

**INSTRUCTIONS MANUAL
FOR THE GAS BOILER**

Supermicra

**23 € - 28 €
24 SE - 30 SE**



ATTENTION

(for SUPERMICRA 24/30 SE)

FOR DIAPHRAGM POSITIONING, CAREFULLY READ THE FLUE SYSTEMS INSTRUCTIONS IN THE “INSTALLATION” CHAPTER.

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.

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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.

INTRODUCTION

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]*.
- User can ONLY make those operations that are specifically described in the “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.

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.

TECHNICAL DATA

TECHNICAL DATA	U.M.	SUPERMICRA 23 E		SUPERMICRA 28 E		SUPERMICRA 24 SE		SUPERMICRA 30 SE	
CE certification	n°	0694 BN 3710		0694 BN 3710		0694 BN 3710		0694 BN 3710	
Class		II2H3+		II2H3+		II2H3+		II2H3+	
Type		B11/BS				B22 - C12 - C32 - C42 - C52 - C62 - C82			
Gas type		G20	G30/ G31	G20	G30/ G31	G20	G30/ G31	G20	G30/ G31

Max heat input (Hi)	kW	25.6	25.6	30.5	30.0	25.6	25.6	32	32
Min heat input (Hi)	kW	10.5	10.5	13.2	13.2	10.5	10.5	13.2	13.2
Max heat output (Hi)	kW	23.1	23.1	27.5	27.1	23.7	23.7	30	30
Min heat output (Hi)	kW	9.1	9.1	11.4	11.4	9.1	9.1	11.6	11.6
NO _x Class		3	1	3	1	3	2	3	2
Weighted NO _x	mg/kWh	112	204	128	208	137	158	133	194
CO at nominal input	ppm	38	90	31	47	36	48	30	38
CO ₂ at nominal input	%	4.7	5.6	4.9	5.8	6.7	8	6.5	7

EFFICIENCY

Nominal efficiency	%	90.8	91.4	93.2	93.7
Efficiency at 30% load	%	88.1	89.8	90.4	91.7

HEATING

Temperature selection range (min+max)	°C	30+80	30+80	30+80	30+80
Expansion vessel	l	8	8	8	8
Expansion vessel pressure	bar	1	1	1	1
Max working pressure	bar	3	3	3	3
Max system temperature	°C	85	85	85	85

HOT WATER

Flow rate at 25°C temperature rise	l/min	13.2	15.8	13.6	17.2
Flow rate at 30°C temperature rise	l/min	11.0	13.2	11.3	14.3
Min water flow	l/min	3	3	3	3
Max supply pressure	bar	6	6	6	6
Min supply pressure (for priority pressure switch activation)	bar	0.8	0.8	0.8	0.8
Temperature selection range (min+max)	°C	30+70	30+70	30+70	30+70

ELECTRICAL DATA

Voltage / frequency	V / Hz	230/50	230/50	230/50	230/50
Power consumption (VAP = with high capacity fan)	W	100	130	150 (160 VAP)	180
Level of protection		IP X4D	IP X4D	IP X4D	IP X4D

DIMENSIONS

Width - Height - Depth	mm	Refer to "DIMENSIONS" diagram			
Weight	kg	32.5	32.5	37.5	38.5

CONNECTIONS (S=Outlet)

Heating flow / return	Inch	¾"	¾"	¾"	¾"
Domestic Water inlet / outlet	Inch	½"	½"	½"	½"
Gas connection to the boiler	Inch	¾"	¾"	¾"	¾"
Gas connection to the gas cock of standard connection kit	Inch	½"	½"	½"	½"
Flue products outlet Ø	mm	130	140		
Coaxial flue products outlet / air inlet Ø	mm			100/60	100/60
Coaxial flue length (horizontal) min/max	m			0.5+4	1+3
Coaxial flue length (vertical) min/max	m			1+5	1+4
Separate flue products outlet / air inlet Ø	mm			80	80
Separate flue length min/max	m			2+30 (max S=20)	2+16 (max S=10)
Separate flue length min/max with high capacity fan	m			31+60 (max S=40)	
Separate flue length with pipes-split min/max	m			2+14 (max S=13)	2+10 (max S=7)

GAS SUPPLY PRESSURE

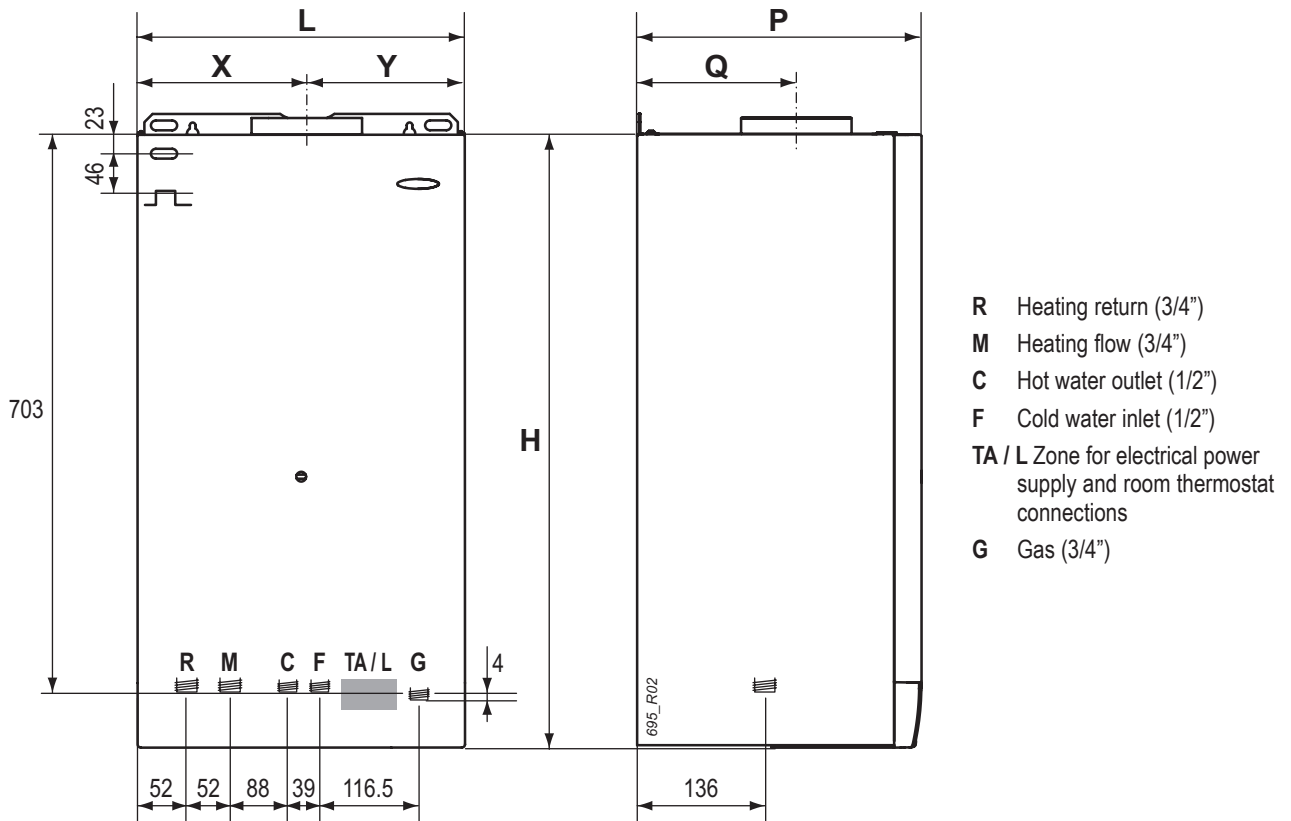
Gas type		G20	G30/ G31	G20	G30/ G31	G20	G30/ G31	G20	G30/ G31
Nominal pressure	mbar	20	29/37	20	29/37	20	29/37	20	29/37
Injectors number		13	13	14	14	13	13	14	14
Injectors diameter	Ø 1/100mm	120	75/75	125	76/76	120	75/75	130	78/78

GAS CONSUMPTION

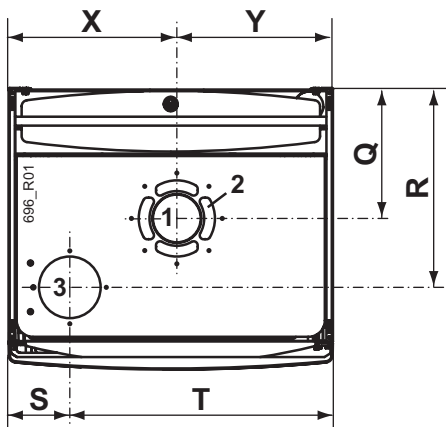
Qmax	mc/h	2.71		3.22		2.71		3.38	
	kg/h		2.01/ 1.98		2.36/ 2.33		2.01/ 1.98		2.52/ 2.48
Qmin	mc/h	1.11		1.40		1.11		1.40	
	kg/h		0.83/ 0.81		1.04/ 1.02		0.83/ 0.81		1.04/ 1.02

DIMENSIONS

Supermicra E - SE



Supermicra 24-30 SE models only:

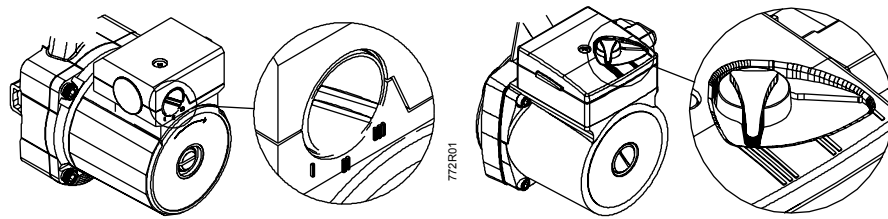
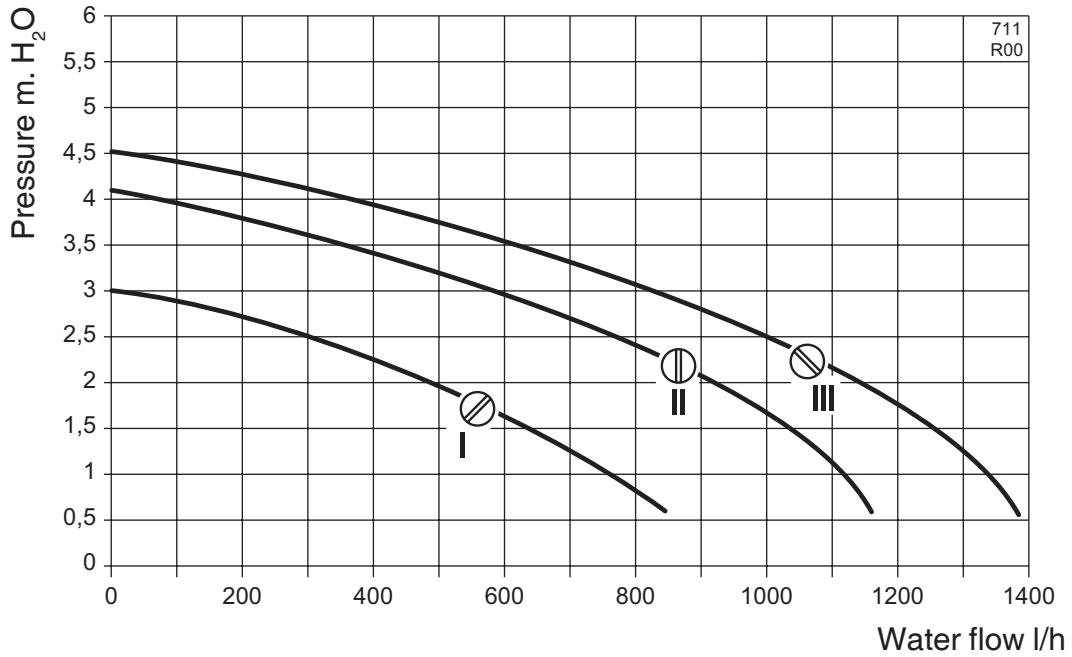


1	Flue products outlet
2	Air inlet for coaxial system
3	Air inlet for separate system

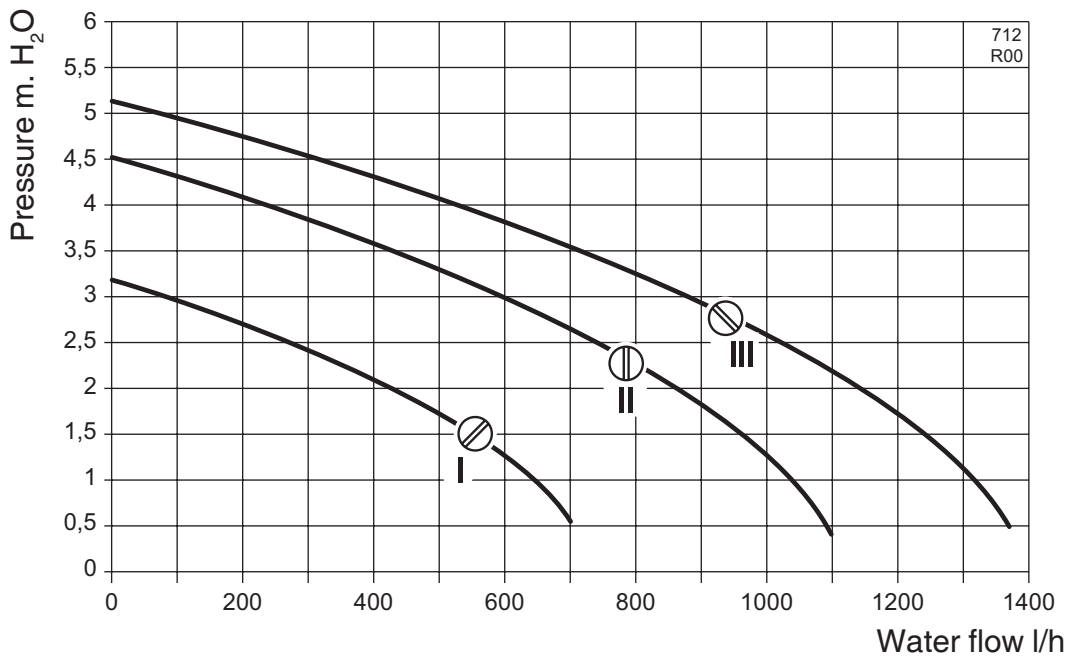
Boiler model	L (mm)	H (mm)	P (mm)	X (mm)	Y (mm)	Q (mm)	R (mm)	S (mm)	T (mm)
SUPERMICRA 23 E	400	750	347	207	193	194			
SUPERMICRA 28 E	400	750	347	207	193	194			
SUPERMICRA 24 SE	400	750	347	207	193	161	246	75	325
SUPERMICRA 30 SE	400	750	347	207	193	161	246	75	325

for the technician

AVAILABLE PUMP CAPACITY
Model SUPERMICRA 23 E / 24 SE
 with selector in speed position I, II, III (automatic by-pass, not disconnectable)



AVAILABLE PUMP CAPACITY
MOD. SUPERMICRA 28 E / 30 SE
 with selector in speed position I, II, III (automatic by-pass, not disconnectable)

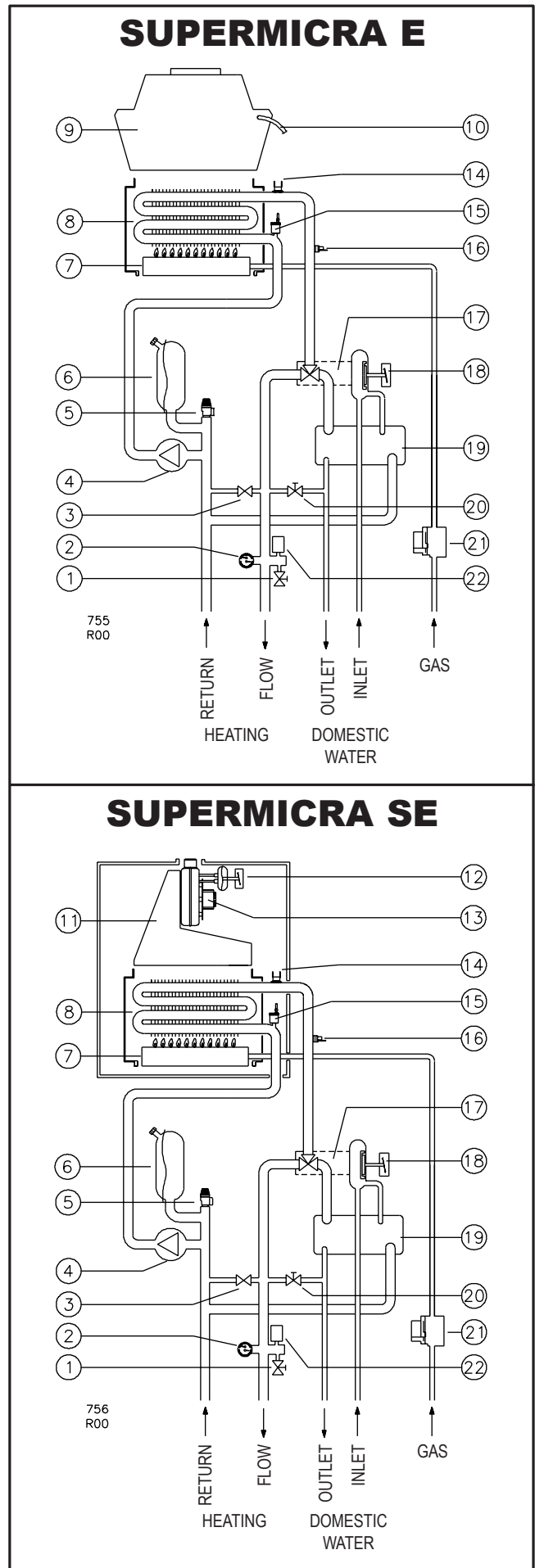


for the technician

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" or the "Dimensions" drawing.

- 1 Drain valve
- 2 Heating thermometer + gauge
- 3 By-pass
- 4 Pump
- 5 Heating system safety valve 3 bar
- 6 Expansion vessel
- 7 Burner
- 8 Primary heat exchanger
- 9 Flue hood ("E" models)
- 10 Flue thermostat ("E" models)
- 11 Flue hood ("SE" models)
- 12 Flue pressure switch ("SE" models)
- 13 Fan ("SE" models)
- 14 Safety thermostat
- 15 Venting device
- 16 NTC temperature sensor
- 17 Hydraulic 3-way valve
- 18 Priority pressure switch
- 19 Domestic exchanger
- 20 Filling valve
- 21 Gas valve
- 22 Loss of water switch



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

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.

Laws and rules referred to boilers installation

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

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**

Law number XXXX

“Law title and/or brief description”

ROOM VENTILATION (mod. SUPERMICRA 23/28 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.**

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

When the installation place does not guarantee an adequate repair against atmospheric agents, the gas boiler must be completely protected through an adequate coverage as a safety measure against the above agents.

Thanks to its antifreeze system, inner components could never reach a temperature lower than 5°C. This system is activated when the boiler is connected to the electrical and gas supply lines.

On request, it is possible to install an antifreeze electrical resistance device on the domestic exchanger, so as to protect boiler even in case of gas lack.

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.

 **This appliance is not suitable for outdoor installation.**

for the technician

Boiler hanging

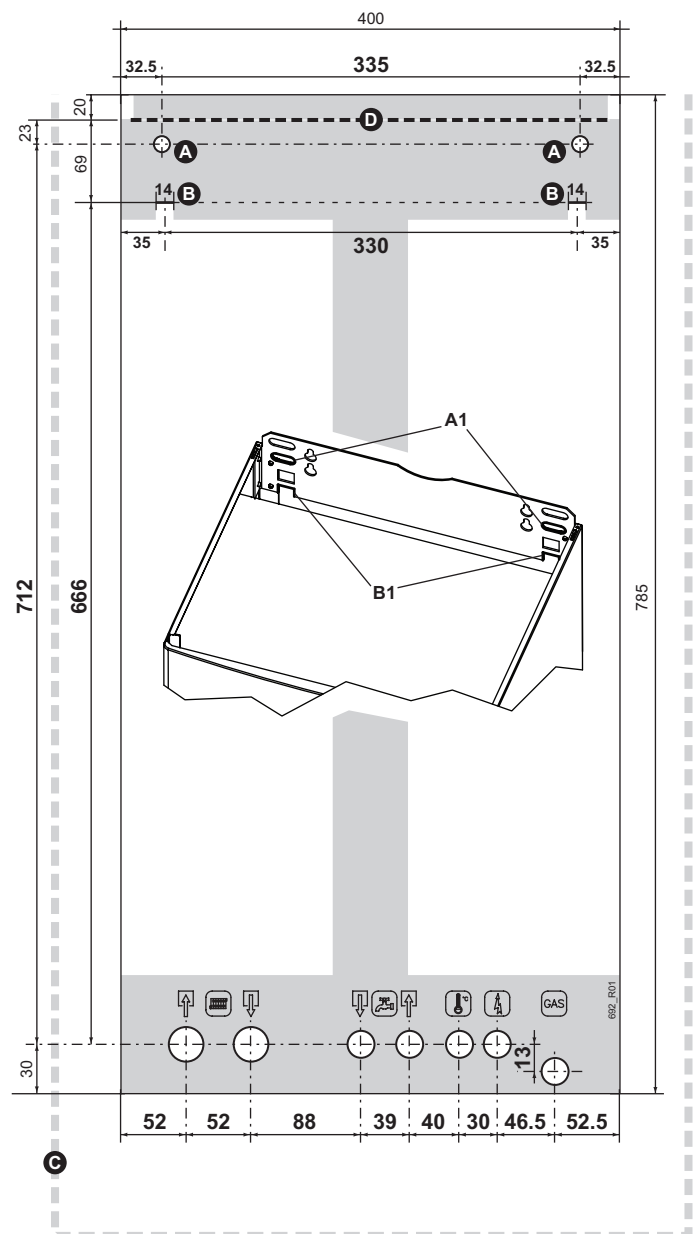
REMARK: A re-utilizable metal jig can be ordered separately, so as to facilitate connections and fixing points positioning (when the standard connection kit is used). If the standard connection kit is not used, refer to the “Dimensions” drawing (Technical Data section) for the position of the connections directly on the boiler.

REMARK: If SUPERMICRA replaces a MICRA, see next section “Replacement of a MICRA boiler” to keep the same hydraulic and flue connections.








- Consider gas boiler size and sufficient clearances [C] for servicing/repair. It is recommended: 50mm on both lateral sides and 300 mm on lower side;
- To fix the boiler with wallplugs (“stud” type with nut), center the relevant wall holes as regards to [A] points. To hang it with open hooks, place hooks in correspondence with [B] points.
- Using the jig or respecting the measures indicated in the figure, fix up electrical connections and all ducts for heating flow and return, cold water, hot water and gas.
- Hang the boiler to the wallplugs or hooks, using the holes ([A1] for the wallplugs and [B1] for the open hooks).
- **Remove the plastic caps** from the boiler connections prior to connecting boiler to the pipework.

REMARK: To facilitate boiler connection, it is possible to remove temporarily the lower grid, unscrewing its four screws.

- As far as air inlet and flue outlet ducts are concerned (forced draught models), please refer to “Flue systems” paragraph, where measures are referred to the upper edge of boiler’s body [D].



for the technician

-  Gas (1/2")
-  Hot water OUTLET (1/2")
-  Cold water INLET (1/2")
-  Heating RETURN (3/4")
-  Heating FLOW (3/4")
-  Electrical power supply
-  Room thermostat

Replacement of “Micra” boiler

SUPERMICRA Boiler has been designed to easily replace MICRA Boiler keeping, according to the different cases, the position of the hydraulic connections and/or of the upper edge of the boiler.

NOTE: If a MICRA 28 E/SE is replaced by a SUPERMICRA it is necessary to move the plug or the right hook of 50 mm leftwards (verify and check the measures with the jig or with the relative figure).

- Before connecting the boiler with the hydraulic and gas connections, take off the Protection Plastic Caps.

SAME HYDRAULIC CONNECTIONS OF MICRA

To preserve the hydraulic connections it is sufficient to move the gas connections upwards of 9 mm (or use for the purpose a flexible connection) and adapt the Flue System so that:

- the length of the vertical stretch remains twice superior in respect of the diameter and the **climbing slope** (beginning from the boiler) of the eventual horizontal stretches remains 3% (minimum) in “**E**” **MODELS** with Natural Draught;
- the **descending slope** (beginning from the boiler) of the horizontal stretches of the air inlet and outlet ducts, necessary to impede the flowing back of the liquids in the combustion chamber (condensation, rain and so on, see also “Connections to SUPERMICRA’s chimneys”) remains of 2% in the “**SE**” **MODELS** with Forced Draught. If this slope is not installed, the Installation of Supermicra SE (which is lightly higher than MICRA) allows to restore it.

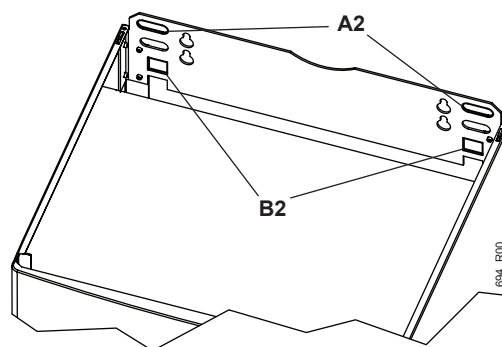
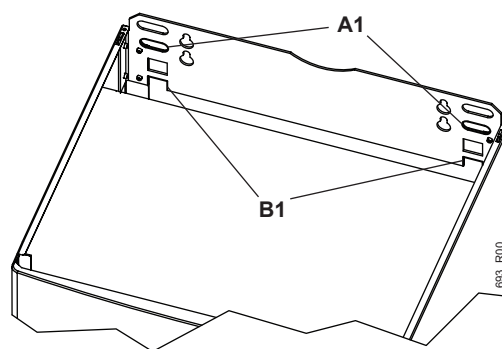
If it weren’t possible to observe these instructions (E.g.: for the absence of vertical stretches, impossibility to respect the slopes) go on following the instructions written in “SAME UPPER EDGE” Chapter.

Disconnect the old MICRA from the system and remove it. Hang the SUPERMICRA in the same way, to the existent hooks or plugs, using the eyelets **[A1]** or **[B1]** pointed out in the figure.

SAME UPPER EDGE OF MICRA

There are situations in which it is necessary to install SUPERMICRA keeping the height of the outlets on the upper board, for example when there are not vertical stretches at the flue products outlet or when these stretches are already of the smallest length. This solution implies the use of flexible connections to make the hydraulic connections.

Disconnect MICRA from the system and remove it. Hang the SUPERMICRA in the same way, to the existent hooks or plugs, using the eyelets **[A2]** or **[B2]** pointed out in the figure. Connect it to the hydraulic connections through suitable flexible pipes.



for the technician

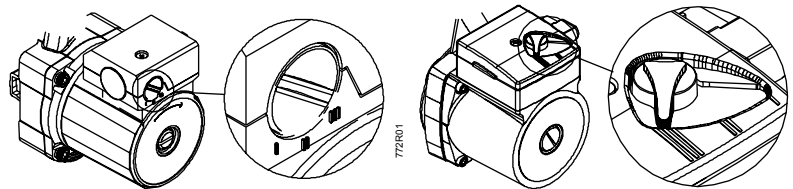
Hydraulic connections

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.**

PUMP'S SPEED

The pump has a selector which allows to reduce the speed, so as to reduce the noise produced by the too rapid circulation of the liquids in too small heating systems.



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 of 1 bar in the heating system, and reduce the flow of hot water available from the boiler.

- i** In case of stronger pressure it is necessary to install a **PRESSURE REDUCER** 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.

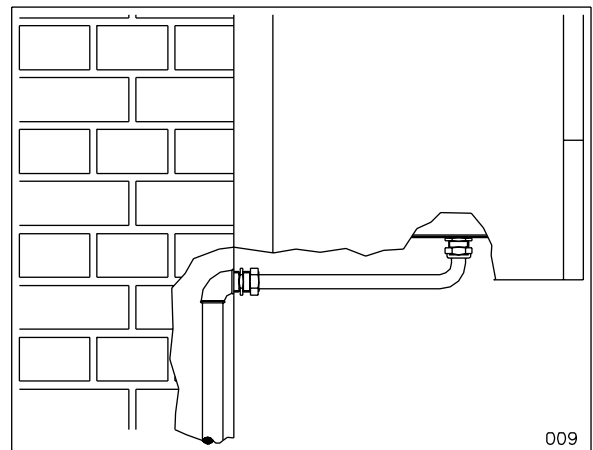
However, it is possible to install suitable water treatment device, depending on the water features.

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 technical data.
- 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.**

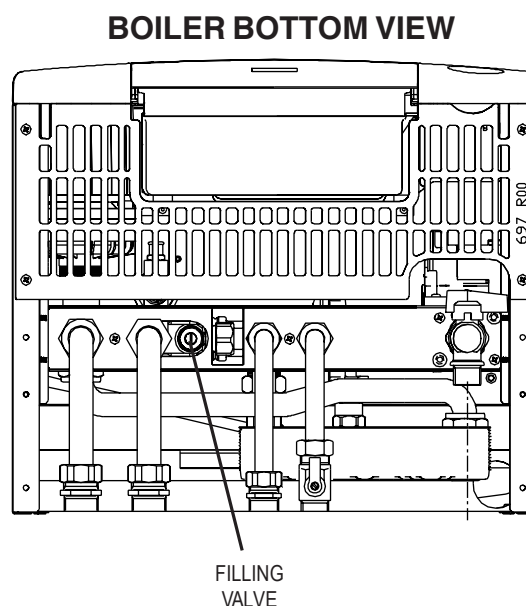
CONNECTION EXEMPLE



System filling

Once all system connections have been carried out, proceed with system filling. This operation should be made with caution, respecting the following steps:

- Open the radiators venting devices;
- Gradually open the water supply valve (see figure “Boiler bottom view”), checking the correct functioning of automatic venting devices, eventually installed;
- Close the radiators venting devices as soon as water flows;
- Make sure that pressure gauge reaches the optimal value of $1 \div 1.5$ bar (minimum: 0.5 bar);
- Close the water supply valve and bleed each radiator;



i In case the boiler is installed in rooms where temperature can drop down to 0°C, it is advisable to fill up the system with an anti-frost liquid.

Gas connection


Boiler installation must be carried out from a qualified technician, [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:

- a) cleaning of all system gas pipes in order to avoid the presence of residual combustion products that could compromise the correct boiler functioning;
- b) gas line and ramp conformity with laws and rules actually in force (Laws UNI-CIG 7129/01 and 7131/99 – DM 12/04/96);
- c) internal and external tightness of the gas system and connections;
- d) supply pipe must have a section greater than or equal to the boiler one;
- e) supply gas must correspond to the one for which the boiler has been regulated; otherwise, call [an HERMANN Servicing Centre] [a qualified technician] for gas conversion;
- f) 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).


for the technician

 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.

 Using LPG, it is absolutely necessary to install a pressure reducer upstream the boiler.

Due to various installation possibilities, the gas cock supplied with Standard Connections Kit for SUPERMICRA boilers has a simple male $\varnothing \frac{1}{2}$ " connection, facing the rear of the boiler. No gas pipes are supplied.

Electrical connections

 The link of the room thermostat works with a **safety extra low voltage (SELV)**; connect it to the **voltage free terminals** of the room thermostat/cronothermostat. **On NO account must any electrical voltage be applied to these terminals.**

The boiler 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.

If the supply cable must be replaced, use one of the following wire types: H05VVF or H05-VVH2-F. **It is mandatory the earth connection in accordance with the rules actually in force.** To replace the cable, release the cable fastener placed on the frame of the hydraulic connections, open the back cover of the control panel and disconnect it from the terminals. Install the new cable working in the reverse way. When connecting the cable to the boiler, it's **IMPORTANT**:

- to leave the Earth wire about 2 cm longer than Live and Neutral wires;
- to lock the cable in the cable fastener placed on the frame of the hydraulic connections.

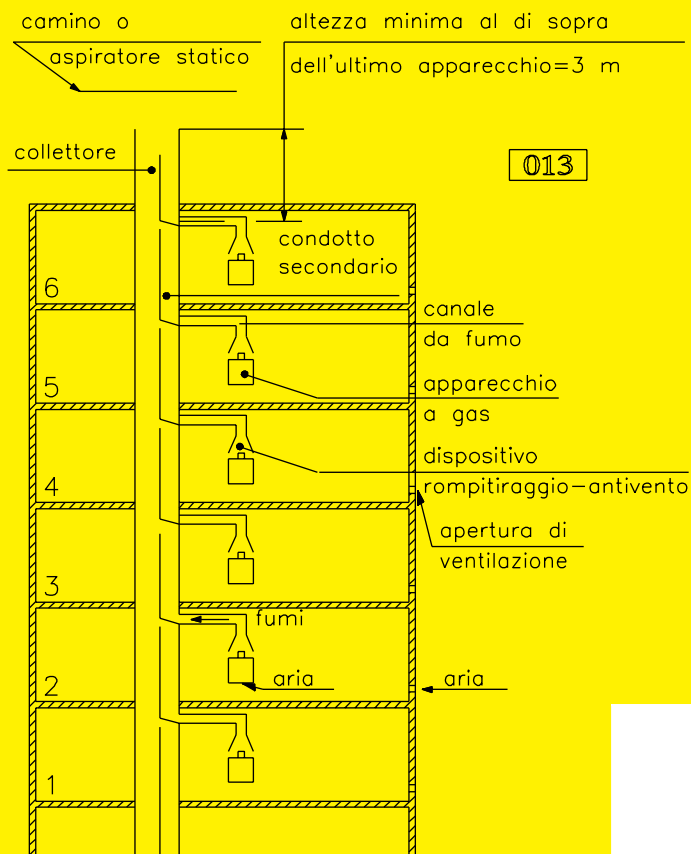
 **Electrical safety of the appliance is only achieved when it is well connected to an efficient earthing system, executed as indicated by the safety rules actually in force.**

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.

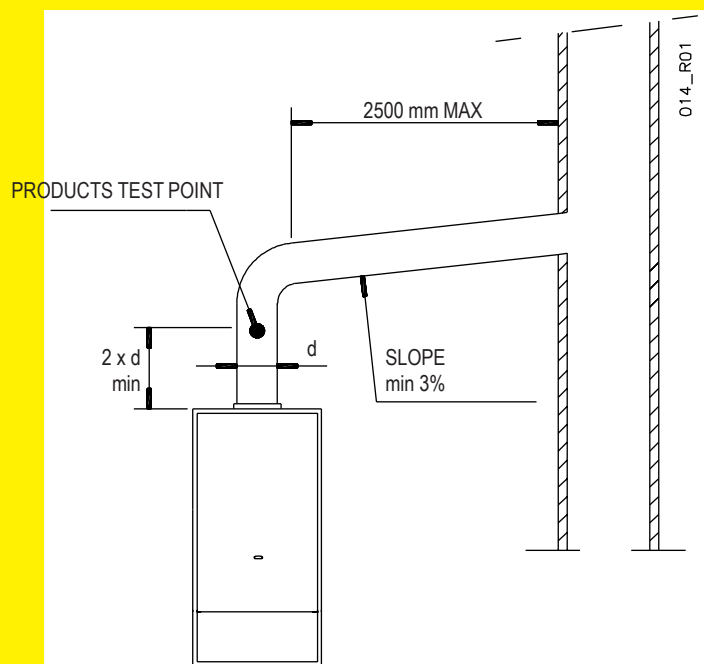
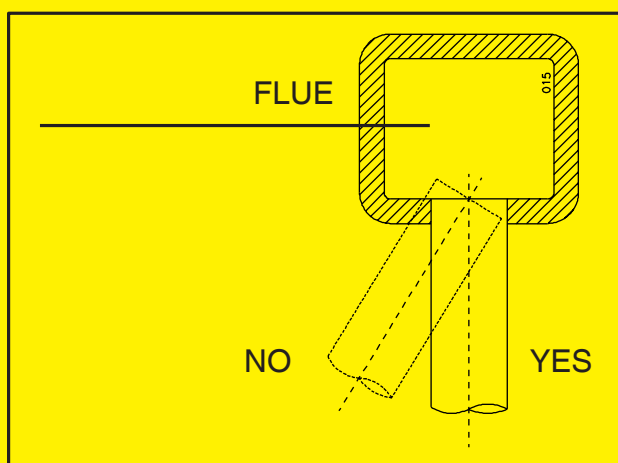
Remark: HERMANN Ltd. declines any responsibility for damages to persons, animals or things caused by the non-connection of the boiler earthing and by failure to comply with the rules.

Chimney connections **SUPERMICRA E (natural draught)**

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



These diagrams are to explain the most important ITALIAN laws concerning chimney connections (for EXEMPLE purpose only)



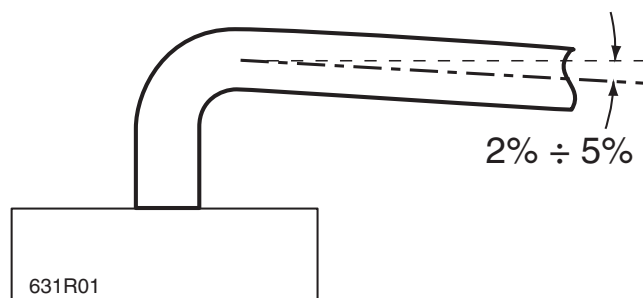
for the technician

Chimney connections

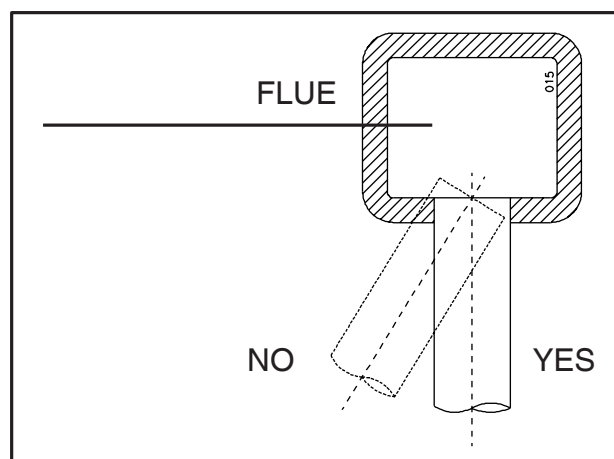
SUPERMICRA SE (forced draught)

NOTE ON FLUE INSTALLATION

When fitting air inlet and flue outlet horizontal ducts, it is necessary to make sure there is a slope of 2÷5% downwards from the boiler to the outside (see diagram). This is essential to guarantee correct boiler operation and reliability. Air inlet and flue outlet terminals should be protected by suitable approved flue accessories, to avoid environmental elements penetration.



**Place here all necessary
advices according to national rules about
CHIMNEY CONNECTIONS of sealed chamber boilers**



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

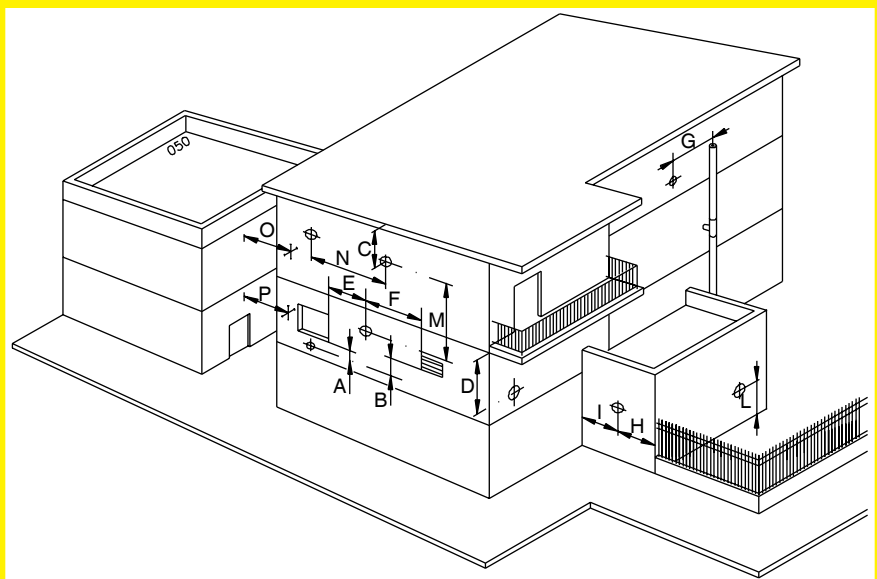
Terminal positioning	Distances	Appliances		
		from 4 kW * to 7 kW mm min.	from 7 kW to 16 kW mm min.	from 16 kW to 35 kW mm min.
Under a window	A	300	500	600
Under an air vent	B	300	500	600
Under a gutter	C	300	300	300
Under a balcony **	D	300	300	300
From an adjacent window	E	400	400	400
From an adjacent 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.



for the technician

High capacity fan

SUPERMICRA 24 SE

For **SUPERMICRA 24 SE** (forced draught) it is possible to install, on request, an “high capacity fan”, allowing an higher length of separate flue systems (see table):

Separate flue products outlet / air inlet Ø	mm	80
Separate flue length	m	30 (max 20 outlet)
Separate flue length with high capacity fan	m	60 (max 40 outlet)

ASSEMBLING INSTRUCTIONS

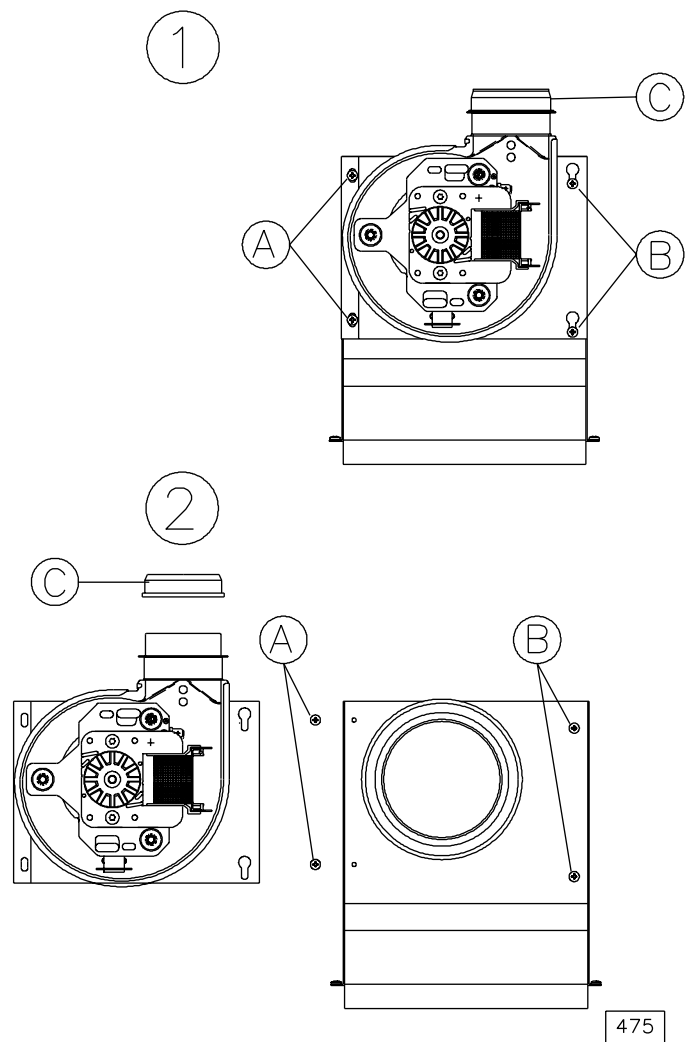
It is advisable to install the high capacity fan, before flue kit, avoiding any possible hindrance during assembling operations.

Provide electrical disconnection of the gas boiler and remove the sealed chamber closing;

1. Take off screws A, loosen screws B (it is not necessary to take off screws B, being the fan bracket provided with button-holes) and remove the standard fan, disconnecting its cables for electrical supply; remove the flue pressure sensor.
2. Remove gasket C from standard fan and insert it on high capacity fan; install the flue pressure sensor, respecting its previous position.

Install the high capacity fan, connect the cables for electrical supply, tighten screws B and reinsert screws A.

Reassemble the sealed chamber closing.



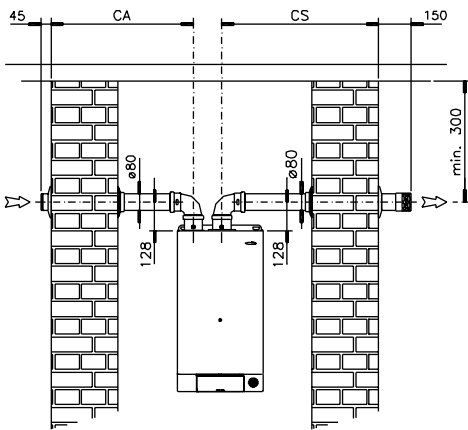
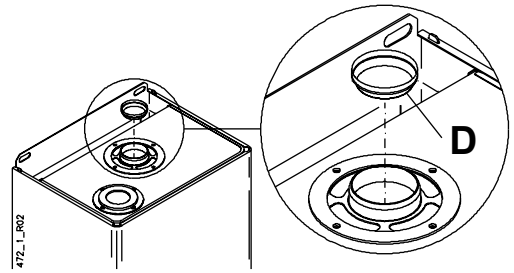
475

Flue systems

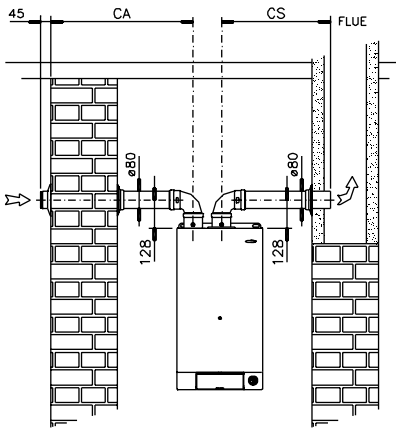
SUPERMICRA SE

AIR INLET AND PRODUCTS OUTLET THROUGH SEPARATE PIPES

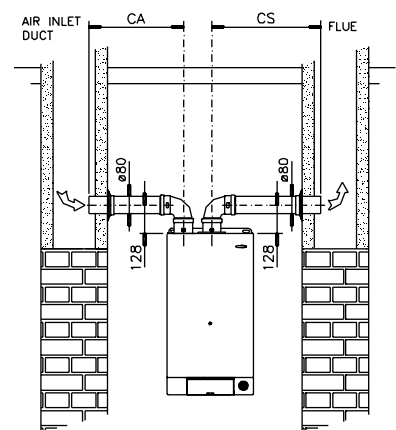
i Attention: see table and, if required, install the diaphragm "D" as indicated in the figure besides (any additional 90° bend = 0.5 linear meters, 45° bend = 0.25 meters).



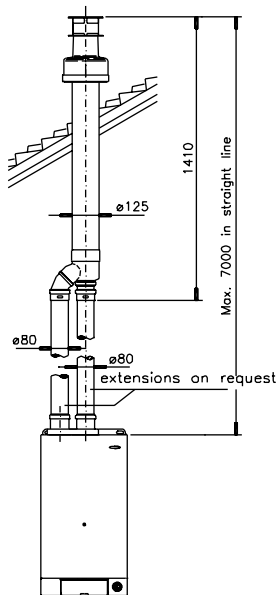
AIR INLET AND FLUE PRODUCTS OUTLET THROUGH WALL



AIR INLET THROUGH WALL AND PRODUCTS OUTLET TO FLUE



AIR INLET THROUGH DUCT PRODUCTS OUTLET TO FLUE

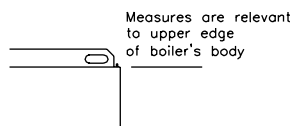


SEPARATE PIPES WITH PIPES-SPLIT VERTICAL OUTLET/INLET

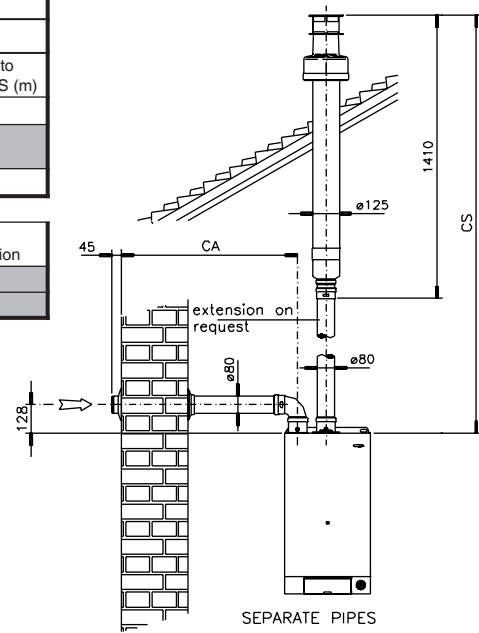
Model	Ø80mm separated ducts			
	CA+CS min÷max (m)	CS max (m)	Diaphragm diameter (mm)	up to CA+CS (m)
24 SE	2÷30	20	(a)	8
24 SE with high capacity fan	31÷60	40	NO	
30 SE	2÷16	10	(a)	8

Model	Ø80mm ducts with Pipes Splitter on coaxial connection			
	CA+CS min÷max (m)	CS max (m)	Diaphragm diameter (mm)	up to CA+CS (m)
24 SE	2÷14	13	NO	
30 SE	2÷10	7	NO	

(a) use the diaphragm supplied with the boiler.



Measures are relevant to upper edge of boiler's body



SEPARATE PIPES VERTICAL OUTLET

ATTENTION (FOR SUPERMICRA 24 SE ONLY)
IF CA+CS < 3m DIAPHRAGM+PIPES-SPLIT

698_1_R01

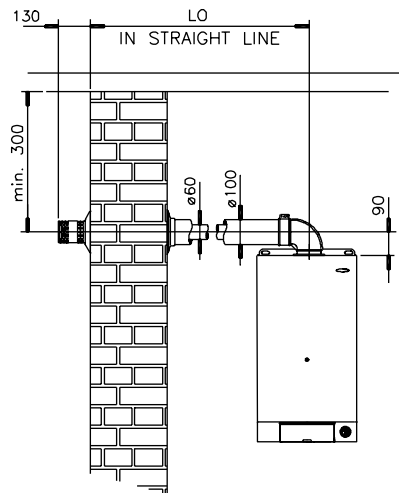
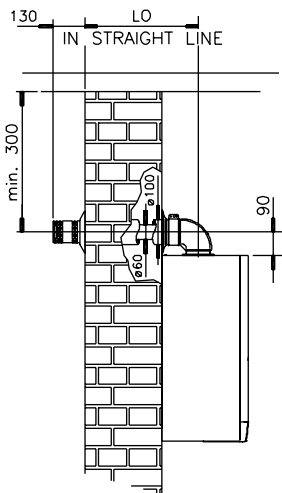
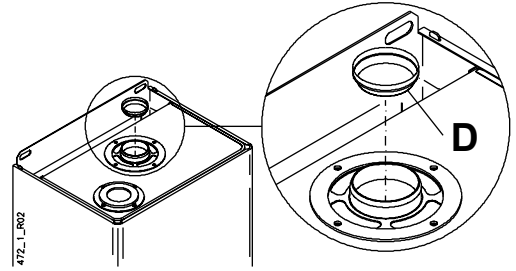
for the technician

Flue systems

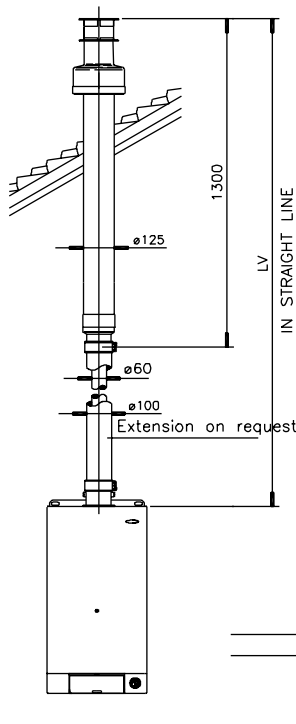
SUPERMICRA SE

AIR INLET AND PRODUCTS OUTLET THROUGH COAXIAL SYSTEM

i Attention: see table and, if required, install the diaphragm "D" as indicated in the figure besides (any additional 90° bend = 1 linear meter, 45° bend = 0.5 meters).



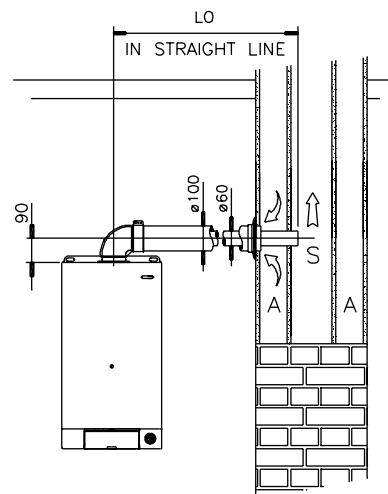
HORIZONTAL COAXIAL SYSTEM



COAXIAL VERTICAL SYSTEM

Model	Ø 60/100 coaxial system			
	LO min÷max (m)	LV min÷max (m)	Diaphragm	
			diameter (mm)	up to LO or LV (m)
24 SE	0.5÷4	1÷5	44 (b) (a)	1 1÷2
30 SE	1÷3	1÷4	46 (b)	1

(a) use the diaphragm supplied with the boiler. (b) available on request.



COAXIAL HORIZONTAL SYSTEM
AIR INLET AND PRODUCTS OUTLET
THROUGH COAXIAL DUCT/FLUE

Measures are relevant
to upper edge
of boiler's body

699_1_R01

REGULATION AND SERVICING

! **ATTENTION:** the operations described below must be carried out only by qualified personnel [authorized by HERMANN].

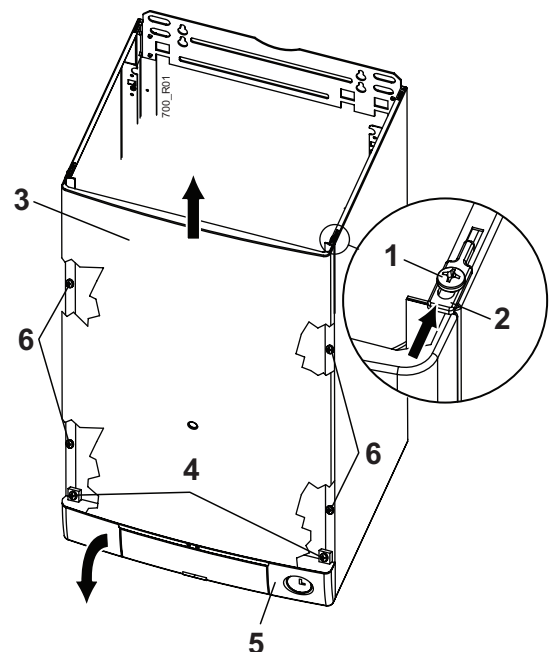
! When regulation/measuring is over, remember to tighten pressure tapping point screws and **ALWAYS** check for gas leaks!

i Before boiler ignition, verify that pump is not blocked due to its inactivity: unscrew the plug located in the middle of the cap to gain access to the rotor shaft, and turn it manually using a screwdriver or another suitable tool.

i 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.

Access to the regulation devices

1. Unscrew the screws [1] and let the catches slide [2] in order to release the front casing [3];
2. Push the front casing [3] upwards and remove it;
3. Unscrew the two screws [4] and overturn downwards the control panel [5];
4. After the regulations, close the boiler repeating everything in the other sense, paying attention to hook the frontal casing to the heads of the four screws [6] (which must not be released) and remembering to stop it through the catches [2] and through the screws [1].



Preliminary GAS checkings



All boilers are tested and factory set during manufacture; however, it is advisable to check that the gas type and the burner pressures are correct. On the contrary, follow the procedures described in this section.

To make burner pressures checking, insert pressure gauge sensors in the gas valve pressure tapping points (see figure).

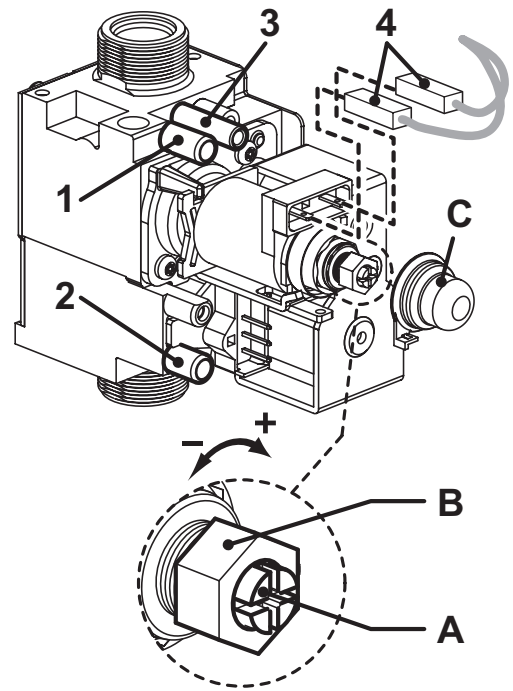
Remark: In order to check that pressure and gas input are enough to guarantee the correct functioning of the appliance, make measurements while burner is on.

for the technician

Gas valve pressure regulation (MAX-MIN)

- Loosen (2-3 turns) the screw of pressure tapping point for gas outlet [1] of the gas valve and insert the manometer sensor. In the “SE” models unthread from the “Vent” [3] the silicon tube coming from the sealed chamber;
- bring and keep the Summer/Winter Selector in the position Chimneysweeper  for at least 3 seconds, then let the selector return in the position Summer . The green lamp flashes rapidly and the burner ignites at the maximum outlet, not modulated, for a period sufficient to make the checks and the measurements. The produced heat is carried off by the heating system;
- wait for at least 10 seconds and check that the pressure corresponds to the MAX value indicated in the “BURNER PRESSURES” table of the specific model;
- extract one of the connectors [4] that supply the modulation coil; verify that the measured pressure corresponds to the MIN value indicated in the “BURNER PRESSURES” table of the specific model;
- reinsert the connector [4];
- if it is necessary to adjust the regulation, proceed as it follows, referring to the figure:
 - take off the protection cap [C];
 - adjust MAX pressure acting on the nut [B] (10 mm). Turn clockwise to increase pressure, counterclockwise to decrease pressure;
 - extract again one of the connectors [4];
 - adjust MIN pressure acting on the screw [A] (with a 4 mm screwdriver), paying attention not to contemporarily move the nut [B]. Turn clockwise to increase pressure, counterclockwise to decrease pressure;
 - reinsert the connector [4] and check that MAX pressure is not changed;
 - mount the cap [C];

GAS VALVE



1 = Pressure tapping point for gas outlet

2 = Pressure tapping point for gas inlet

3 = Vent (mod. SE)



Important: lock the adjustment device after any setting operation.

- For the “SE” models reinsert the tube in the “Vent” [3] of the gas valve. ATTENTION: after this operation, the value measured by the manometer could decrease due to pressure compensation. This fact is normal and does not require any change of the regulation;
- Screw the pressure tapping point screw for gas outlet [1] and verify that there is no gas leak.
- To switch off the burner, turn the Summer/Winter Selector to the “0” position.

Slow opening regulation

To adjust the slow opening, proceed as follows:

- switch off the boiler;
- release the screws [1] (see figure) and remove the back closing of the control panel;

REMARK: you will have 8 seconds for the regulation of the slow opening pressure, and after these 8 seconds the pressure of the burner increases to the highest value. To increase this period of time to 30 seconds, turn the trimmer **P1 MAX.R.** completely in anticlockwise sense (it will be necessary to regulate consequently the Max Heating Power).

- turn on the boiler and open a cold water tap, the burner will turn on allowing to check the pressure of slow opening. In case the values are different from:

Nat. gas: mod. 23 E: 3,5 mbar (36 mm w.g.) – mod. 28 E: 5 mbar (51 mm w.g.)
mod. 24 SE: 7 mbar (71 mm w.g.) – mod. 30 SE: 5 mbar (51 mm w.g.)

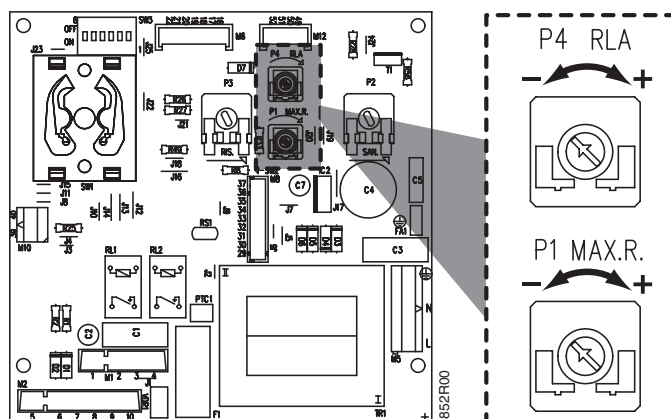
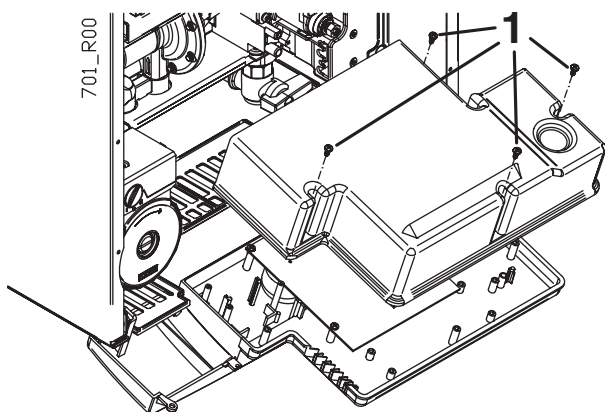
L.P.G.: mod. 23 E: 8 mbar (82 mm w.g.) – mod. 28 E: 8 mbar (82 mm w.g.)
mod. 24 SE: 14 mbar (143 mm w.g.) – mod. 30 SE: 14 mbar (143 mm w.g.)

turn the trimmer **P4 RLA** (in clockwise sense to increase the pressure and in anticlockwise sense to decrease the pressure) till the achievement of the correct value.

Regulation of MAX heating power

The maximum heating output must be set in accordance with the system requirements (stated in the project). The gas pressure values related to the different outputs are indicated in the table “BURNER PRESSURES”. To adjust the burner pressure proceed as follows referring to the figure:

- Remove the back closing of the control panel releasing the screws [1] (see figure).
- Set Summer/Winter selector to Winter ☀️❄️ position and adjust the eventual room thermostat to a temperature value higher than the present one.
- When the burner is turned on (wait the end of the climbing ramp which lasts about 1 minute) check the value of the maximum gas pressure through the pressure gauge.
- Adjust pressure turning round the potentiometer **P1 MAX. R.** until reaching the required value.
- Close the control panel.



for the technician

BURNER PRESSURES for SUPERMICRA 23 E

HEAT OUTPUT		NATURAL GAS G20		BUTHANE G30		PROPANE G31	
kW	kcal/h	mbar	mmH ₂ O	mbar	mmH ₂ O	mbar	mmH ₂ O
MIN. 9.1	7780	2.2	22	4.8	49	4.8	49
10	8600	2.7	27	5.8	59	5.9	60
11	9460	3.2	32	7.0	71	7.2	74
12	10320	3.7	38	8.2	84	8.7	88
13	11180	4.4	44	9.6	97	10.2	104
14	12040	5.0	51	11.0	112	12.0	122
15	12900	5.7	58	12.5	127	13.9	141
16	13760	6.4	65	14.1	144	15.9	162
17	14620	7.1	73	15.8	161	18.1	185
18	15480	7.9	81	17.5	179	20.5	209
19	16340	8.7	89	19.3	197	23.0	235
20	17200	9.6	98	21.2	217	25.7	263
21	18060	10.4	107	23.2	237	28.6	292
22	18920	11.3	116	25.2	257	31.7	323
MAX. 23.1	19860	12.3	125	27.4	279	35.0	357

BURNER PRESSURES for SUPERMICRA 28 E

HEAT OUTPUT		NATURAL GAS G20		BUTHANE G30		PROPANE G31	
kW	kcal/h	mbar	mmH ₂ O	mbar	mmH ₂ O	mbar	mmH ₂ O
MIN. 11.4	9800	2.8	29	5.5	56	5.5	56
12	10320	3.1	31	6.1	62	6.2	63
13	11180	3.5	36	7.1	72	7.3	74
14	12040	4.0	41	8.1	83	8.5	87
15	12900	4.6	47	9.3	95	9.9	101
16	13760	5.1	52	10.5	107	11.4	116
17	14620	5.7	58	11.7	120	12.9	132
18	15480	6.3	64	13.1	133	14.6	149
19	16340	6.9	70	14.5	148	16.5	168
20	17200	7.5	77	15.9	162	18.4	188
21	18060	8.2	83	17.4	178	20.5	209
22	18920	8.8	90	19.0	194	22.7	231
23	19780	9.5	97	20.6	210	25.0	255
24	20640	10.2	104	22.3	228	27.5	280
25	21500	10.9	111	24.0	245	30.1	307
26	22360	11.6	119	25.8	263	32.8	335
MAX. 27.1	23300			27.7	283	35.8	365
MAX. 27.5	23690	12.8	131				

BURNER PRESSURES for SUPERMICRA 24 SE

HEAT OUTPUT		NATURAL GAS G20		BUTHANE G30		PROPANE G31	
kW	kcal/h	mbar	mmH ₂ O	mbar	mmH ₂ O	mbar	mmH ₂ O
MIN. 9.1	7820	2.2	22	4.5	46	4.9	50
10	8600	2.7	28	5.4	55	6.2	63
11	9460	3.2	33	6.5	67	7.5	76
12	10320	3.8	39	7.7	79	8.9	91
13	11180	4.4	45	9.0	92	10.4	107
14	12040	5.0	51	10.4	106	12.1	124
15	12900	5.7	58	11.8	121	13.9	142
16	13760	6.4	65	13.4	136	15.9	162
17	14620	7.1	72	15.0	153	18.0	183
18	15480	7.8	80	16.7	170	20.2	206
19	16340	8.6	87	18.5	189	22.5	230
20	17200	9.4	96	20.3	208	25.0	255
21	18060	10.2	104	22.3	227	27.6	282
22	18920	11.0	112	24.3	248	30.4	310
23	18920	11.0	112	26.4	269	30.4	310
MAX. 23.7	20380	12.3	125	27.7	283	34.5	352

BURNER PRESSURES for SUPERMICRA 30 SE

HEAT OUTPUT		NATURAL GAS G20		BUTHANE G30		PROPANE G31	
kW	kcal/h	mbar	mmH ₂ O	mbar	mmH ₂ O	mbar	mmH ₂ O
MIN. 11.6	9976	2.1	21	4.7	48	4.7	48
12	10320	2.2	23	5.0	51	5.1	52
13	11180	2.6	27	5.8	60	6.0	61
14	12040	3.0	31	6.7	69	7.0	71
15	12900	3.4	35	7.7	78	8.1	83
16	13760	3.9	40	8.7	88	9.3	95
17	14620	4.4	45	9.7	99	10.5	107
18	15480	4.9	50	10.8	111	11.9	121
19	16340	5.4	55	12.0	122	13.3	136
20	17200	6.0	61	13.2	135	14.9	152
21	18060	6.5	67	14.5	148	16.5	169
22	18920	7.1	73	15.8	161	18.3	186
23	19780	7.8	79	17,2	175	20.1	205
24	20640	8.4	86	18.6	189	22.1	225
25	21500	9.1	93	20.0	204	24.1	246
26	22360	9.8	100	21.5	219	26.3	268
27	23220	10.5	107	23.1	235	28.5	291
28	24080	11.2	115	24.6	251	30.9	315
29	24940	12.0	122	26.3	268	33.4	341
MAX. 30	25800	12.7	130	27.8	284	35.8	365

for the technician

Changing Gas type

⚠ ATTENTION: the operations described below must be carried out only by qualified personnel [authorized from HERMANN Ltd].

For gas conversion, use the nozzles supplied by boiler manufacturer only.

i Using LPG, it is absolutely necessary to install a pressure reducer upstream the boiler.

1. Disconnect the boiler from the electrical supply.

2. Remove the cover of the control panel and move the **first** microswitch of **SW3** (on the right) in the position suitable for the gas available:

MET (OFF) for Natural Gas (G20),

GPL (ON) for Butane (G30) or Propane (G31)

3. Check that pressure and gas input are enough to guarantee the correct functioning of the appliance.

4. On “SE” models, open sealed combustion chamber.

5. Remove pipe between gas valve and injectors bar.

6. Remove injectors bar and replace the nozzles with the ones suitable for the available gas type, using a 7 mm. spanner (see figure “BURNER”). Reassemble injectors bar and pipe, replacing gaskets. Check, with burner ON, that there are no gas leaks. On “SE” models, close sealed combustion chamber;

7. Check, with burner ON, that there are no gas leaks and that the pressure upstream the boiler is:

Natural gas: min. 17 – max. 25 mbar

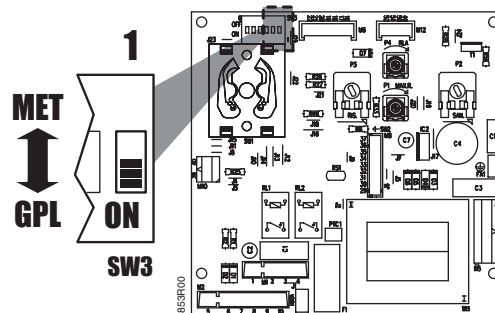
Buthane: min. 25 – max 35 mbar

Propane: min. 25 – max 37 mbar

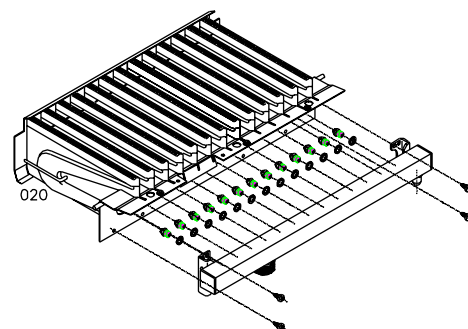
8. Repeat the following regulations: gas valve MAX-MIN pressure regulation, Slow Opening and Max Heating Output, carefully following the instructions described in the previous pages.

9. Check that there are no gas leaks.

10. apply the sticker indicating the type of gas (supplied with the kit) on the suitable area on “WARNING” label inside the boiler.





BURNER



MODEL	Number of nozzles	Nozzles Ø for NATURAL GAS G20 (1/100mm)	Nozzles Ø for L.P.G. G30/G31 (1/100mm)
SUPERMICRA 23 E	13	120	75
SUPERMICRA 28 E	14	125	76
SUPERMICRA 24 SE	13	120	75
SUPERMICRA 30 SE	14	130	78

Combustion check

The boiler has a “CHIMNEYSWEEPER” function which draws the ignition of the burner to the highest power (not modulated) without working on the room thermostat or on the flow of hot water.

- Arrange the instruments for the combustion check;
- bring and keep the selector Summer/Winter in the “Chimneysweeper”  Position for at least 3 seconds, then let the selector return in the Summer  Position. The green lamp flashes rapidly and the burner ignites at the maximum output, for a period sufficient to make the checking and the measurements. The produced heat is carried off by the heating system;
- to turn off the burner, turn the selector Summer/Winter in the central (0) position. The green lamp flashes slowly.

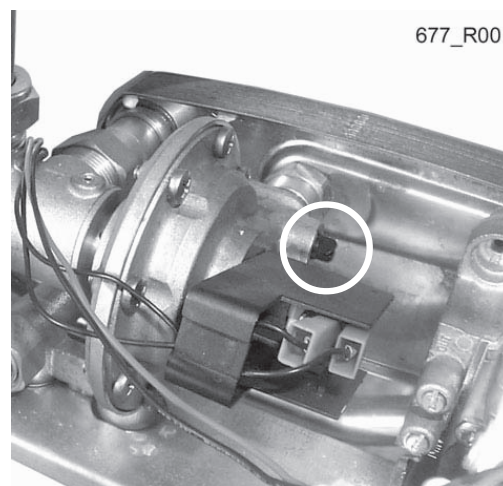
REMARK: the burner will turn off automatically at the achievement of the system highest temperature and, however, after 15 minutes.

Hydraulic section

DOMESTIC HOT WATER FLOW ADJUSTMENT

The boiler is checked and adjusted prior to leaving the factory. However, after installation, it is advisable to check the settings. To carry out adjustments, proceed as follows:

- Open a domestic hot water tap to maximum flow position.
- Hold a water flow gauge under the tap.
- Adjust water flow to the required flow rate, acting on the adjustment screw of the priority pressure sensor (see figure).



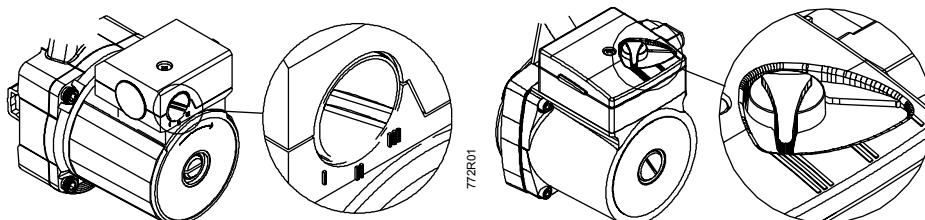
PUMP'S SPEED

The pump has a selector which allows to reduce the speed, so as to reduce the noise produced by the too rapid circulation of the liquids in too small heating systems.

III = Maximum Speed (Firm Set up)

II = Medium Speed

I = Minimum Speed



for the technician

Electronical regulation

POSSIBLE REGULATIONS ON THE MAIN P.C.B.

The SUPERMICRA models are equipped with a Microprocessor P.C.B., with an array of 6 microswitches (SW3 / 1÷6) which allow to make personalizing actions for the boiler's functioning. The firm arrangements are underlined>.

*Remark: on some cases there may be 8 microswitches instead of 6 (SW3 / 1÷8). If so, microswitches 7 and 8 (shown shadowed in the picture) must be set **OFF**.*



Disconnect the power supply before approaching the microswitches. Restore the power supply only after you have closed the back cover of the control panel.



Moreover, the changes of the microswitches haven't effect until the boiler is electrically connected.

SW3 / 1 – Natural gas Functioning = **OFF**. **LPG** Functioning = **ON**. The firm arrangement depends on the gas type arranged for the boiler. For the GAS TYPE Changing it is necessary to follow the complete instructions described in the previous paragraph "Changing Gas type".

SW3 / 2 – In SUPERMICRA Boilers it must be **OFF**.

SW3 / 3 – It determines the delay of 3 Minutes, before the new ignition after the overcoming of the heating set temperature. **OFF = Delay ON** (for normal systems or radiators); **ON = Delay OFF** (for fan coil systems).

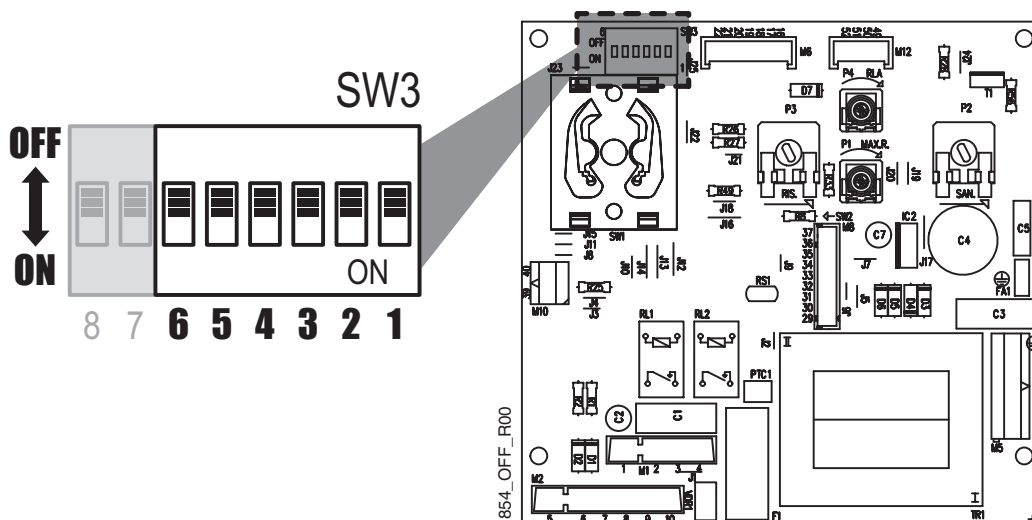
SW3 / 4 – It determines the extinction and new ignition temperature for DHW: **OFF = Burner OFF** at 75°C and burner ON at 70°C; **ON = burner OFF** at the arranged temperature for DHW (T.SET) + 5°C, and burner ON at T.SET (this arrangement is suggested for water with a high percentage of scale and not treated)

SW3 / 5 and 6 – Pump Functioning Way in Heating System:

5 OFF – 6 OFF: intermittent for normal applications (with or without delay, see SW3/3)

5 OFF – 6 ON: always turned off (with outside circulators)

5 ON – 6 Unimportant (OFF or ON): always on (for high thermic Inertia systems)



Warnings for servicing

⚠ All servicing operations and gas conversions MUST BE CARRIED OUT BY QUALIFIED TECHNICIANS, in accordance with the Law n°46 dtd. 05 March 1990 and with the rules UNI-CIG 7129/01 and 7131/99 and revisions. Moreover, in accordance with art.11 section 4 D.P.R. 412/93 and revisions, 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 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.

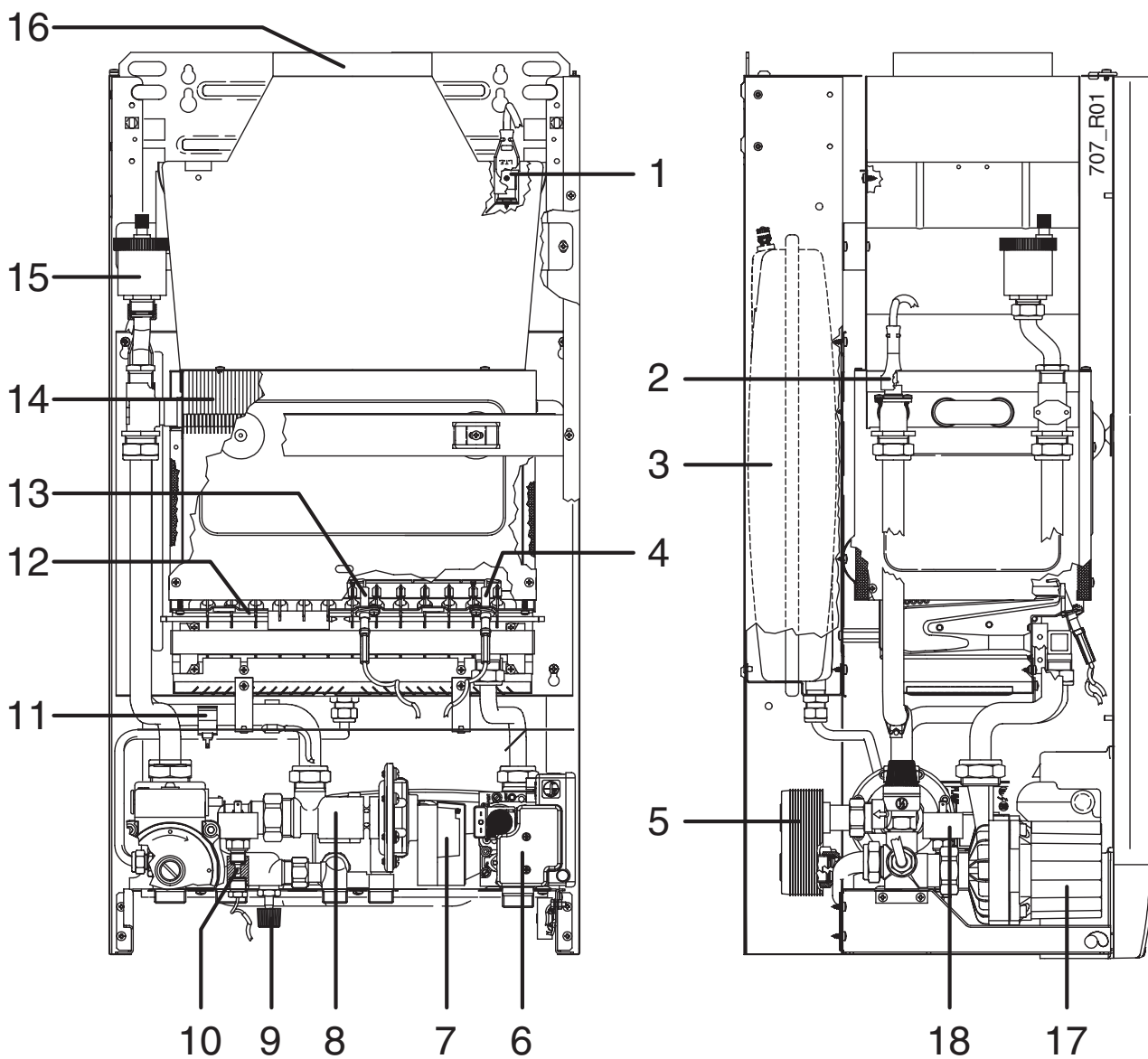
Normally, it will be necessary to execute the following operations:

- Remove any possible oxidization from burners and electrodes;
- Clean heat exchangers and electrodes;
- Check integrity and stability of the ceramic fibre coverings in the combustion chamber and proceed eventually to substitution;
- 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.

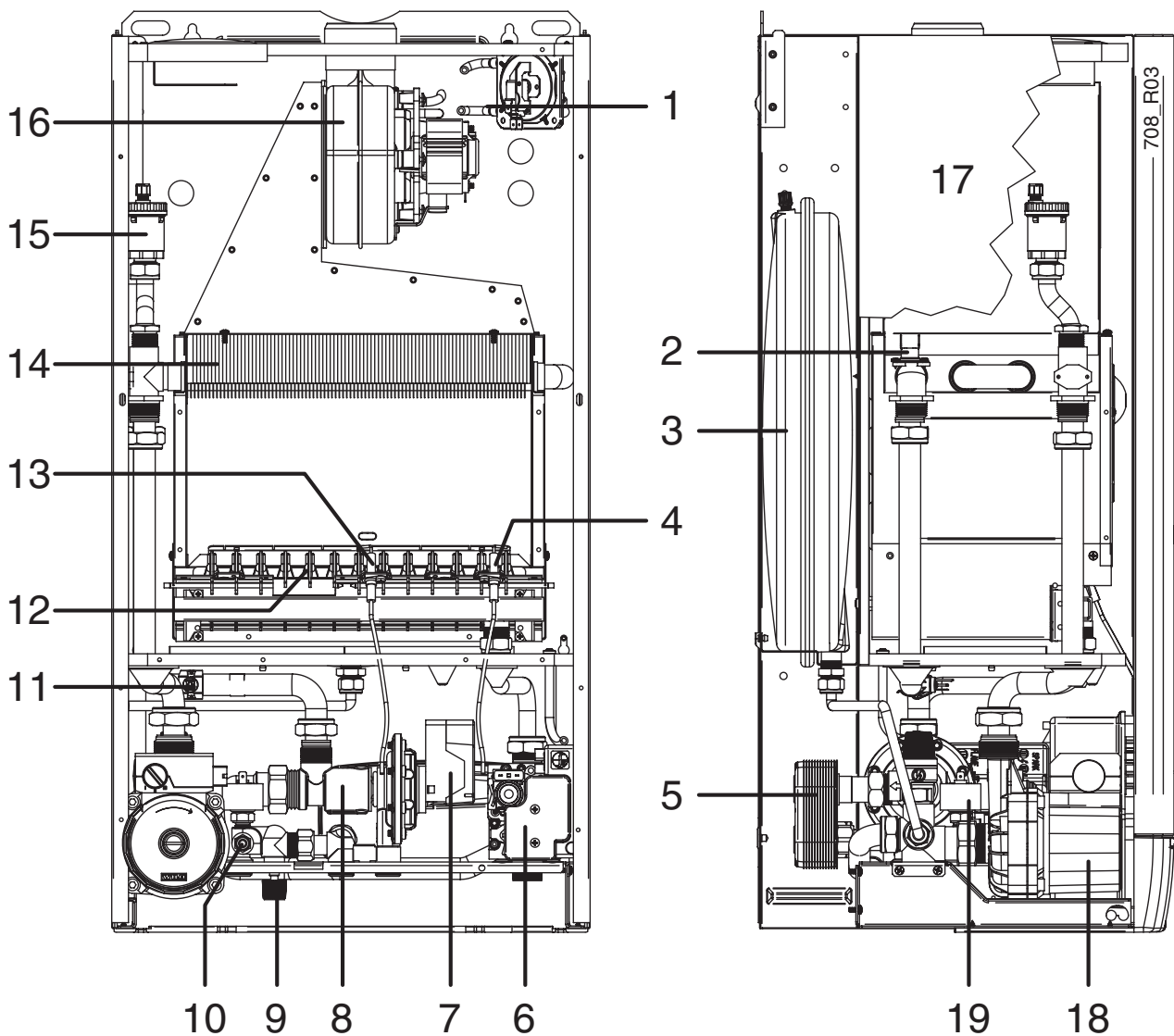
Once all servicing operations have been carried out, it is mandatory to write a report for the user, that should indicate state of the appliance, servicing interventions and eventual advices and prescriptions.

Components of the gas boiler SUPERMICRA 23 E - 28 E



- | | | | |
|---|--|----|--|
| 1 | Flue thermostat | 10 | Drain valve |
| 2 | Safety thermostat for max. water temperature | 11 | Sensor for temperature control |
| 3 | Expansion vessel | 12 | Burner |
| 4 | Ignition electrode | 13 | Flame sense electrode |
| 5 | Domestic exchanger | 14 | Primary heat exchanger |
| 6 | Gas valve | 15 | Automatic venting device |
| 7 | Priority pressure sensor | 16 | Flue hood |
| 8 | Hydraulic 3-way valve | 17 | Pump |
| 9 | Water supply valve | 18 | Safety pressure switch for min. water pressure |

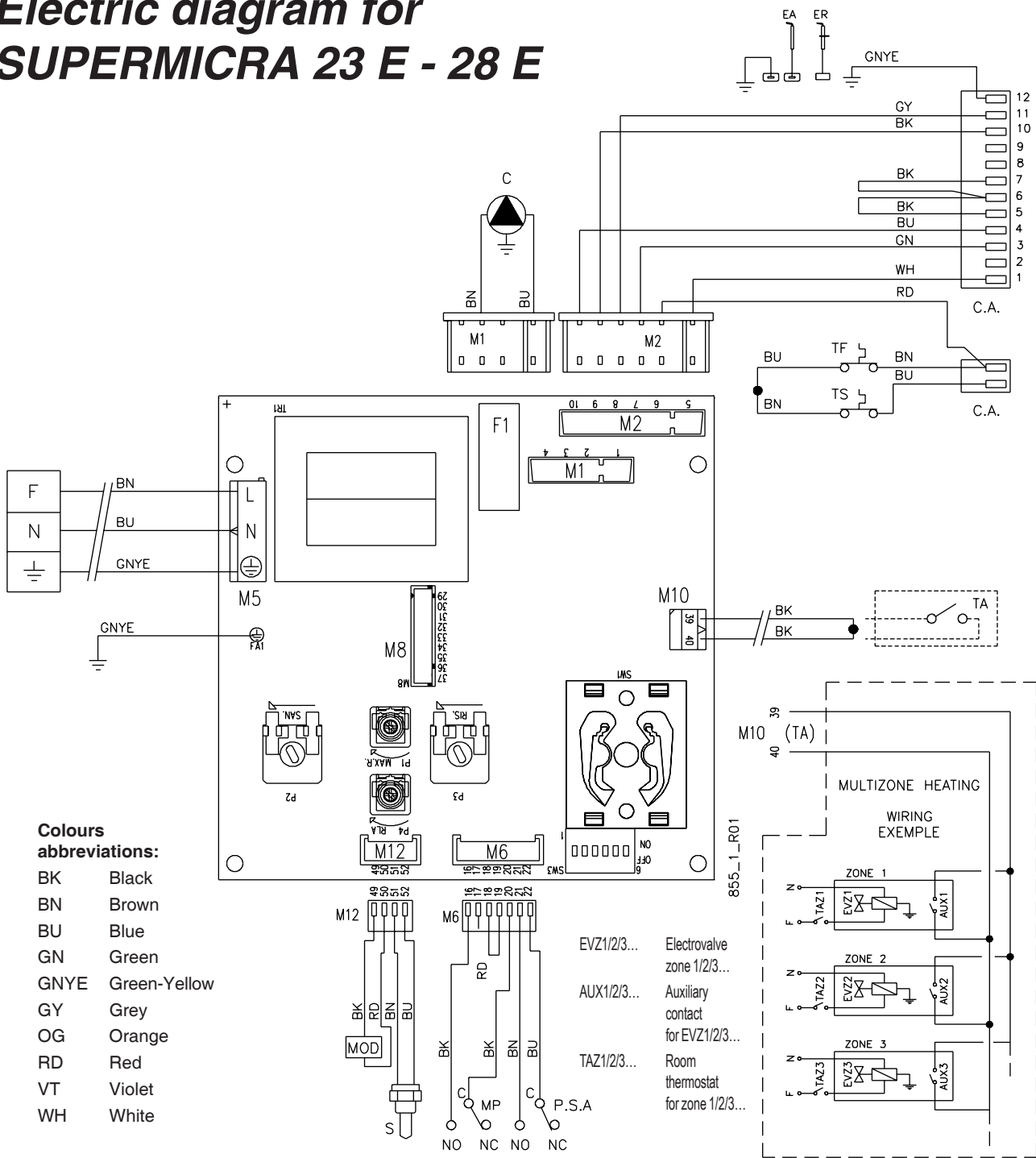
Components of the gas boiler SUPERMICRA 24 SE - 30 SE



- | | | | |
|---|--|----|--|
| 1 | Flue pressure switch | 10 | Drain valve |
| 2 | Safety thermostat for max. water temperature | 11 | Sensor for temperature control |
| 3 | Expansion vessel | 12 | Burner |
| 4 | Ignition electrode | 13 | Flame sense electrode |
| 5 | Domestic exchanger | 14 | Primary heat exchanger |
| 6 | Gas valve | 15 | Automatic venting device |
| 7 | Priority pressure sensor | 16 | Fan |
| 8 | Hydraulic 3-way valve | 17 | Sealed chamber |
| 9 | Water supply valve | 18 | Pump |
| | | 19 | Safety pressure switch for min. water pressure |

for the technician

Electric diagram for SUPERMICRA 23 E - 28 E



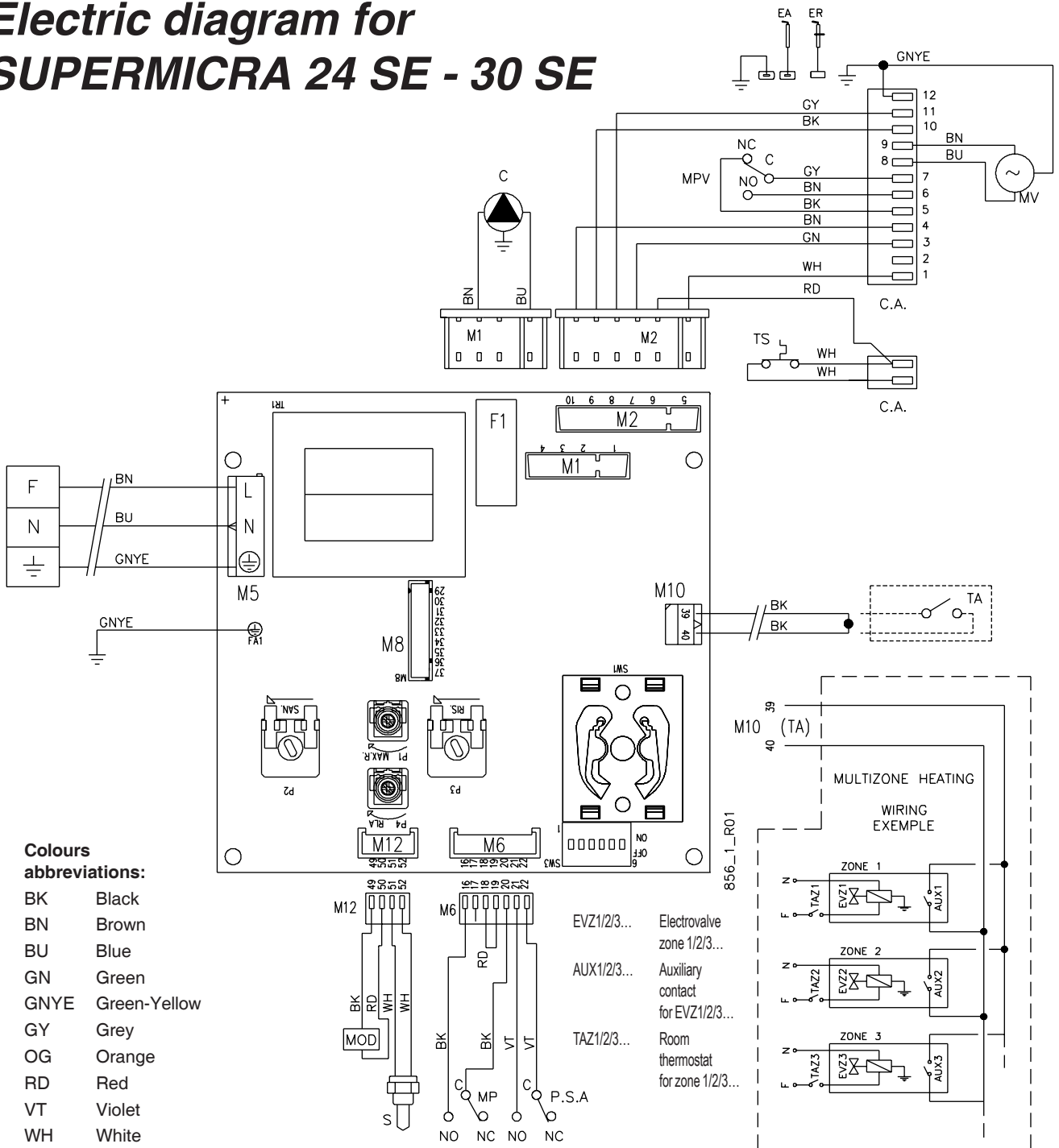
Colours abbreviations:

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

- C Pump
- CA Ignition and flame control unit
- EA Ignition electrode
- ER Flame sense electrode
- F1 Fuse (2 A)
- MOD Modulatore
- MP DHW priority pressure switch
- PSA Low water pressure switch (contact NO closed = in pressure)
- S NTC sensor
- TA Voltage-free Contact for Room Thermostat or Cronothermostat (for trade) (safety extra low voltage SELV)
- TF Flue thermostat
- TS Safety thermostat

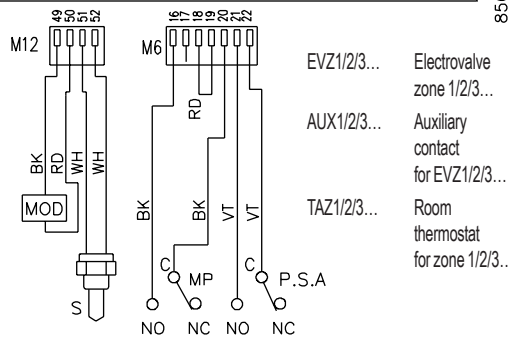
for the technician

Electric diagram for SUPERMICRA 24 SE - 30 SE



Colours abbreviations:

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



- C Pump
- CA Ignition and flame control unit
- EA Ignition electrode
- ER Flame sense electrode
- F1 Fuse (2 A)
- MOD Modulatore
- MP DHW priority pressure switch
- MPV Flue pressure switch

- MV Fan motor
- PSA Low water pressure switch (contact NO closed = in pressure)
- S NTC sensor
- TA Voltage-free Contact for Room Thermostat or Cronothermostat (for trade) (safety extra low voltage SELV)
- TS Safety thermostat

for the technician

USER INSTRUCTIONS

Warnings for first starting up

! The first starting up must be done by a professionally qualified staff (for example the SERVICE CENTERS authorized by HERMANN).

Gas conversion from a specific gas (natural gas or LPG) to another gas, can be made also when the gas boiler is already installed, but only by a qualified technician. The technician will check that:

- 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 advices

! **WARNING for “E” models:** The boiler is fitted with a safety thermostat for chimney draught, operating in case of combustion products return in the installation room. This device must be always in function, because a combustion products return can cause chronic or acute intoxications with danger of death. If the thermostat must be replaced, use the original spare part only. In case of repeated interventions of the device, check that the Flue Products Outlet System is efficient and made according to the laws in force (see examples in page 15).

! **WARNING for “SE” models:** The boiler is fitted with a safety flue pressure switch. This device must be always in function. In case of repeated interventions, call a qualified technician. If the pressure switch must be replaced, use the original spare part only. In case of repeated interventions of the device, check that the Air Flue Products Inlet/Outlet System is efficient and made according to the laws in force (see examples in page 16).

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 UNI-CIG 7129/01 and 7131/99 requirements and revisions.

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

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 checkings 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 the servicing and eventually of the 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 checkings 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.

Boiler controls

To have the access to the boiler controls it is sufficient to push on the lower part of the panel, as shown in the figure.

In addition to the controls in the front panel, we remind you that the boiler **must be equipped**, during the installation process, with an **external general switch** which totally disconnects the boiler from the electrical supply.




713_R00

Instructions for boiler ignition, functioning and turning off

TO START THE BOILER

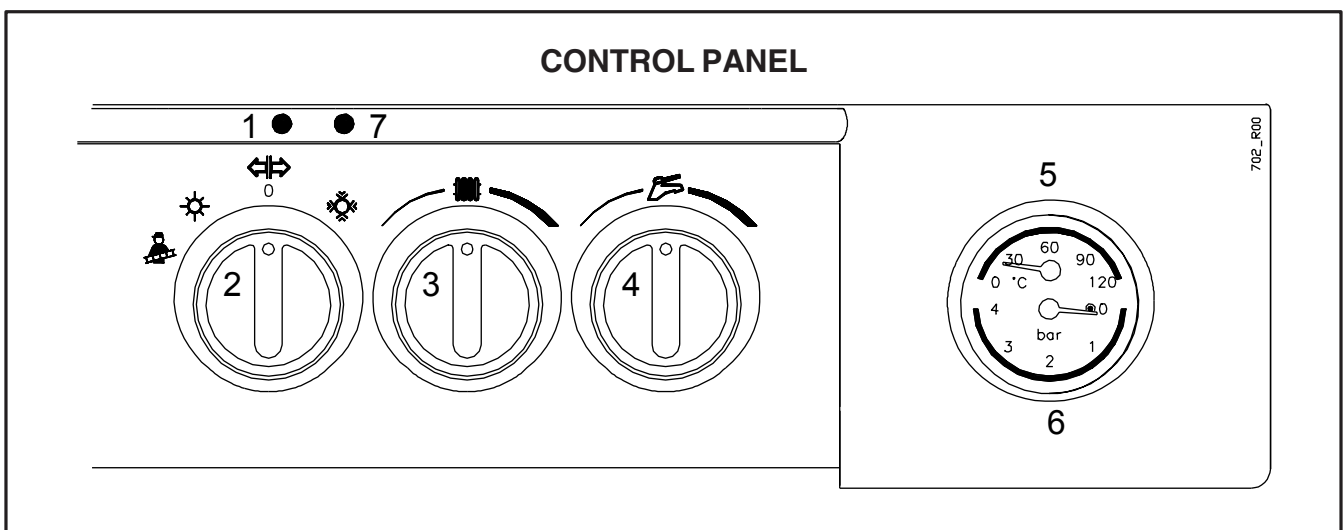
Open the gas tap and turn on the external general switch. The green lamp [1] flashes to show that the boiler is supplied but not on (in stand-by). Turn the Selector [2] in the suitable position SUMMER ☀ or WINTER ❄. The green lamp [1] will flash constantly to show that the boiler is on.

i ATTENTION: Do not activate the Chimneysweeper  Function which is reserved for the installer and which forces the ignition of the burner (the green lamp flashes rapidly). If, by mistake, it should happen, bring immediately the selector in the central position (0), wait until the green lamp flashes slowly, and then turn the selector in the desired position.

TO STOP THE BOILER (STAND-BY)

Turn the selector [2] in the central position (0).

! If the boiler is off for a long period see the paragraph “INACTIVITY OF THE BOILER” for the necessary precautions about the electrical supply, gas supply and anti freezing protection.



702_R00

SUMMER FUNCTIONING

Turn the selector [2] bringing it in the SUMMER ☀ position

Regulate the DHW Thermostat 🖱 [4] in the position respective to the desired domestic hot water temperature. The burner will turn on automatically when hot water is required. In case of not ignition, check that the red lamp [7] is not on: if it's on, turn the selector [2] in the central Off/Unlock ⇄ Position, wait until the red lamp [7] turns off, and then bring it again in the SUMMER ☀ position. See "Working and warning indicators" for more information and useful advices to solve common problems.

WINTER FUNCTIONING

Turn the selector [2] bringing it in the WINTER ❄ Position.

Regulate the Boiler Thermostat 🌡 [3] at the desired temperature.

If a Room thermostat or a Cronothermostat is installed, the regulation of this last keeps the room temperature as that arranged (refer to the respective using instructions). In this case it is useful to regulate the boiler thermostat 🌡 according to the outdoor seasonal climate, so as to allow the gaining of the desired temperature, but without excessive overheatings (consider that the radiators emit heat also after the turning off of the boiler).

Regulate the DHW Thermostat 🖱 [4] in the position respective to the desired domestic hot water temperature. The burner will turn on automatically when it is requested. If after the request the ignition does not take place, check that the red lamp [7] is not on: if it's on, turn the selector [2] in the central Off/Unlock ⇄ Position, wait until the red lamp [7] turns off, and then bring it again in the Winter ❄ Position. See "Working and warning indicators" for more information and useful advices to solve common problems.

Important:

The temperature in the boiler is shown by the thermometer [5] and the pressure is shown by the Gauge [6].



Remark: If pressure falls down to 0.5 bar, boiler will stop (the red lamp turns on). To reset the system, proceed with system filling.

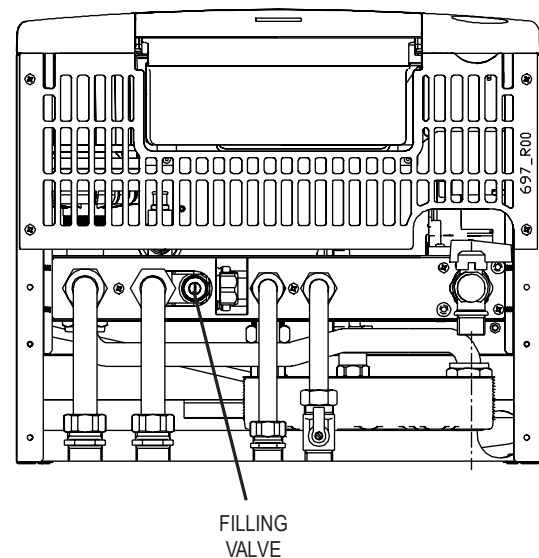
ROOM TEMPERATURE REGULATION

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

SYSTEM FILLING

Make sure that the system pressure in a cold state is always between 0.5÷1.5 bar (optimal pressure: 1÷1.5 bar). If pressure is lower, open the filling valve (see figure) till it reaches a maximum value of 1,5 bar; this value is checked with the pressure gauge (item 6 in previous Control Panel figure).

BOILER BOTTOM VIEW



Working and warning indicators

GREEN FUNCTIONING LAMP [1]



The green lamp can be **off**, **flashing** (slowly or rapidly) or **on**.

OFF: the boiler is electrically disconnected. In these conditions the boiler obviously doesn't work. The Automatic Anti Freezing and Anti Blocking functions can't be activated (useful during long period of inactivity). The external general switch could be off.

FLASHING (slowly): the boiler is electrically supplied but the SUMMER/WINTER Selector is in central position (0). The boiler will not turn on following the needs of heating and domestic hot water, but the Anti Freezing and Anti Blocking Functions are on (this last can request the temporary ignition of the burner, then it is necessary that the gas is open).

FLASHING (rapidly): the Chimneysweeper Function (which is reserved for the technician) **is on** by mistake.

i Turn it off bringing the SUMMER/WINTER selector in the central position (0) until the green lamp flashes slowly.

ON: the boiler is on and the SUMMER/WINTER selector is in the SUMMER  Position or in the WINTER  Position. The boiler will turn on following the needs of heating or of domestic hot water.

BOILER'S LOCK OUT RED LAMP [7]

The red lamp can be **off**, **flashing** and **on**.


OFF: the functioning of the boiler is correct.

FLASHING:

- **The System Temperature Sensor (inside the boiler) is damaged.** Call a Qualified Technician for repairing.

ON - it signals problems that can be normally solved by the user:

- The boiler has been **just installed**, or **works** have been made **on the gas pipes**.

It is normal that the boiler goes repeatedly in Lock Out when the Inlet Gas is mixed with air. This impedes the correct ignition and then provokes the Lock out. In the conditions described above, it is necessary to repeat more times the ignition of the boiler turning the SUMMER/WINTER Selector in the Unlock  Position until the red lamp turns off.




- **The water pressure**, shown by the gauge in the control panel, **is not sufficient** (0,5 bar or lower).

Restore the correct pressure (optimal pressure: **1÷1,5 bar at cold system**) opening the inlet tap (the action is described before). Do not restore the pressure with hot system, because when the system gets cold the pressure decreases.


Consider that the pressure, in normal conditions, should not decrease. If this happens, there is probably a loss in the heating system. Sometimes the loss is so small that it doesn't leave evident signs, but with the progress of the time it can cause the decreasing of the pressure.

Also the opening of the manual venting taps of radiators (intentional or unintentional) makes the pressure decrease. Check that this doesn't happen.

— **the boiler has an overheating and the Safety Thermostat has triggered;**

Turn the SUMMER/WINTER Selector in the central Unlock  Position until the red lamp turns off (or eventually for a longer period to make the boiler cool), then bring again the selector in the desired position (Summer  or Winter ). If the Lock Out takes place again call the Service Centre.

— **the burner hasn't regularly switched on or the flame has suddenly turned off; incorrect combustion.**

Restore the service turning the SUMMER/WINTER selector in the Unlock  Position until the red lamp turns off. In case of frequent Locks:


- Call a technician to check the combustion and verify that the burner is clean and in good conditions;

In "SE" models with Sealed Combustion Chamber:

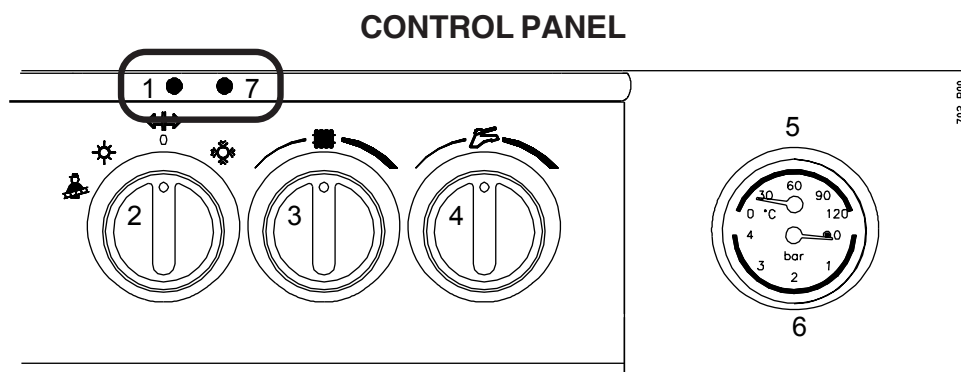
- Check that the Inlet/Outlet Ducts and the respective terminals are clean and in good condition, and that there are no leaks. During the Installation Process it is necessary to respect the prescriptions included in the national and local regulations and laws, in addition to the slopes and measurement included in the paragraphs "Chimney connections" and "Flue systems".

***Note for the TECHNICIAN:** The burner flame is not detected by the Flame Control Unit because it has not turned on or it has suddenly turned off, or it has detached from the burner, because of an incorrect combustion. This can be due, in exemple, to combustion product reflowing into inlet duct, leaks in inlet/outlet ducts or errors in sizing of ducts (ducts length above or below the allowed, and/or wrong use of restrictor on boiler's outlet).*

— **"E" models with Natural Draught only: the device which signals the wrong Flue Outlet has intervened;**

Exceptionally the cause can be a strong wind gust. Restore the service turning the SUMMER/WINTER selector in the Unlock  Position until the red lamp turns off. In case of frequent Locks:

- Check the efficiency of the Flue.
- Check that the outlet which communicates with the outdoor, compulsory according to the law, is not obstructed by pieces of furniture against the wall or by other objects. *It is however normal that the outlet is realized behind a radiator.* The outlet must be of the dimension prescribed by the law and must be cleaned inside: some types have an anti-insects net which could have been dirtied by dust or by spider's webs. Call a Qualified Technician when it is necessary.



- If in the room where the boiler is installed there are mantelpieces, stoves, coal stoves or similar, fans for the Air Outlet, such as wall fans, aspiring cowls for cooking boards with outlet pipe, let the technician check that the inlet is correctly **OVERSIZED** or that there are the **ADDITIONAL** Inlets as prescribed by the laws in force, because, otherwise, these devices interfere with the evacuation of the Boiler's Flue.


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**. In general it is better to use the SAFETY LOCK OUT. 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.

SAFETY LOCK OUT

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

 When it is expected that the temperature is going to decrease under 0°C and the system doesn't include the Anti Freezing Function, empty the heating system totally, or fill it with an Anti Freezing Solution.

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 system could have decreased and it could not guarantee the Anti freezing Protection.

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 water in the heating circuit inside the boiler decreases under 5°C and which provides the turning off when the temperature reaches 30°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 (1÷1.5 bar in a cold state, minimum 0.5 bar)



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. **It is available, on demand, an Anti freezing Electrical resistance kit which must be installed on the secondary exchanger to protect the boiler also in case of lack of gas.**

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).


Note: if you want to use the “room anti-freeze” function that is often available in common room thermostats or chronothermostats, it is necessary to leave the boiler in Winter  mode and NOT in stand-by.


Incidental not functioning

THE BURNER DOESN'T TURN ON

- If the room thermostat is installed, check that this is regulated with an higher temperature in respect of that of the place where it is installed;
- check that there is electrical supply and that the Summer/Winter Selector isn't on 0 (stand-by) but on SUMMER  or WINTER . The GREEN lamp must be constantly ON (see details in the paragraph “Working and warning indicators”);
- if the Lock Out red lamp is on or flashing, see the paragraph “Working and warning indicators”;
- check on the gauge that the boiler pressure is correct (1÷1.5 bar in a **cold** state) or at least not lower than 0.5 bar.
- On SE models, the burner could not ignite because of an incorrect flue flow, or a fault to the relevant safety device. Ask the technician to check that inlet and outlet ducts are clean and in a good state. During installation, all laws and rules in force, and slopes and lengths described in “Chimney connections” and “Flue systems”, must be respected. Ask the technician to check the correct functioning of the flue safety device (flue pressure switch) considering that a wrong slope of the outlet duct may make some condense to reflow to the boiler and damage the flue pressure switch.

SHORTAGE OF DOMESTIC HOT WATER PRODUCTION

- make sure that D.H.W. thermostat  is not set on a too low position;
- call a qualified technician to check gas valve regulation;
- call a qualified technician to check, and eventually clean, d.h.w. exchanger.

 Remark: where the water hardness value is too high, it is suggested the installation of a softening device, in order to prevent the limestone precipitation; this operation avoids a frequent cleaning of the coil.

 **Do not try to repair the gas boiler by yourself.**

For any intervention on the electrical, hydraulic or gas circuit exclusively call a qualified technician.

The gas boilers must be fitted with original accessories only.

HERMANN Ltd. is not responsible for damages caused by the incorrect, wrong or unreasonable use of non-original materials.

User warnings



- 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.
- If water pressure is frequently dropping down, call a qualified technician to repair possible leakages in the system.
- If the boiler is off for a very 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.



Do not touch the heated surfaces of the boiler, as the doors, the flue, the chimney pipe, etc., 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.
- **Only on SUPERMICRA E models** (natural draught): the installation of aspirators, fireplaces or similar appliances in the boiler room (and in adjacent rooms in case of indirect ventilation), must be made in compliance with all specific safety rules and laws (for example by augmenting the dimensions of ventilation openings), even in case of modifications or additions.

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 prejudice 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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05/2005 COD. 982160031 / REV. 009
(UKENG)