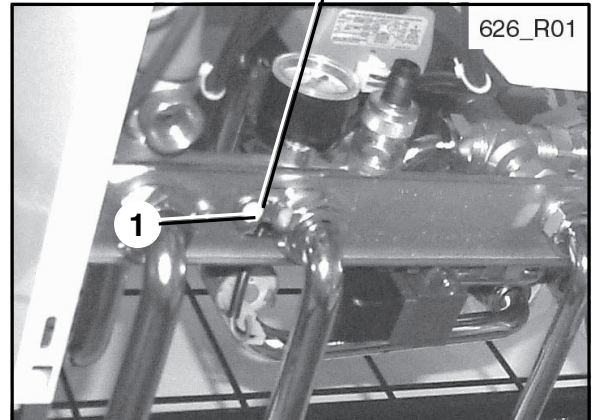
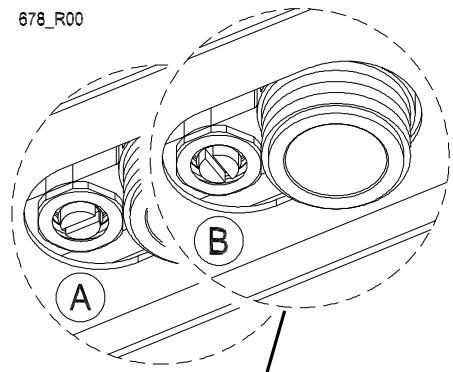
Excluding automatic by-pass

EURA are equipped with automatic by pass. In case of complete opening, a flowrate sufficient for normal boiler working is guaranteed. However, it is possible to disconnect by pass, proceeding as follows:

1. Switch off boiler by pressing O/I .
2. Rotate screw located on to by pass (see 1 in the attached picture) until it is in position "B".

Normal by pass position is "A".

678_R00

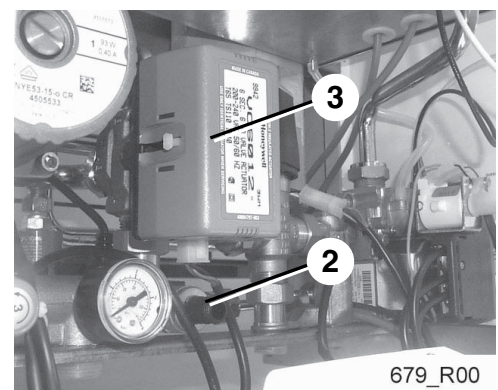


BOTTOM VIEW

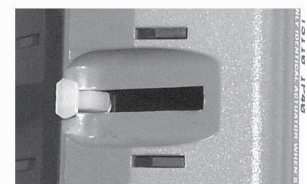
Draining EURA boiler

— To correctly drain both heating system and minitank in the sanitary system, it is necessary to manually set three way valve in middle position as described here below:

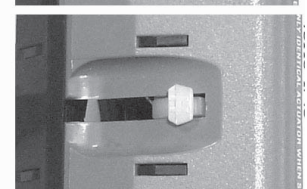
- three way valve (item 3) must initially be in 'sanitary' mode (manual control spindle in position 'S'). If it is in position 'R', open a domestic hot water tap to move it to 'S';
- switch boiler off;
- manually push spindle towards middle position, where it can be blocked pushing towards inside (position 'C').



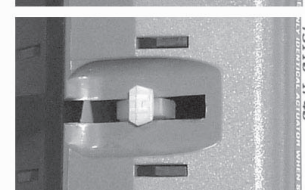
R



S



C



- when water pressure is COMPLETELY drained, you can open radiators air vents, to allow air inlet and complete plant draining;
- when everything is over, close taps and air vents.

i In the primary exchanger a certain quantity of water of the heating system remains. If you want to remove the boiler from the wall, we advice you to close with plugs the hydraulic inlet/outlet heating system connections.

Other boiler programme

Above have been described the main regulations, and most of them require some parameters programming by means of control panel.

Control panel allows to modify many other parameters which influences boiler functioning, for perfectly meeting special installation needs.

i Do not modify default settings if not necessary

2 Range of selection of the inlet heating temperature: (Company set up= 0):

Remark: If you use also the secondary room thermostat TA2, this parameter is related to the main zone checked by the main room thermostat TA.


- 0 NORMAL: if the technician selects the 0 value, the user could choose , pushing the buttons **|||| -** and **|||| +** during the normal use, an inlet heating temperature included between 30 °C and 80 °C. Use this setting when the boiler is connected to a traditional system (with radiators and fan coils).
- 1 REDUCED: if the technician selects the 1 value, the user could chose, pushing the buttons **|||| -** and **|||| +** during the normal use, an inlet heating temperature included between 25 °C and 45 °C. Use this setting when the boiler is connected to a slow temperature system (i.e. floor system or ceiling system).

5 Pump working in winter mode: (default setting = 0):

- 0 NORMAL: pump switches on whenever there is a heating demand and keeps on working for all requested time plus 30 seconds (after circulation).
- 1 ALWAYS ON: In Winter mode pump continuously works. Use this setting only if it is requested by heating plant.
- 2 ALWAYS OFF: In Winter mode pump is not activated (it works only if there is a request of sanitary water). Use this setting only if external pump(s) are installed.

for the technician

6 Delay before re-ignition after reaching heating flow temperature set: (in minutes, default setting = 3):

In heating mode, when boiler reaches set temperature (), burner switches off. Then temperature drops down and burner ignites again. This parameter sets the minimum delay time between a switching off (at set) and the following re-ignition. We suggest the following criteria:

- 0 Setting for fancoil system. During heating, boiler will ignite more frequently.
- 1...7 Lower values are recommended for small plants and light radiators, higher values for plants having big thermal inertia.

7 Temperature difference between primary system flow and set domestic hot water, in sanitary mode, minitank disconnected (in °C, default setting = 15 °C). We advice to leave factory setup unchanged.

8 Minitank temperature setting according to dhw temperature setting, in sanitary mode, minitank connected (default setting = 0):

- 0 Select 0 to keep minitank temperature in the primary system between 10°C and 15°C higher than dhw temperature set by the user, with a maximum value of +50°C...+55°C.
- 1 Select 1 to keep minitank temperature in the primary system between 5°C and 10°C higher than dhw temperature set by the user.
- 2 Select 2 to keep minitank temperature in the primary system between 10°C and 15°C higher than dhw temperature set by the user.
- 3 Select 3 to keep minitank temperature in the primary system between 45°C and 50°C, regardless dhw temperature set by the user.



It is recommended to select 0 (default setting) or 3, in case of hard water, unless a suitable scale reducing device is fitted.

9 Re-calibration of motorised mixing valve: (default setting = 0)

When boiler is switched on (or after a reset), boiler execute a calibrating cycle of the mixing valve for about 90 seconds which is necessary for the correct sanitary system functioning. During this period any other functions of the boiler are off. To help maintenance and servicing, since during this operation many switching on and off are very common, it is possible to disconnect re-calibration.

- 0 Calibration cycle ENABLED, for normal boiler operation
- 1 Calibration cycle DISABLED, to be utilised during maintenance ONLY: ORANGE light FLASHES until value is reset at 0. Pushing 'Reset' or switching boiler off and on it is then possible to ignite burner immediately.



When all regulations are over, IT IS MANDATORY to set this parameter value at 0 again.

For this reason after 20 minutes (with boiler electrically supplied) said parameter is automatically set at 0 (and orange light stops flashing).

10 External probe indicator (not modifiable)

This parameter indicates the presence of an external probe, if any. Said probe should be connected to dedicated connections (optional kit). Please note that, if an external probe is inserted, heating system control is led by probe itself (see instruction manuals attached to optional kit)

- 0 no external probe (or cut connection);
- 1 External probe detected.

If an external probe is installed and this parameter is 0 it is likely that probe is defective.

15 Regulation of the pre-ventilation time (Company set up = 3 seconds):

Immediately before the burner ignition, the combustion chamber is pre-ventilated with air only, for an sufficient time to eliminate eventual previous residual combustion products so as to facilitate the burner ignition.

The Company set up must be ideal for all cases and it is recommended not to modify it. Note that the boiler ignites the burner only at the end of the pre-ventilation time, and so incrising this time means to delay the replay of the boiler to the heating requests (i.e., the time you wait before the hot water outlet when you open the tap).

16 Regulation of the post-ventilation time (Company set up = 10 seconds):

Immediately after the burner switching off, the combustion chamber is post-ventilated with air only, for an sufficient time to eliminate eventual previous residual combustion products. This operation eliminates the main part of the combustion gas and allows that next post-ventilation (checked with the parameter 15) can be as fast as possible.

The Company set up must be ideal for all cases and it is recommended not to modify it. The post ventilation is stopped in case of heating request, and so this time does not delay the boiler replay.

17 Regulation of the inlet temperature with request of the only Secondary room Thermostat (TA2) (Company set up = 20 °C).

EURA Condensing can manage two room thermostats installed in two distinct zones working with different temperatures. For example (with opportune hydraulic system devices to send the heating to the various zones) we can foresee a zone heated with slow temperature systems (i.e. the main one, checked by main thermostat TA) and one with radiator systems (i.e. checked by the secondary thermostat TA2).

The advantage of this management is that when there is an heating request only by the slow temperature system, the boiler can work at slow temperature, and so it can work in condensing mode with the all consequent advantages.

This parameter, which is accessible by the technician, regulates the system temperature for the secondary zone (checked by the TA2) which can be with radiators or at slow temperature, and so the regulation range covers both possibilities (20:80 °C). There is not the possibility for the user to regulate this temperature. The user can regulate only the main zone temperature, through the buttons **|||| -** and **|||| +** , within the range fixed by the parameter 2.

18 Permanently visualization of the fan turns (Company set up = 0):

Setting to 1 this parameter, the actual fan speed is showed permanently, in the centre of the display, in turns/minutes (x10). So i.e. if you read "555" means that the fan is turning at 5550 turns/minutes. Use this function when you think it is necessary but **bring again to 0 the value at the end of the works** so that the user is not confused by elements which are not useful to use the boiler.

Crypt Warnings for Technical experts

On account of a malfunctioning, boiler can block and shows an alarm code in the middle of the display.

Said alarms are displayed together with 'Service' writing which means that end user cannot reset boiler by himself without a technical expert.

Note: All the alarms that the end user can try to reset by himself, are described in section 'User instruction'.

E05 Heating system flow temperature sensor damaged

Cause: Control PCB has verified an anomaly in heating sensor (open or short circuit).

Solution: Disconnect sensor and measure its electric resistance. If it is found open or shorted, replace it, otherwise check cables and electrical connections.

E12 Domestic Mini tank sensor damaged

Cause: Control PCB has verified an anomaly in Domestic Mini tank sensor (open or short circuit).

Solution: Disconnect sensor and measure its electric resistance. If it is found open or shorted, replace it, otherwise check cables and electrical connections.

E19 Filling not completed within available time

Cause: Automatic system filling has not be completed within 4 minutes.

Solution: Before switching boiler off, check water pressure on to the internal manometer: in normal condition, with cold water, it should be 0.4÷0.9 bar. If problem is due to hydraulic system a lower pressure will be found. Switch boiler off by pressing **O/|** and disconnect electrical line. Switch boiler on again and check water pressure on the internal manometer during filling.


If there is still a problem, verify water network pressure, automatic valve for filling, air inside heating plant. Check if any drain valve has been opened or if there is a water leakage in the heating system plant and repair it.

E21 Low water pressure in the primary/heating system (3 automatic filling already executed)

Cause: During the last 24 hours boiler has executed 3 automatic filling to reset correct working water pressure without success.


Solution: Before switching boiler off, check water pressure on to the internal manometer: in normal condition, with cold water, it should be 0.4÷0.9 bar. If problem is due to hydraulic system a lower pressure will be found.



Check if any drain valve has been opened or if there is a water leakage in the heating system plant and repair it.





Switch boiler off by pressing  and disconnect electrical line. Switch boiler on again and check water pressure on the internal manometer during filling.

E22 Imprecise data storing

Cause: Mistake while setting data, storing an unlikely value.

Solution: Switch boiler off by pressing  and disconnect electrical line. Switch boiler on again.

If problem still exists, check and NOTE all parameter values. Then set all parameters to DEFAULT values (see “Regulation programming”) taking care to press  to store each value. Switch boiler off and then on again by pressing  and set:

- Heating temperature = 40°C (using  and );
- Domestic water temperature = 45 °C (using  and ).

This “rewriting default settings” operation should restore boiler functioning. If problem still exists, substitute modulation PCB, set all previously noted values and make usual regulation.






Otherwise, if alarm disappears, try to re-insert all previously noted values, or perform all boiler regulations.

E31 Remote control* (Hermann optional kit only) not working


- * This applies to Hermann Remote Control optional kit only, and not to third parties chrono thermostats.

Cause: Control PCB has verified the presence of a remote control but data are not readable.

Solution: Check remote control and its connections.

Remark: in case of Remote Control malfunctioning, boiler works in DHW only. To make boiler provisionally work in heating, restore TA jumper on main PCB (see “Electrical connections” in Installation section), turn boiler in Winter mode by pressing  knob and adjust heating elements’ temperature using  and  . DHW temperature will be adjusted manually too, using  and  .

Servicing warnings

 **All servicing operations MUST BE CARRIED OUT BY QUALIFIED TECHNICIANS, in accordance with the Law n°46 dtd. 05/03/1990 and with the rules UNI-CIG 7129/01 and 7131/99; UNI 11071 and relevant revisions. Moreover, in accordance with art.11 section 4 D.P.R. 412/93 , SERVICING operations must be carried out, at least once a year, by HERMANN AUTHORIZED SERVICING CENTRES, and must be written in the appliance booklet, as indicated by the manufacturer and by the laws UNI and CEI presently in force.**

At the end of each heating period, it is necessary to call a qualified technician to check the boiler, in order to keep the system perfectly efficient.

A careful servicing is always a guarantee of safety and saving.

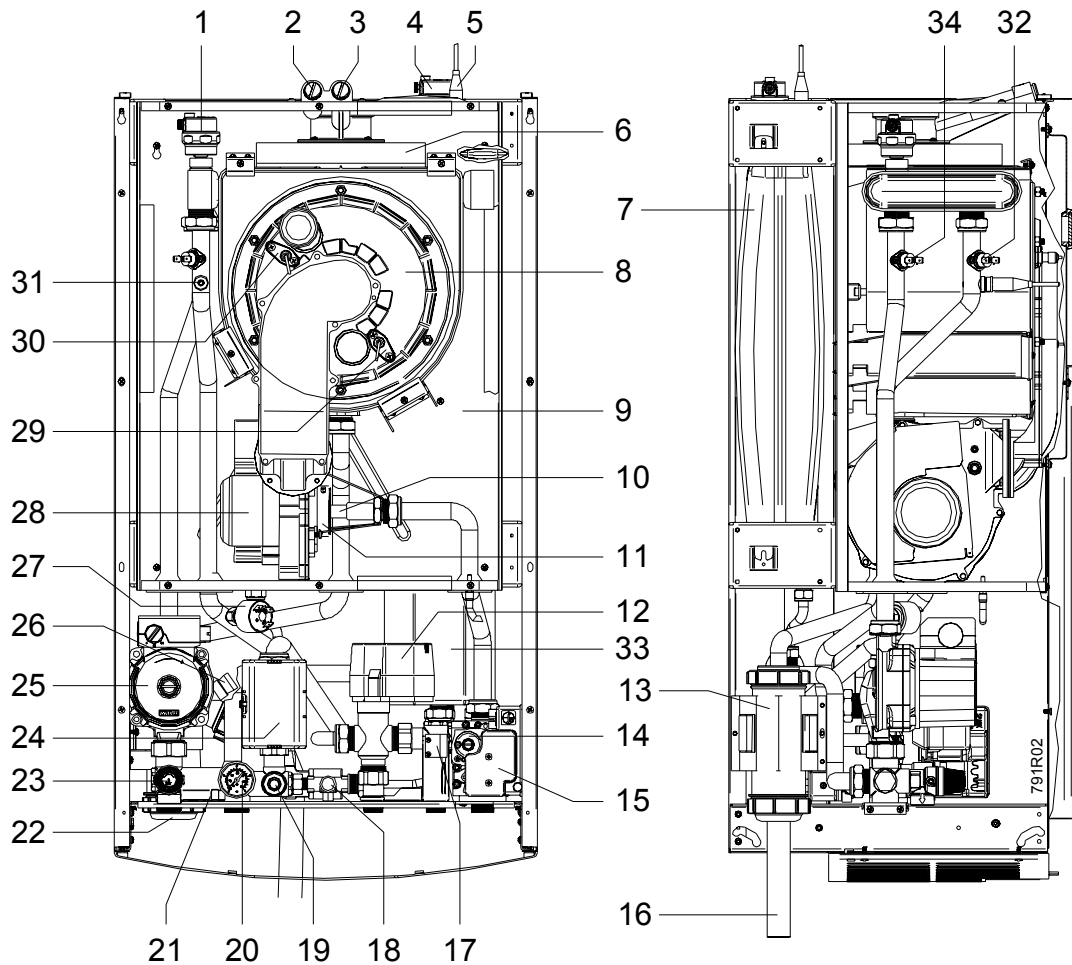
Normally, it will be necessary to execute the following operations:

- Remove any possible oxidization from burners;
- Remove any encrustment from the electrodes;
- Cleaning and checking the exchanger, the siphon and all the parts which are in touch with the condense;
- Check boiler ignition, switching off and operation;
- Check water and gas connections tightness;
- Check gas consumption at the minimum and maximum output;
- Verify that safety devices are correctly working;
- Verify correct functioning of control and adjusting devices;
- Verify periodically good working and efficiency of the combustion product evacuation ducts and/or devices;
- In case of works or servicing of the structures placed near above mentioned ducts and/or devices and their accessories, switch off the boiler;
- Do not leave any inflammable tanks and/or substances in the installation room;
- Do not clean the room where boiler is installed, while it is working.
- Clean casing with soapy water only. Do not clean casing, other painted or plastic surfaces with thinner.
- In any case of parts replacement, it is mandatory to use HERMANN original spare parts.

HERMANN declines any responsibility in case of non-original spare parts utilization.

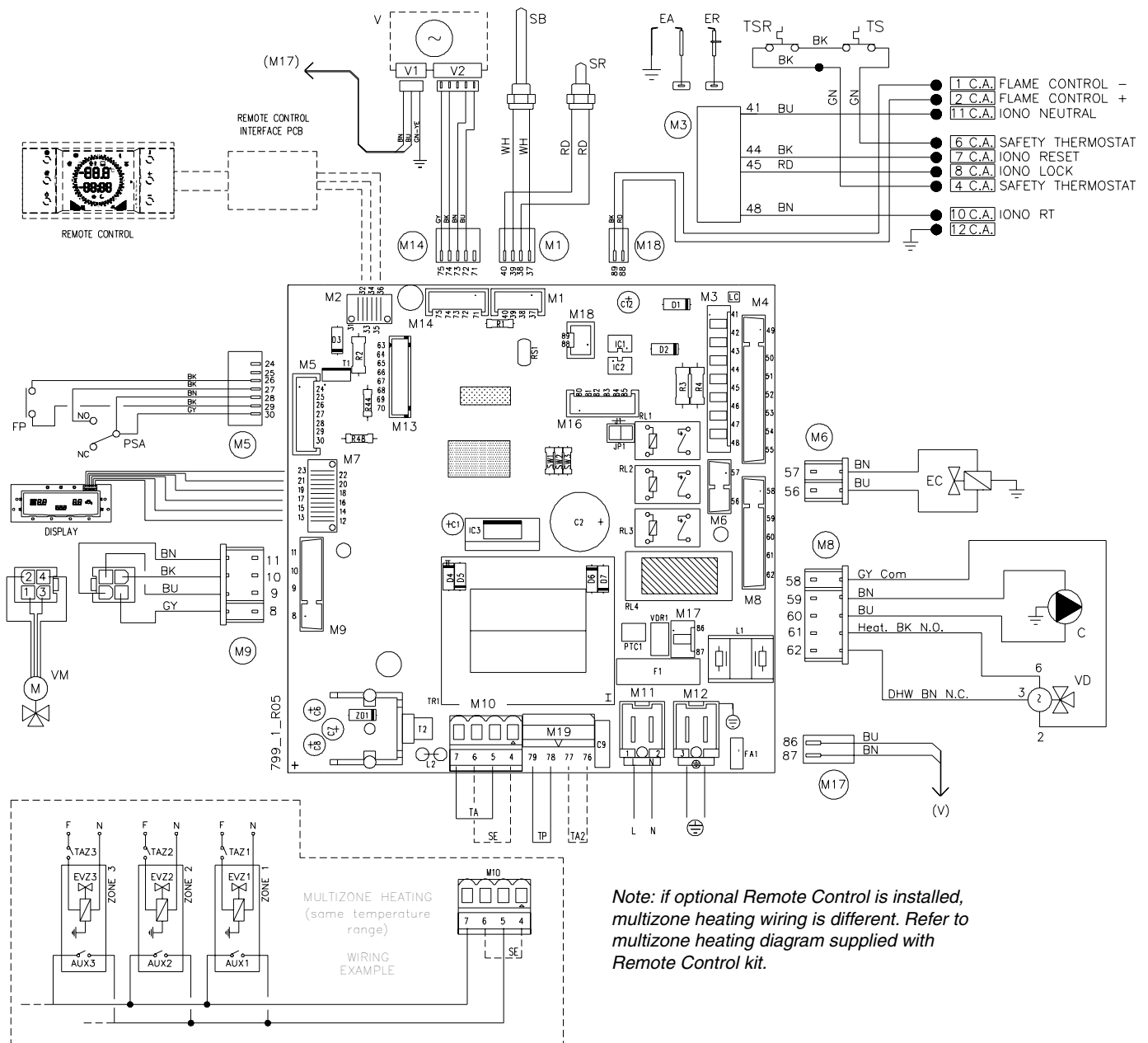
Once all servicing operations have been carried out, it is mandatory to write a report for the user, that should indicate state of the appliance, servicing interventions and eventual advices and prescriptions. (D.P.R. 551/99)

Boiler internal components



- | | |
|---|--|
| 1 Automatic Venting Device (Heating) | 17 Priority Flussostat |
| 2 Plug for Combustion proof (A=air) | 18 Electronic Valve to fill the System |
| 3 Plug for Combustion proof (F=flue) | 19 Outlet System Tap |
| 4 Automatic Venting Device (Domestic Hot Water Exchanger) | 20 Manometer |
| 5 Temperature Sensor DHW Micro Storage | 21 By-Pass |
| 6 Flue Conveyor | 22 Syphon for Condense Outlet |
| 7 Expansion Vessel | 23 Safety Valve for 3 bar Heating Circuit |
| 8 Combustion Group (burner+primary exchanger) | 24 Motorized 3 Way Valve |
| 9 Sealed Chamber | 25 Circulator |
| 10 Gas injectors | 26 Too full Syphon Outlet |
| 11 Air/Gas Mixing System | 27 Low Pressure Switch |
| 12 Motorized Mixing Valve | 28 Fan |
| 13 Syphon for Condense Collection | 29 Flame Detector and Checking Sensor |
| 14 Gas Valve | 30 Ignition Electrode |
| 15 Ignition Unit | 31 Inlet Temperature Sensor |
| 16 Pipe for Condense Outlet | 32 Safety Thermostat |
| | 33 Micro-storage |
| | 34 Safety thermostat on system return (manual reset) |

Electrical diagram



- C Pump
- EA Ignition Electrode
- EC Automatic filling device
- ER Flame Detector Electrode
- FP Priority flowstat
- L Electrical Phase (Live)
- V Fan + Hall Sensor
(V1 = supply, V2= speed checking)
- N Electrical Neutral
- PSA Loss of water switch
- SB Domestic minitank temperature sensor
- SE External temperature probe
- SR Flow temperature sensor

- TA Room Thermostat unique zone or main zone
(take off the jumper to install)
- TA2 Room Thermostat secondary zone
(it works only if the TA is installed)
- TP Inlet for Safety Thermostat Floor Standing
Systems (take off the jumper to install)
- TS High temperature safety thermostat
- TSR Safety thermostat on system return
(manual reset)
- VD Three way valve
- VM Motorised mixing valve
- EVZ 1/2/3 Electro-valve zone 1/2/3
- AUX 1/2/3 Auxiliary for EVZ 1/2/3
- TAZ 1/2/3 Room thermostat for zone 1/2/3

Colours abbreviations:

- BK Black
- BN Brown
- BU Blue
- GN Green
- GNYE Green-Yellow
- GY Grey
- OG Orange
- RD Red
- VT Violet
- WH White

USER INSTRUCTIONS

Warnings for boiler commissioning

⚠ First ignition must be carried out by qualified technicians (in example HERMANN Authorized Servicing Centres).

It is necessary that the technician verifies:

- a) the label technical data of the gas boiler correspond to those of the gas, water and electrical supply lines;
- b) the main burner regulation is compatible with the gas boiler output;
- c) the chimney works correctly, expelling the combustion products;
- d) the air supply and the combustion products evacuation work correctly, in accordance with the requirements in force;
- e) the conditions for a correct ventilation are guaranteed, also when the gas boiler is located inside a furniture.

Useful tips

INSTALLATION AND SERVICING

All installation, servicing and gas conversion operations **MUST BE CARRIED OUT BY QUALIFIED TECHNICIANS** authorized by Law n. 46 dtd March 5th, 1990 and in accordance with UNICIG 7129/92 and 7131/99 requirements and revisions.

Moreover, in accordance with art.11 section 4 of DPR 412/93, boiler **MAINTENANCE** operations must be made at least once a year and following manufacturer's instructions and present UNI and CEI rules.

APPLIANCE BOOKLET OR CENTRAL PLANT BOOKLET

All appliances, even those installed before August 1st, 1994, must have an appliance booklet (for outputs less or equal 35 kW) or a central plant booklet (for outputs more than 35 kW). All ordinary and special servicing operations and combustion checks must be written on the booklet, together with the name of the person responsible for servicing.

COMBUSTION CHECKING

Combustion checking is made with a control of the boiler efficiency; this checking must be carried out only by a person with the requirements of the Law 46/90. Boilers that, after the checking, will have efficiency rates lower than the ones required and not changeable with suitable adjustments, must be replaced.

BOILER OPERATION AND SERVICING

The user (owner or tenant of the flat where the boiler is installed) or the administrator of the block of flats (in case of a central heating system) are responsible for the appliance operation and servicing; they can both transfer the responsibility of servicing - and eventually of operation - to another person, which must have the requirements indicated by the Law 46/90. Even if the user or the administrator decide to assume personally this responsibility, ordinary servicing of the warm air heater and combustion checks must be carried out by a qualified technician.

Warnings



In case of gas smell:

- a) do not press electrical switches, use the telephone or other objects that can provoke sparks;
- b) open immediately the windows and the doors in order to cleanse the room air;
- c) close the gas supply taps;
- d) call a qualified technician.



Do not obstruct the ventilation openings of the gas boiler room, in order to avoid possible dangerous situations as the creation of poisonous or explosive mixtures.



When the boiler is off for a long period see the Paragraph “Inactivity of the Boiler” for the necessary precautions about the electrical supply, the gas supply and the protection against freezing.

Gaining access to control panel

To gain access to control panel it is sufficient to softly push in the lower part of control cover, as shown.



Switching on/off and running boiler

SWITCHING ON

- Turn main electrical switch on; green light flashes
- Open gas tap and press O/I : button: green light is constantly on, indicating that boiler is ready for working either in summer or in winter mode

SWITCHING OFF

- press O/I : button: green light flashes

⚠ If boiler is unused for a long period of time it is recommended to close gas tap and electrically disconnect boiler

“SUMMER” MODE

Press $\text{☀}/\text{❄}$ knob to work boiler in SUMMER mode. SUMMER mode is recognisable just looking on to display where the symbol 🚰 appears together with set sanitary temperature (in °C).

Burner automatically switches on whenever there is a domestic hot water demand.

It is possible to change hot water temperature by pressing $\text{🚰} -$ or $\text{🚰} +$: new set temperature flashes for few seconds.

“WINTER” MODE

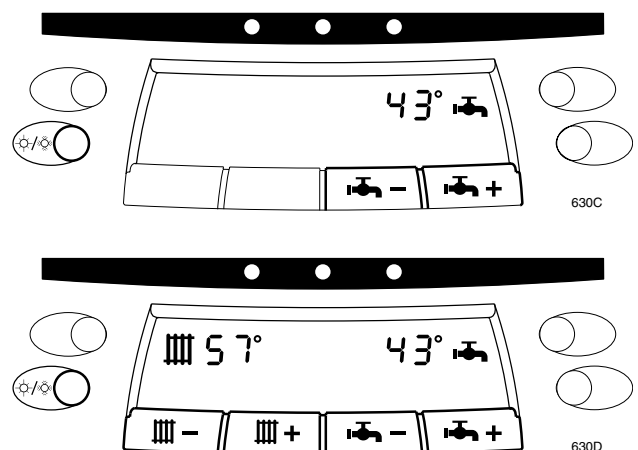
Press $\text{☀}/\text{❄}$ knob to work boiler in WINTER mode. WINTER mode is recognisable just looking on to display where both 🔥 and 🚰 symbols appear together with set sanitary and heating temperature (in °C).



Burner automatically switches on whenever there is a request.

It is possible to change sanitary hot water temperature by pressing $\text{🚰} -$ or $\text{🚰} +$: new set temperature flashes for few seconds.

It is possible to change heating system water temperature by pressing $\text{🔥} -$ or $\text{🔥} +$: new set temperature flashes for few seconds. Afterwards actual (measured) temperature is shown.


Note: if you have a central heating lead by a third-parties room thermostat (or chrono thermostat), it is adviced to set heating temperature to 65÷70°C

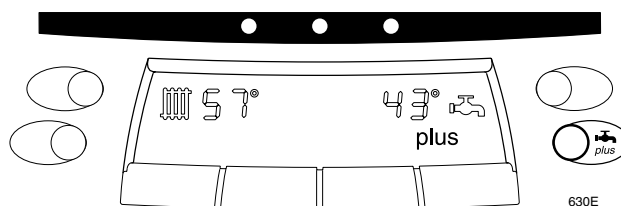


If an external probe has been installed (optional Hermann kit), heating system temperature is automatically controlled by boiler depending on external temperature. Pressing knobs  - and  + can vary a “dispersion coefficient” (please refer to technical documentation included with said kit).

PLUS FUNCTION

Inserting PLUS function EURA produces hot water in an extremely short time giving same comfort as boiler with a big DHW tank.

To switch PLUS function on (off) it sufficient to press  knob, both in summer and winter mode. When plus option is on, the writing ‘plus’ is displayed.



REGULATING ROOM TEMPERATURE

We want here to remind you that the room temperature must be regulated through a room thermostat with two temperature levels. This required by law XXXX [Italian reference: DPR 26 Agosto 1993 n°412 and relevant changes].

Please always refer to instruction manual enclosed to room thermostat(s).

BOILER FILLING

It is not necessary by end user to check water pressure inside boiler since EURA is provided with a special automatic filling device.

In case of anomaly, a special alarm will be displayed. Please refer to paragraph ‘Boiler blocking and alarm codes’.

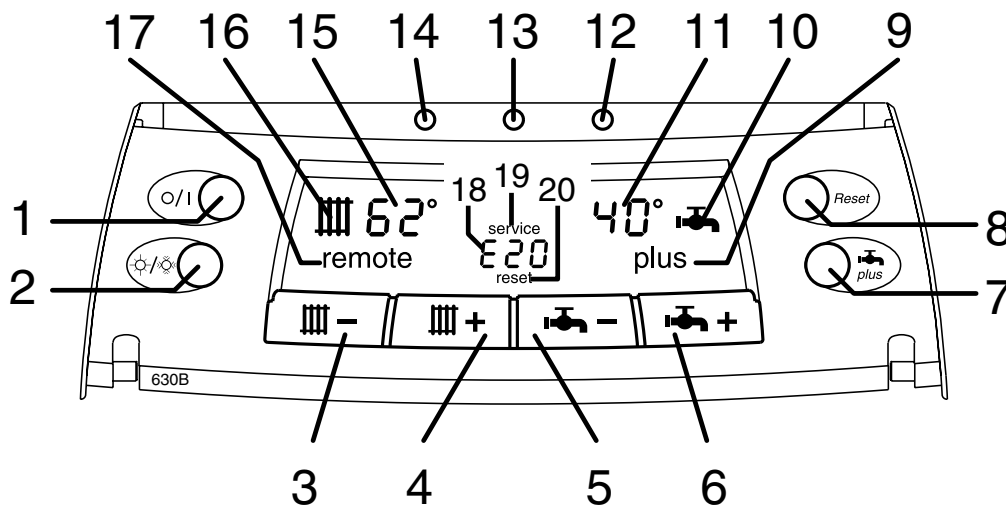
ANTI FREEZING PROTECTION

Eura is equipped with an Anti freezing device, which keeps temperature in heating and domestic system above 5 °C. Such system is enabled also when boiler is ‘OFF’ (green light flashing), provided that boiler is fed by gas and electricity.

In case of gas or electricity failure, boiler can’t turn on and antifreeze protection is performed by pump only, keeping water flowing.

It is important to underline that said anti freezing protection is a preventing device. It is not recommendable to leave boiler unused for long periods where climate is very cold. In these cases see what is indicated in the paragraph “Boiler inactivity”.

Control panel details



1 ON/STAND BY knob

- Pressing allows switching boiler on (on mode, green light on)
- Pressing once more boiler switches off (stand by mode, green light flashing), leaving anti freezing protection on.

2 SUMMER/WINTER knob

- Pressing allows switching between summer and winter mode. For more details see ‘Switching on/off and running boiler’

3 HEATING SYSTEM TEMPERATURE (decrease) knob

4 HEATING SYSTEM TEMPERATURE (increase) knob

- Pressing these knobs allows a decrease/increase of 1°C in Heating flow water. Such knobs work in winter mode only.

When you realize that room reaches too slowly desired temperature, increase this setting. If room temperature goes over desired temperature, decrease this setting.

5 DOMESTIC SYSTEM TEMPERATURE (decrease) knob

6 DOMESTIC SYSTEM TEMPERATURE (increase) knob

- Pressing these knobs allows a decrease/increase of 1°C in domestic water.

7 PLUS knob

- Pressing this knob enable/disable “plus” function. For more details see “Switching on/off and running boiler”.

8 RESET knob

- Before pressing this knob, please refer to “Boiler blocking and alarm codes” to understand what happened and prevent future problems.
- Pressing this knob allows to reset boiler after a failure (that could be reset by end user); when such type of failure occurs, warning writing ‘reset’ is displayed together with alarm code (see 18 and 20 in enclosed picture), and RED light turns CONSTANTLY ON.
- If RED light FLASHES, and an alarm code and ‘service’ appears on to the display (18 and 19), it is necessary to call a technical centre to solve problem; reset knob is NOT working.



9 PLUS symbol

- When plus is displayed, “PLUS” function has been enabled.

10 HOT WATER symbol

- When hot water is ready at set temperature, this symbol is displayed, both in summer and winter mode.
- When this symbol flashes, there is a hot water supply going on.

11 DOMESTIC SYSTEM TEMPERATURE displayed

- Set sanitary water temperature is shown. It flashes for few seconds while changing temperature by pressing  - or  + .

12 Red light – BOILER BLOCKED

- When red light is off, boiler is normally working.
- When red light is CONSTANTLY on, a boiler failure, which can be reset by end user, happened and ‘reset’ is displayed (18 and 20 in enclosed picture. Please refer to ‘Boiler blocking and alarm codes’ to understand what happened and prevent future problems. Then press ‘reset’ button.
- When red light FLASHES, and an alarm code and ‘service’ appears on to the display (18 and 19), it is necessary to call a technical centre to solve problem.



13 Orange light – BURNER WORKING

- When orange light is CONSTANTLY on, burner is ignited.
- When orange light is flashing it means that the technician, to do particular service and maintenance operations, has excluded one function of the boiler which does not prevent the boiler ignition. After about 20 minutes the lamp will stop flashing and the boiler will continue its normal function.

14 Green light – BOILER ON/STAND-BY

- When green light flashes, boiler is electrically fed, in stand-by mode.
- When green light is constantly on, boiler is ready to work.

15 HEATING SYSTEM TEMPERATURE displayed

- When indication is CONSTANTLY on, it shows heating system water ACTUAL temperature (flowing out the boiler).
- When temperature (or dispersion coefficient*) is modified pressing knobs  - or  + , SET heating temperature (or dispersion coefficient*) FLASHES for few seconds.

* if optional external probe is installed.

16 HEATING symbol

- Boiler in winter mode
- While flashing, boiler is heating radiators.

17 REMOTE displayed

- It is shown only if the original Hermann Remote Control Panel is installed (Remote Control). Most of controls are now available on to remote control only. Please refer to remote control instruction manual.

18 ALARM CODE displayed

- An alarm code is displayed after boiler blocking and identifies the type of failure occurred.
- Please refer to 'Boiler blocking and alarm codes' to understand what happened and prevent future problems.

19 SERVICE displayed

- Boiler is blocked and can be reset by technical service only.

20 RESET displayed

- Boiler is blocked.
- Please refer to 'Boiler blocking and alarm codes' to: understand what happened; restore boiler operation; prevent future problems.

Boiler blocking and alarm codes

In this section all alarm codes which can be displayed are described, together with the relevant operations to be carried out by the USER to restore boiler operation.

 **If, carrying out the described operations, boiler does not work anyway, or blocking happens again, please contact a Hermann Technical Centre.**

All alarms displayed with red FLASHING light and 'service' writing on display MUST be solved by a Hermann technical centre only. All technical description of causes and solutions for 'service' alarms are described in "Crypt Warnings for Technical experts".

E01 No flame

Red light: **constantly on** Alarm type: **reset**

Cause 1: Burner flame has not been successfully ignited or it has suddenly stopped.

Solution: Press 'Reset' button to re-ignite boiler.

If problem occurs again, check boiler and main gas tap, verifying gas network too.

Cause 2: Electrical connections are wrong.

Solution: Press 'Reset' button to re-ignite boiler.

If problem still exists, call a qualified technician to check Live, Neutral and Earth wirings, in particular Live and Neutral must not be reversed. Otherwise, boiler can't detect flame on burner, and blocks.

The problem may be located in electrical distribution network too (unbalanced Neutral).

E02 Safety device interference

Red light: **constantly on** Alarm type: **reset**

Cause 1: Boiler is overheated and safety thermostat forced boiler to block.

Solution: Wait 20/30 minutes to cool boiler down then press 'reset'. If block happens again, please contact a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#) (see Cause 2 also).

Cause 2: If the block repeats always and immediately after a heat request (heating or DHW) the safety thermostat on the system return may have triggered. This device, once triggered, remains active and must be reset manually by the Technician.

Solution: Please contact a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

E03 Reserved Alarm

Red light: **constantly on** Alarm type: **reset**

Solution: Press 'Reset' button. If the block continues, call a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

E05 Heating system flow temperature sensor damaged

Red light: **flashing** Alarm type: **service**

Solution: call a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

E12 Domestic Mini tank sensor damaged

Red light: **flashing** Alarm type: **service**

Solution: call a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

E16 Fan Problem

Red light: **constantly on** Alarm type: **reset**

Cause: It has been relieved that the fan which supplies the burner with the air/gas mixture works at a number of turns different then those foreseen.

Solution: Press 'Reset' button to re-ignite boiler. If block happens again, please contact a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

E18 Boiler Filling in progressRed light: **off**Alarm type: **none**

Cause: Heating system pressure dropped (most likely on account of a water leakage) and boiler is automatically filled with water.

Solution: Wait until alarm code disappears.

If this operation occurs 3 times within 24 hours boiler will be blocked and 'service' will be displayed because a big leakage is present in the heating system (radiators included). Anyway, it is recommended to call a [Hermann Technical Centre] [qualified technician] in case this operation is very usual.

Be careful that if boiler is filled with anti freezing solution, any automatic filling with water will dilute solution.

E19 Filling not completed within available timeRed light: **flashing**Alarm type: **service**

Solution: call a [Hermann Technical Centre] [qualified technician].

E21 Low water pressure in the primary/heating system (3 automatic filling already executed)Red light: **flashing**Alarm type: **service**

Cause: There is a water leakage inside your heating system

Solution: Switch boiler off by pressing $\bigcirc / |$ and disconnect electrical line through main switch. Switch boiler on pressing $\bigcirc / |$ again. E18 code may be displayed: it should disappear within 5 minutes otherwise (if E21 code is on again) call a [Hermann Technical Centre] [qualified technician]. Do not try to reset boiler once more.

E22 Imprecise data storingRed light: **flashing**Alarm type: **service**

Solution: call a [Hermann Technical Centre] [qualified technician].



E24 Intervention of the safety thermostat floor standing systemRed light: **constantly on**Alarm type: **reset**

Cause: The temperature supplied to the floor standing system could be too high. A realized floor standing system it is equipped with one or more safety thermostats which check the circulating temperature of the water in the coils immersed in the same floor. A too high temperature to high, can be boring for the occupants, could provoke SERIOUS DAMAGES to the system, to the floor and to the elements of the covering. The boilers is equipped with a special inlet for that thermostat which, if an alarm is detected, stops the boiler.

Remark: When this alarm is working, the boiler stops the heating operating but keeps to produce domestic hot water.

Solution: We recommend you to wait a sufficient time to bring again the floors at a normal temperature to restore the safety thermostat. Push the button "Reset" to switch on the boiler again and wait more then 30 seconds, because this is the delay connected to this alarm.

If this alarm is showed again, let the technician check the inlet temperature for the various zones at high and low temperature. If the block happens again unless the above mentioned verifications, contact the Service Centre of the boiler and/or who has built the floor standing system.

Remark for the Technician: for the main zone at a low temperature or only at a low temperature, verify that the parameter 2 is positioned on the value 1 and regulate the inlet temperature through the buttons  - and  + . For the secondary zone at a low temperature verify/regulate the inlet temperature through the parameter 17.

If the block happens again unless the above mentioned verifications, contact the [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#) of the boiler and/or who has built the floor standing system.

E31 Remote control* not working

Red light: **flashing**

Alarm type: **service**

* *This applies to Hermann Remote Control optional kit only, and not to third parties chrono thermostats.*

Solution: call a [\[Hermann Technical Centre\]](#) [\[qualified technician\]](#).

In these conditions, boiler can only produce domestic hot water. If necessary, ask the technician to make the boiler provisionally work in manual heating: information for this operation are in "Crypt Warnings for Technical experts" paragraph (refer to alarm code E31).

Boiler inactivity

The effects of the periods of inactivity can be relevant in particular situations such as in flats used only for some months per year, most of all in cold places.

The user will have to decide to put the boiler in the **SAFETY LOCK OUT state** disconnecting all the supplies, or to **leave it in stand-by and use the Anti Freezing Function**. When there is the possibility of freezing it is convenient to choose between the advantages and the disadvantages of the SAFETY LOCK OUT and of the Stand By/Anti Freezing Way. In general, for long periods of inactivity, it is better to use the SAFETY LOCK OUT.

SAFETY LOCK OUT

- Turn off the general switch on the Electrical Supply Line of the Boiler;
- Close the Gas Tap;

i When it is expected that the temperature is going to decrease under 0°C, call a technician to do the following:

- Fill the system with an antifreezing solution (unless this has been already done) otherwise it must be completely emptied. Notice that if it had been necessary to restore the pressure (because of possible loss) in an heating system already filled with an Anti freezing solution, the concentration of the solution could have decreased and it could not guarantee the Anti freezing Protection.
- Let the condense collector syphon be emptied unscrewing its inferior plug.

REMARK: the boiler is equipped with a system which protects the main components from the exceptional cases of LOCK OUT, due to the inactivity in presence of water and scale. The Anti Lock out System can't work during the Safety Lock Out Process, because of the lack of electrical supply.

STAND-BY AND ANTI FREEZING/ANTI LOCK OUT FUNCTION

The boiler is equipped with an Anti freezing System which provides the ignition of the boiler whenever the temperature of the heating circuit water decreases under 5°C. In order to activate the Anti Freezing Function:





- electrical power supply **MUST** be ON;
- boiler must be left in stand-by mode (Summer/Winter selector on 0, green lamp flashing);
- the gas must be left open;
- system pressure must be correct (0.4÷0.9 bar in a cold state)

In case of lack of gas, the burner won't turn on and the boiler will go in LOCK OUT state (red lamp on or flashing). Nevertheless the pump will work, making the water circulate in the system and reducing in this way the possibility of freezing.


Moreover, the boiler in stand-by activates periodically the main internal components to prevent the exceptional cases of Lock out due to the inactivity in presence of water and scale. This happens also if the boiler goes in Lock Out state (red lamp on or flashing).

Eventual problems

BURNER DOES NOT IGNITE

- Verify if green light is constantly on:
 - If green light is off boiler is not electrically connected;
 - If green light flashes boiler is off. Press  to switch it on.
- Verify if red light is constantly on. In this case boiler is blocked: please refer to 'Boiler blocking and alarm codes';
- After switching boiler on by pressing  or after a reset it is necessary to wait 90 seconds. During this period of time boiler does not work;
- If a room thermostat (or eventually more than one) is installed, please check if it is regulated at a temperature higher than room temperature and that boiler is in Winter mode (both symbols  and  must be displayed).

LOW DOMESTIC HOT WATER PRODUCTION

- Check if domestic hot water temperature is enough high; in case increase temperature by pressing  + ;
- Let the boiler regulations and the correctness of the programming be checked, in particularly the parameter n. 12;
- Call a technical service centre to verify domestic heat exchanger.



In case of particular water hardness, a water softener must be installed.



Do not try to repair boiler by yourself.

For any problem related to electric circuit, hydraulic circuit, gas circuit, a Hermann technical centre must be contacted.

All boilers must be equipped with original spare parts.

Hermann cannot be considered liable for eventual damages caused by improper, wrong, irrational use of material not original.

Warning while using



- Check frequently water pressure on the hydrometer and verify that, when the system is cold, water pressure values are in line with the manufacturer instructions.

such as outlet duct, hydraulic connections and so on that



Do not touch the heated surfaces of the boiler, such as outlet duct, hydraulic connections and so on, also after the boiler operation because, for a certain time, these surfaces are overheated. Any contact with them can cause dangerous scalds. It is then forbidden to let children or inexperienced people be close to the boiler, during its operation.

- Do not expose the wall hung gas boiler to water vapours directly coming from gas cookers/hobs.
- Do not wet the gas boiler with water or other liquids sprinklings.
- Do not put any object on the gas boiler.
- The gas boiler utilization is forbidden to children and to inexperienced people.
- If the gas boiler is going to be definitively unused, call a qualified technician to carry out all required operations, checking in particular disconnection of gas, water and electrical supplies.

INSTRUCTIONS MANUAL

Make sure that the present manual is ALWAYS with the boiler, for any consultation of the user and servicing personnel.

HERMANN CONVENTIONAL GUARANTEE CONDITIONS

Hermann offers to the customer a particular and exclusive CONVENTIONAL GUARANTEE, which is automatically activated asking the First Ignition to a Hermann Authorized Service Center. The conditions of the HERMANN CONVENTIONAL GUARANTEE don't prejudge nor invalidate the rights indicated by the European Rule 1999/44/CE actuated with Italian Laws by the Decree 02 Februar 2002 N°24 of which the User is the Owner.



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