



Lamborghini

CALORECLIMA

AZIENDA CERTIFICATA ISO 9001



PREGASI CONSEGNARE
L'INSERTO "MANUALE D'USO"
AL SIG. UTENTE

PLEASE MAKE SURE THAT THE
"USE MANUAL" IS HANDED
OVER TO THE USER

TENGAN LA AMABILIDAD DE
ENTREGARLE AL USUARIO EL
"MANUAL DE USO"

FAVOR ENTREGAR O
"MANUAL DE USO"
AO SR. UTENTE

CALDAIA MURALE A GAS TERMO - ALTO RENDIMENTO - MODULANTE
WALL-HUNG GAS BOILER FOR HEATING - HIGH EFFICIENCY - MODULATING
CALDERA MURAL A GAS PARA CALEFACCIÓN - ALTO RENDIMIENTO - MODULANTE
CALDEIRA DE PAREDE A GÁS PARA CALEFACÇÃO - ALTO RENDIMENTO - MODULANTE



Xilo T

24 M W TOP U/IT
24 MS W TOP U/IT

MANUALE DI
INSTALLAZIONE E
MANUTENZIONE

INSTALLATION
AND MAINTENANCE
MANUAL

MANUAL PARA
LA INSTALACIÓN Y
EL MANTENIMIENTO

MANUAL DE
INSTALAÇÃO E
MANUTENÇÃO

GB

Read carefully all warning and instructions contained in this manual as they give important safety instructions regarding installation and maintenance. Keep this manual for future reference.

Installation must be carried out by qualified personnel who will be responsible for respecting existing safety regulations.



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Congratulations...

... on an excellent choice.

We thank you for the preference accorded to our products.

LAMBORGHINI CALORECLIMA has been actively present in Italy and throughout the world since 1959 with a widespread network of agents and concessionary agents to constantly guarantee the presence of our product on the market. Alongside this is the support of a technical service, "LAMBORGHINI SERVICE", which is entrusted with the qualified servicing of the product.

For the installation and positioning of the boiler:
CAREFULLY OBSERVE THE LOCAL REGULATIONS IN FORCE.



GENERAL INSTRUCTIONS

- This booklet constitutes an integral and essential part of the product. Read carefully the instructions contained in this booklet as they provide important directions regarding the safety of installation, use and maintenance. Preserve this booklet with care for any further consultation. The installation of the boiler must be carried out in compliance with current regulations, according to the instructions of the manufacturer and by qualified personnel. An incorrect installation can cause injury or damage to persons, animals and objects, for which the manufacturer cannot be held responsible.
- After removing the packaging materials, check the content integrity. In case of doubt, do not use the unit and contact the supplier. The packaging material (wooden crates, nails, clips, plastic bags, foam, etc.) must not be left within reach of children as they are potential sources of danger.
- This boiler is designed to heat water to a temperature below boiling (atmospheric pressure). It must be connected to a heating system compatible with its performances and output.
- This appliance should be destined only for the use for which it has been expressly envisaged. Any other use is to be considered improper and therefore dangerous. The manufacturer cannot be considered responsible for any damages caused from improper or unreasonable use.

ALL INSTALLATION, MAINTENANCE AND GAS CONVERSION OPERATIONS MUST BE CARRIED OUT BY AUTHORISED SKILLED TECHNICIANS.

TO ENSURE THAT BOILER IS INSTALLED CORRECTLY AND THAT IT FUNCTIONS PROPERLY, WE RECOMMEND THAT ONLY LAMBORGHINI ACCESSORIES AND SPARE PARTS BE USED.

ON NOTICING THE SMELL OF GAS DO NOT TOUCH ANY ELECTRIC SWITCH. OPEN DOORS AND WINDOWS. SHUT OFF THE GAS COCKS.

INSTALL THE BOILER ON WALLS WHICH ARE AS WIDE AS OR WIDER THAN THE BOILER ITSELF.



DESCRIPTION

These boilers are fully automatic and gas control is effected by an electronic control unit having the following characteristics:

- Continuous modulation mode on heating circuit;
- Possibility to adjust the heating output;
- Possibility to adjust the slow ignition;
- Possibility of being combined with a water heater.

The models are equipped with:

- No-water pressure switch;
- Total safety thermostat;
- High efficiency fume exchanger.

XILO T 24 M W TOP

Electronic ignition and ionization flame control.

Combustion and flue gas exhaust are of atmospheric type. It is equipped with flue gas exhaust control device (FLUE CONTROL).

FLUE CONTROL THERMOSTAT

The XILO T 24 M boiler is fitted with the FLUE CONTROL thermostat for control of fume evacuation. An increase in fume temperature in the down-draught diverter indicates an anomaly in fume evacuation. The FLUE CONTROL probe in the down-draught diverter detects variations in temperature and shuts down the boiler. Efficient operation of this safety system depends on observance of the following:

- Do not deactivate the FLUE CONTROL thermostat.
- Inspect the boiler and the flue immediately if the FLUE CONTROL device trips frequently.
- If the FLUE CONTROL device is changed make sure you observe assembly and probe positioning instructions carefully and use **only original LAMBORGHINI spare parts**.

If there is a fume evacuation anomaly act quickly to prevent the formation of Carbon Monoxide, a poisonous gas that causes intoxication and potentially fatal harm to both humans and animals.

XILO T 24 MS W TOP

Equipped with electronic control unit for automatic ignition and ionization electrode flame control.

To ensure safe operation, the electric fan is controlled by a pressure switch.

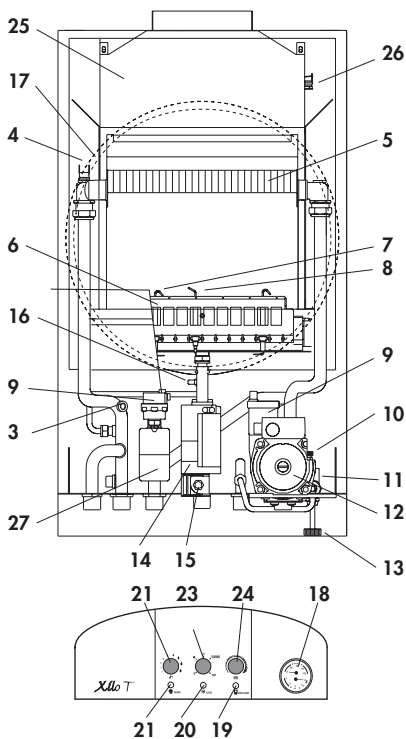
Flue gas exhaust can be made by means of the following:

- a flue pipe concentric with the air intake pipe;
- a double pipe, one for flue gas exhaust and the other for combustion air intake.

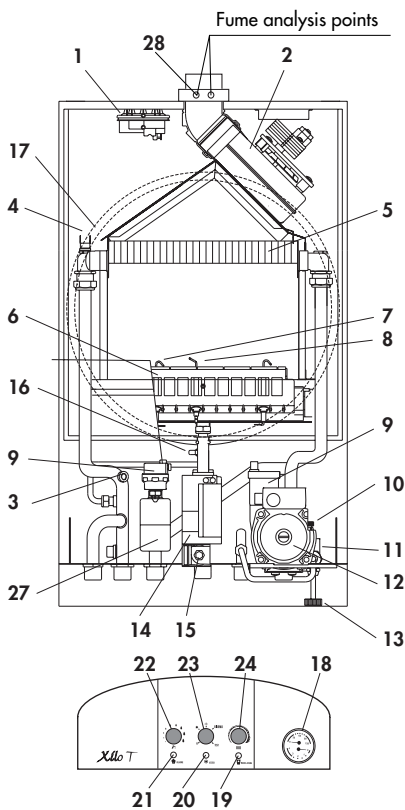


MAIN COMPONENTS

XILO T 24 M W TOP



XILO T 24 MS W TOP



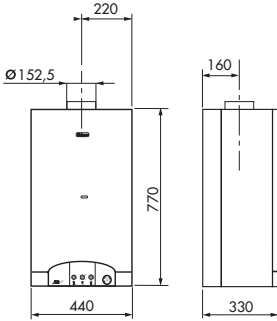
LEGEND

- | | | |
|-----------------------------|-------------------------------|---|
| 1 Fumes pressure switch | 11 No-water pressure switch | 21 Lock-out warning light |
| 2 Fan | 12 Circulator | 22 Hot water potentiometer (if any) |
| 3 Heating sensor | 13 Filling cock | 23 Function selector |
| 4 Total safety thermostat | 14 Gas valve | 24 Heating adjustment potentiometer |
| 5 Exchanger | 15 Modulating coil | 25 Fume hood |
| 6 Burner | 16 Gas pressure reading point | 26 Flue control |
| 7 Ignition electrodes | 17 Expansion tank | 27 Heater circuit purging device (if any) |
| 8 Control electrode | 18 Thermohydrometer | 28 Taken combustion test |
| 9 Automatic air bleed valve | 19 Malfunction warning light | |
| 10 Safety valve | 20 ON/OFF warning light | |

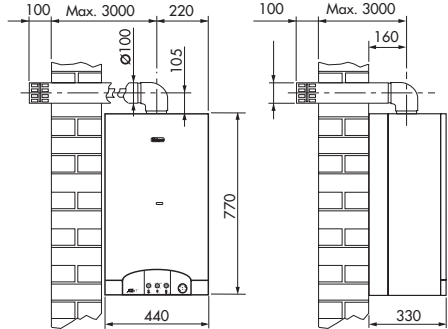


DIMENSIONS mm

XILO T 24 M W TOP



XILO T 24 MS W TOP



TECHNICAL FEATURES

MODEL	Thermal capacity		Min. thermal capacity				Connections						Operating pressure bar	Expansion tank l	Weight kg		
	Input		Output		Input		Output		Main System		Gas Ø	Cold water inlet Ø				Heater	
	kW	kcal/h	kW	kcal/h	kW	kcal/h	kW	kcal/h	Supply	Return						Supply	Return
XILO T 24 M W TOP	30,2	25972	27,54	23686	14,1	12126	12,56	10804	3/4"	3/4"	3/4"	1/2"	3/4"	3/4"	3	8	40
XILO T 24 MS W TOP	30,2	25972	27,48	23633	14,1	12126	11,94	10268	3/4"	3/4"	3/4"	1/2"	3/4"	3/4"	3	8	42

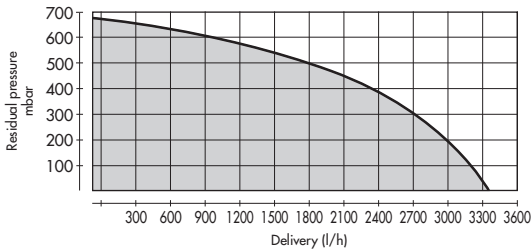
Boiler version: mod. M type B11 BS
mod. MS type C12-C32-C42-C52-C62-C82

Max. water temperature 90°C
Rated gas pressure: G20 20 mbar
G30 28-30 mbar/G31 37 mbar

Category: II 2H3+
Cl NOx: 1 (M) - 2 (MS)

CIRCULATING PUMP FEATURES

System delivery/pressure





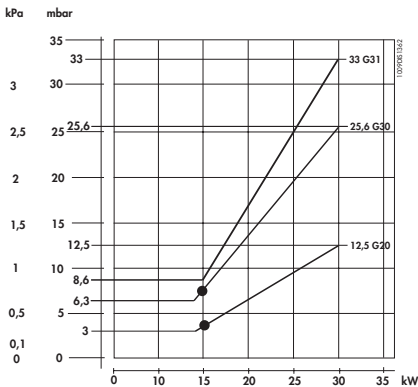
GAS-NOZZLE CALIBRATION

The boilers leave the factory calibrated and ready to operate with G20 (Natural Gas) and G30/G31 (LPG).
For proper calibration, see the table below:

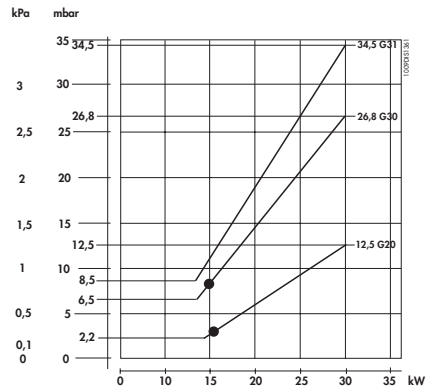
Gas type	Jets pressure mbar				Delivery m ³ /h	Burner jets Ø mm.	L.C.V. kcal/h
	XILO T 24 M		XILO T 24 MS				
	min.	max.	min.	max.			
G20 20 mbar (Natural Gas)	3	12,5	2,2	12,5	3,04	1,25	8.550
G30 28-30 mbar (LPG)	6,3	25,6	6,5	26,8	0,89	0,77	29.330
G31 37 mbar (LPG)	8,6	33	8,5	34,5	1,16	0,77	22.360

BURNER PRESSURE CURVES - OUTPUT

XILO T 24 M



XILO T 24 MS



- Slow ignition adjustment
3.5 mbar G20 (Natural Gas) (M) - 3 mbar G20 (Natural Gas) (MS)
7.5 mbar G30/G31 (LPG) (M) - 8 mbar G30/G31 (LPG) (MS)



ELECTRICAL CONNECTIONS - WIRING DIAGRAMS

The boiler must be connected to an earthed, single-phase 230V-50 Hz mains supply by means of a three-wire cable, ensuring that connections to the PHASE and NEUTRAL terminals are made correctly.

A bipolar switch must be used with contacts opening to at least 3 mm. The power lead must only be replaced by another with the following characteristics: "HAR H05 vv-F" 3 X 1.00 mm². **(You are strongly advised to use original LAMBORGHINI accessories and spare parts only).**

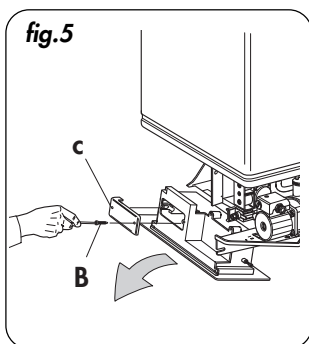
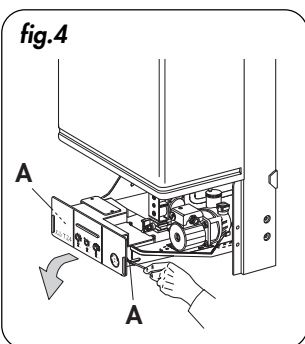
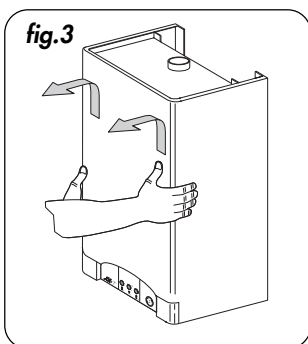
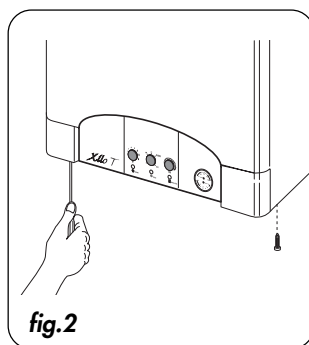
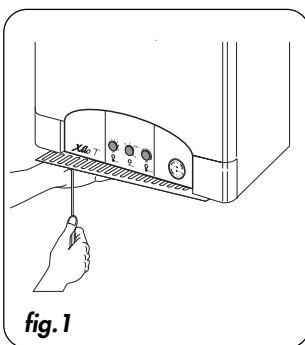
Installation must be made in compliance with safety REGULATIONS IN FORCE.

Ground connections are compulsory. Connect the boiler to an efficient grounding system.

Voltage	Frequency	Absorbed power kW		Protection index	Noise level dB (A)	
		M	MS		M	MS
230	50	0,123	0,153	X 4D	52	47

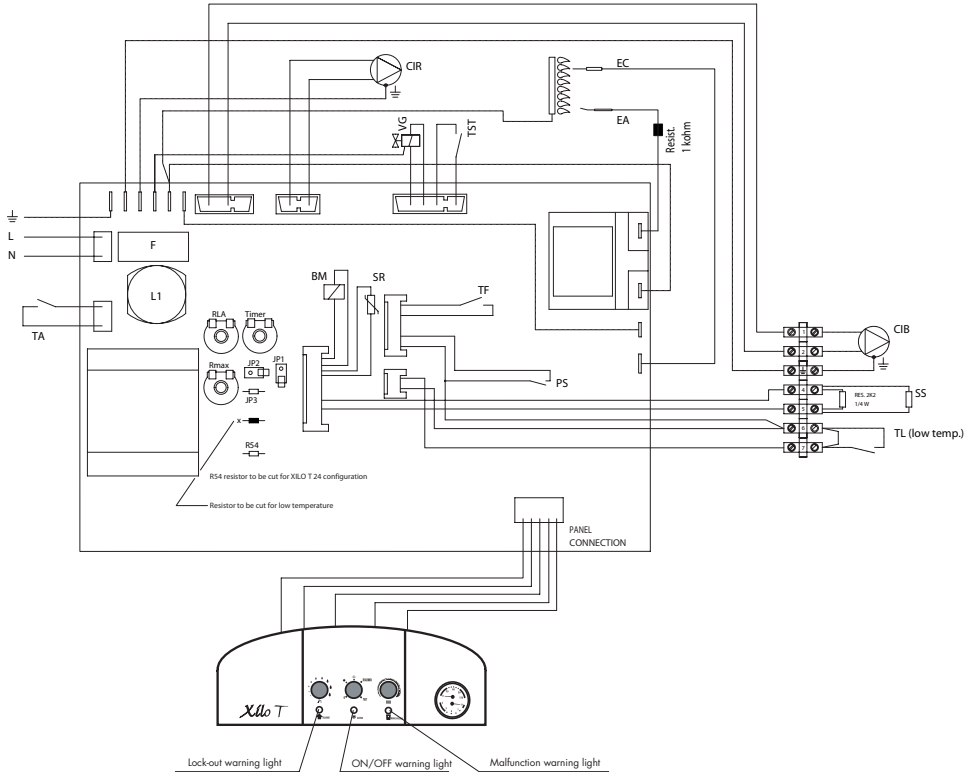
To gain access to the electrical panel which houses the power supply terminal block and any connection to a room thermostat, proceed as follows:

- Disconnect the boiler power supply.
- Undo the two grating screws (fig. 1).
- Undo the two casing fixing screws (fig. 2).
- Raise the casing and then pull it towards you (fig. 3).
- To access electrical and electronic parts loosen screws A and pull the entire panel outwards (fig. 4). Tilt downwards and undo the screws B on the cover C (fig. 5).





ASSEMBLY DIAGRAM XILO T 24 M W TOP

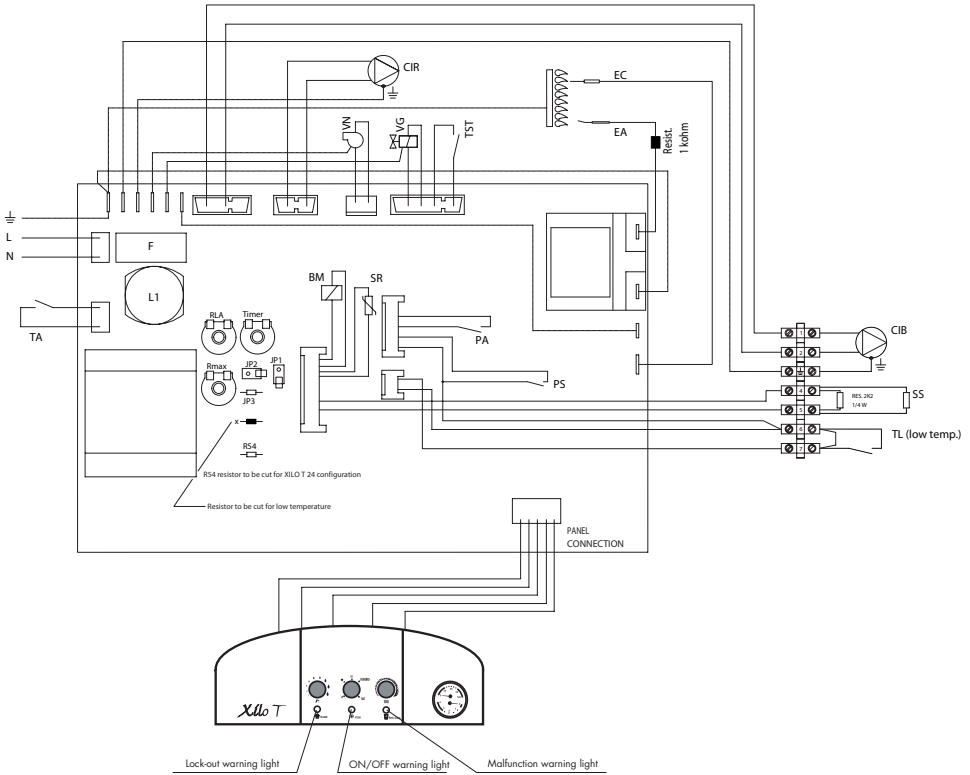


LEGEND

BM	Modulating coil	N	Neutral	TST	Safety thermostat
CiB	Heater circulator (if any)	PS	No-water pressure switch	VG	Gas valve
CiR	Heating circulator	RLA	Slow ignition adjustment	1	Heating potentiometer
EA	Ignition electrode	Rmax.	Heating max. power adjustment	2	Selector: Off Heater Heater/Heating Reset Test
F	Fuse	SR	Heating sensor	3	Hot water potentiometer (if any)
FC	Flue control	SS	Hot water sensor (if any)		
JP1	Methane/LPG selector	TA	Room thermostat (if any)		
JP2	Post-circulation selector	TL	Limit thermostat (if any)		
L	Phase 230 V 50 Hz	TIMER	Boiler timer adjustment		



ASSEMBLY DIAGRAM XILO T 24 MS W TOP

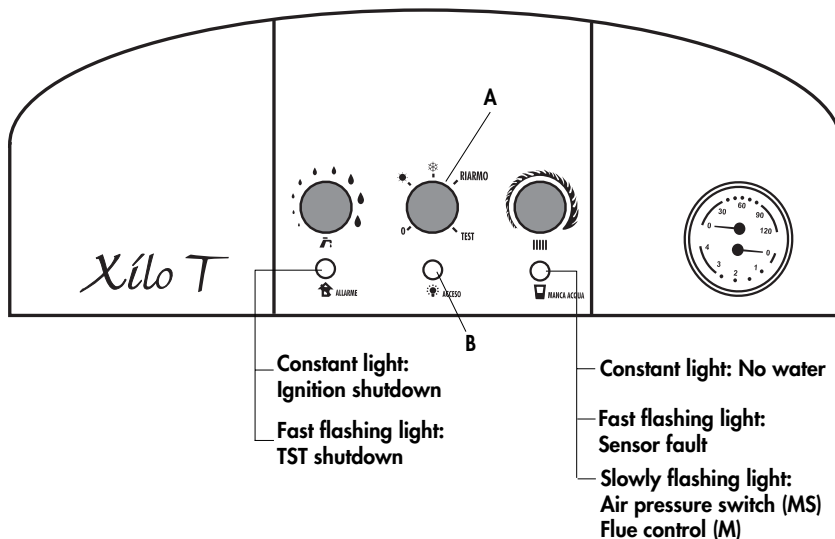


LEGEND

BM	Modulating coil	PA	Air pressure switch	TST	Safety thermostat
CIB	Heater circulator (if any)	PS	No-water pressure switch	VG	Gas valve
CIR	Heating circulator	RLA	Slow ignition adjustment	VN	Fan
EA	Ignition electrode	Rmax.	Heating max. power adjustment	1	Heating potentiometer
EC	Control electrode	SR	Heating sensor	2	Selector: Off Heater Heater/Heating Reset Test
F	Fuse	SS	Hot water sensor (if any)	3	Hot water potentiometer
JP1	Methane/LPG selector	TA	Room thermostat (if any)		
JP2	Post-circulation selector	TL	Limit thermostat (if any)		
L	Phase 230 V 50 Hz	TIMER	Boiler timer adjustment		
N	Neutral				



MALFUNCTIONS AND ADJUSTMENTS



Should the boiler shut down it must be reset by rotating functions selector switch to position **A**.
B: see TEST functions at "Gas pressure adjustments with Honeywell VK 4105 valve"

Legend:



On



Off



JP1 G30/G31
LPG

G20
Natural Gas



JP2 (post.circ.off)
heating

post.circ.
on **2,5 minutes.**



R150 resistor cut, floor heating temp. set to 30/40°C
R150 resistor uncut, temperature 35/80°C



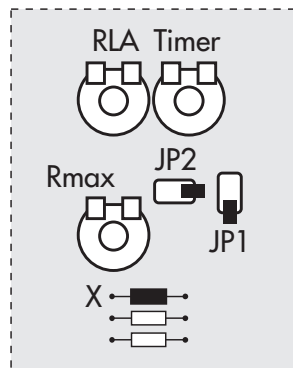
RLA Slow ignition adjustment
Increase



R max Max. heating power adjustment
Increase



Timer Boiler timer adjustment
Increase





WATER CONNECTION

Fit the supporting hooks and attach the assembly template, moving it up to the wall; fit all the pipes, starting with the end pipe fittings already mounted on the template: system supply, system return, cold water, hot water, any gas pipes and electric mains leads with room thermostat.

Once the pipes have been fitted, the end pipe fittings can be removed and ordinary caps fitted, ready for hydraulic tests to be carried out. The template can be removed or, if left in place, will be embedded in the wall once finishing operations have been completed (plaster and tiles); only the two supporting hooks will protrude from the wall, as well as an opening for the connections. Attach the boiler to the hooks through the holes at the back of the frame, push it up against the wall. Make the necessary water connections.

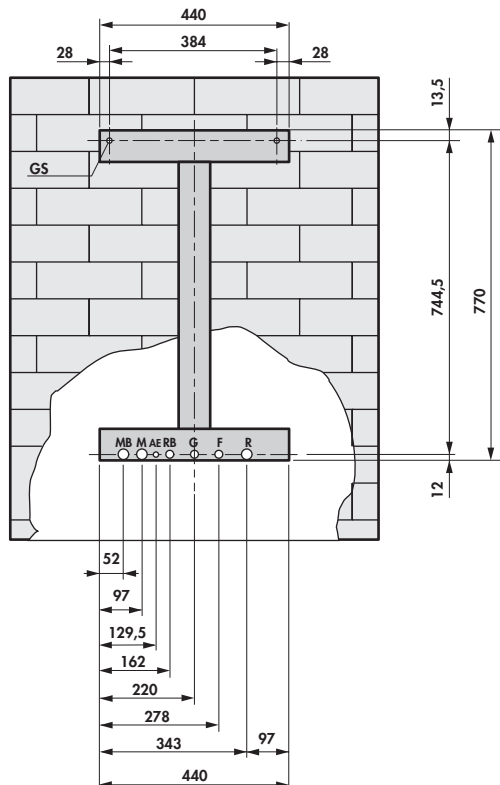
ADVICE AND SUGGESTIONS ON PREVENTING SYSTEM VIBRATION AND NOISE

- Do not use pipes of reduced diameter;
- Do not use low-radius elbows or fittings that significantly reduce cross-section;
- **Hot-flushing of the system is recommended** in order to eliminate any impurities from the piping and radiators (especially oil and grease) which might **damage the circulator**.

LEGEND

- G** Gas $\varnothing 1/2'' - \varnothing 3/4''$
(see tap supplied with the boiler)
- F** Boiler water supply $\varnothing 1/2''$ (cold)
- AE** Electrical supply
- M** System supply $\varnothing 3/4''$
- R** System return $\varnothing 3/4''$
- MB** Heater supply $\varnothing 3/4''$
- RB** Heater return $\varnothing 3/4''$
- GS** Holding hooks $\varnothing 10$ mm.

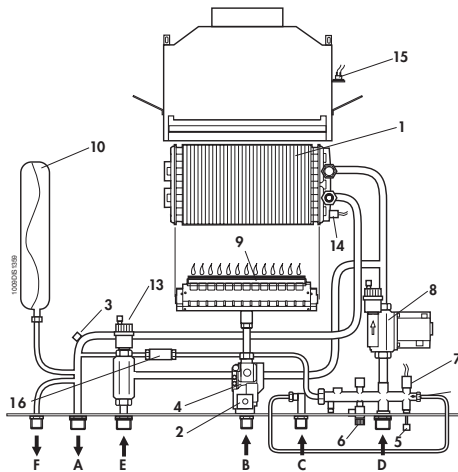
NOTE: Provide female water connections.



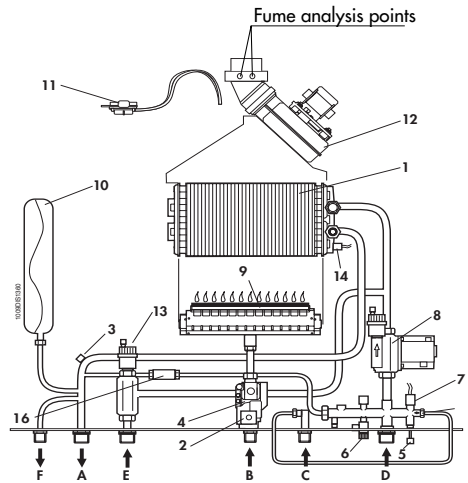


WATER CIRCUIT

XILO T 24 M W TOP



XILO T 24 MS W TOP



LEGEND

- A** System supply
- B** Gas
- C** Cold water inlet
- D** System return
- E** Heater return
- F** Heater supply
- 1** Exchanger
- 2** Modulator coil
- 3** Heating sensor
- 4** Gas valve
- 5** Filling tap

- 6** Safety valve
- 7** No-water pressure switch
- 8** Circulator
- 9** Burner
- 10** Expansion tank
- 11** Fume pressure switch
- 12** Fan
- 13** Automatic air bleed valve
- 14** Total safety thermostat
- 15** Flue control
- 16** By-pass (if any)



INSTALLATION

To be carried out by qualified personnel.

The installation must be in compliance with the stipulations of the law regarding the evacuation of combustion materials according to the REGULATIONS IN FORCE.

The gas fume evacuation must be effected with a pipe of a diameter not less than that required by the boiler and it must be connected to a flue pipe suitable for the capacity of the installation.

For connection of appliances to smoke conduits:

- a) they must be easy to dismantle;
- b) they must be sealed and of a material able to resist the products of combustion and their possible condensation;
- c) they must not have regulation devices (gate valves). If such devices are already in operation they must be eliminated;
- d) the connection itself must not protrude inside the flue pipe but stop before the internal face of the same.

GAS CONNECTION

Carry out the gas connection in accordance with the regulations in force.

The boiler must be connected to the installation with a rigid metal pipe or a flexible stainless steel pipe with continuous wall of the approved type. The flexible corrugated metal pipes must be installed in such a way that their length, in a state of maximum extension, is not greater than 2000 mm. The boilers are calibrated and tested to function with G20 (Natural Gas) and G30/G31 (LPG), category II 2H3+, with rated pressures of 20 mbar, 28/30 mbar and 37 mbar respectively.

PUTTING THE BOILER INTO SERVICE

- Proceed with the clearing out of air.
- Check that there are no gas leaks (use a soapy solution or equivalent product).

START UP

REFILLING INSTALLATION

Open the supply tap slowly until the pressure of the installation, indicated by the hydrometer, is raised to the value of 1.5 bar, then close it again. Verify that the automatic air bleed valve on the circulator has its cap loosened. Operate the circulating pump repeatedly to release any air remaining in the circuit.

SWITCHING ON

Open the gas tap and turn the selector to the desired position. The burner will ignite automatically. Should the burner fail to ignite check if the lock-out warning light is on and, if so, turn the selector to the RESET position so that the boiler repeats the ignition sequence.

After that, adjust both heating and hot water temperature to the desired levels by acting on the appropriate selectors.



FLUE EXHAUST CONNECTION

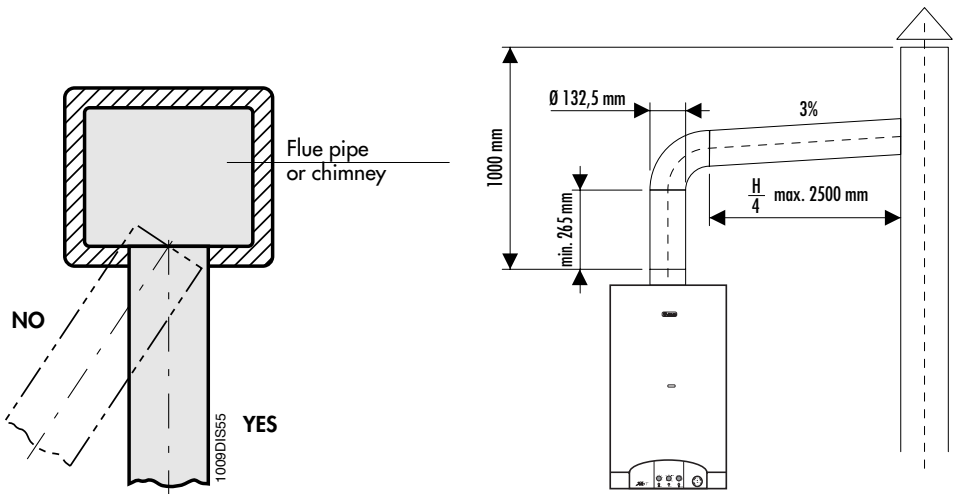
CONNECTION TO THE CHIMNEY - VERSION XILO T 24 M W TOP

The boiler is envisaged being **connected to a chimney** and/or a flue pipe; it can also discharge combustion products **directly outside**.

The connection to the chimney or to the flue must be made with a **flue pipe** with the following specification:

- of being sealed airtight, as with the connection to the chimney itself;
- of being of suitable material;
- of being connected within sight;
- not having more than three directional changes, not being more than 3, and be made with internal angles higher than 90° and utilizing bends;
- of not having any intercepting devices;
- of having the axis at the entrance of the terminal section perpendicular to the opposite internal wall of the chimney;
- of being firmly fixed and sealed at the entrance, without protruding beyond the inner walls of the chimney;
- of receiving preferably one boiler only;
- of observing the local regulations in force.

WARNING: This unit is fitted with a Flue Control device to control flue draught. This device is tripped when there is a risk of combustion fume backflow. This device must never be deactivated. If combustion fumes re-enter the room they may cause chronic or acute intoxication and can be fatal. If the Flue Control device is changed use only original spare parts. If the device trips repeatedly check for proper fume outflow via the chimney flue and contact a Lamborghini Service Centre.





CONNECTION TO THE CHIMNEY - VERSION XILO T 24 MS W TOP

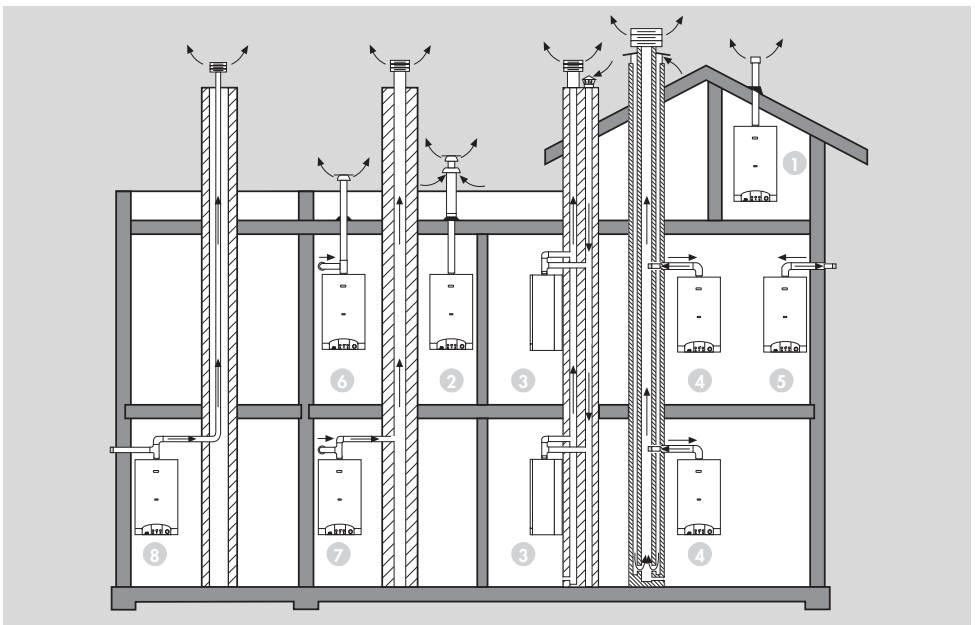
The boiler is for combustion in a sealed chamber and does not require any special ventilation, it can also be located in small rooms, lumber-rooms, laboratories. In addition, there are various possibilities for combustion fume evacuation and external air intake. Basically the boiler is designed for two types of fume evacuation/air intake:

- fume evacuation/air intake concentric pipe system;
- fume evacuation/air intake double pipe system;

In this way it is possible, by using suitable kits, to connect the boiler to concentric flues, ventilating flues, separate flues, etc. Some possible solutions are indicated on page 46.

FUME EVACUATION/AIR INTAKE

- 1 Concentric flue pipe, from the roof C32
- 2 Concentric flue pipe, from the terrace C32
- 3 Double flue pipe from separate flues C42
- 4 Concentric flue pipe, connected to concentric flues C42
- 5 Concentric flue pipe, from an external wall C12
- 6 Double flue pipe from the terrace C52
- 7 Double flue pipe from single flue C82
- 8 Double flue pipe C62



For positioning and for distances of draught terminals from windows, doors, etc. see **regulations in force**.

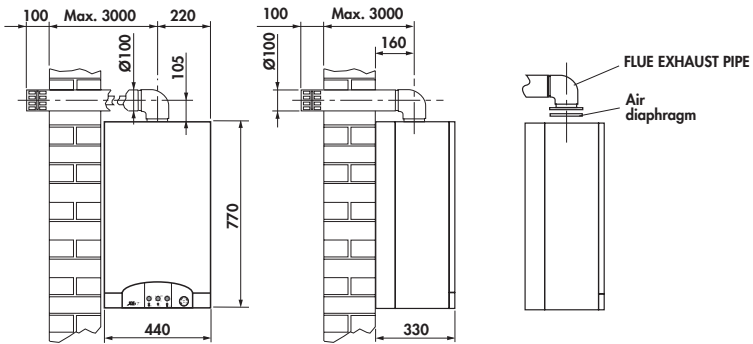


FLUE EXHAUST INSTALLATION

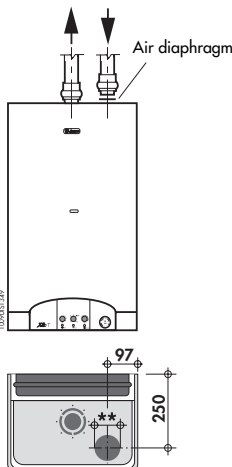
CONCENTRIC FLUE PIPE

Fit the concentric elbow pipe positioning it on the desired direction and insert on it the sealing gasket. Then fit the appropriate diaphragm (see table below).

Fit the air intake and flue exhaust pipes, observing the distances indicated on the installation scheme. The flue pipe should slope slightly outward.



DOUBLE FLUE PIPE



** Air intake Ø 80

CONCENTRIC FLUE PIPE		DOUBLE FLUE PIPE
Max. length 0,5÷1 m	over 1 m max. 3 m	
Diaphragm Ø 87 mm	No diaphragm (hole standard)	No diaphragm (hole standard)

Maximum length of CONCENTRIC FLUE PIPE 3 m
Maximum length of DOUBLE FLUE PIPE.
(Intake + Exhaust) 30 m

Installing an elbow to connect the boiler to the chimney will cause a drop in pressure.
The values set out in the table below indicate the necessary modifications to the length of the linear pipes.

TYPE OF INSTALLATION	ELBOW FITTED AT 90°	ELBOW FITTED AT 45°
Concentric flue pipe	1 m	0,5 m
Separate intake/exhaust	0,6 m	0,3 m

Attention: Use only air intake/ fume evacuation kits produced by Lamborghini Caloreclima.



GAS PRESSURE ADJUSTMENTS WITH HONEYWELL VK 4105 VALVE

All boilers are tested and calibrated in the factory. At first ignition it is necessary to check and set up the boiler to adapt it to the system characteristics. The gas pressure at the burner must be checked through the pressure plug placed on the pipe coming out from the gas valve and by using a water column pressure gauge or a micro-manometer. The values must be those indicated in the specific table. When all calibrations have been completed, close and seal the pressure plug used. Calibration of the slow ignition is electronically done and is adjustable (for optimising and for gas type conversion) by the trimmer **RLA** on the electronic board. The necessary thermal output for the heating system can be regulated by acting on the trimmer **R.MAX**. By removing the **JP4** bridge, the waiting time for boiler restarting can be varied, after its stop when reaching the temperature selected on the heating potentiometer. (bridge off: 2,5 minutes)

MODULATION MAXIMUM PRESSURE ADJUSTMENT

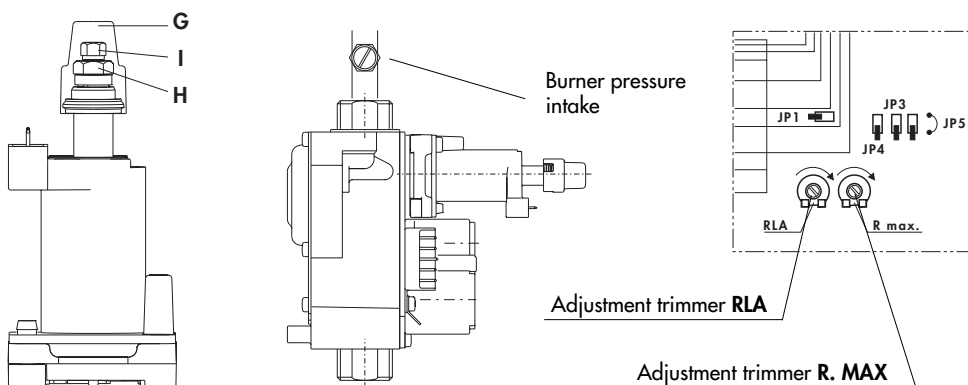
- remove the protecting cover **G**
- place the "function selector" on TEST position
- tighten (to increase) or untighten (to decrease) the adjustment bolt **H**

MINIMUM PRESSURE ADJUSTMENT

After the maximum pressure adjustment has been completed proceed with the following operations:

- disconnect the power wire (12 V) from the modulation coil
- tighten (to increase) or untighten (to decrease) the adjustment bolt **I**
- connect again the modulation coil power wire (12 V) ("function selector" must always be on TEST position)
- replace the protecting cover **G**

Once adjustments have been effected, replace "function selector" on Summer or Winter.



Note: "Function selector" places on "TEST" only for combustion test. This function stops gas pressure on maximum output for 15 minutes.

For this calibration it is necessary to use a water column pressure gauge connected to the pressure plug.



SWITCHING OFF

PROLONGED SWITCHING OFF

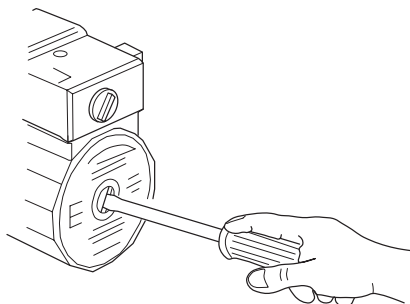
If the boiler should remain inactive at length close the gas tap and cut electrical power supply to the appliance.

TEMPORARY SWITCHING ON/OFF

Proceed in one of the following ways:

- use the room thermostat;
- use the adjustment potentiometer (on the instrument panel).

Note: With a new boiler or after a long period of inactivity, the locking of the circulating pump can occur. In this case it is necessary to unscrew the front stopper and make the motor shaft rotate with a screwdriver.



MAINTENANCE

To ensure long-lasting product functionality and efficiency within the limits prescribed by the laws and standards in force, the unit must undergo regular maintenance.

Frequency of inspection depends on the specific conditions of installation and use but it is advisable to have the unit checked **once a year** by authorised **Lamborghini Service** personnel. Only properly qualified personnel with specific knowledge in the field of safety, efficiency, environmental hygiene and combustion may carry out work on the unit. To ensure proper maintenance it is also required that such personnel be fully updated on the constructive and functional characteristics of the boiler.

Should work or maintenance be carried out on any structures situated near fume ducts and/or fume discharge devices and their accessories always switch off the boiler and, when work is over, have its efficiency checked by qualified personnel

IMPORTANT: before doing any cleaning or maintenance work on the unit switch off the electrical power supply via the switch on the boiler itself and via the system main switch. Then shut off the gas supply by closing the tap on the boiler. The above stated, work generally involves the following:

- rimozione delle eventuali ossidazioni dai bruciatori;
- rimozione delle eventuali incrostazioni degli scambiatori;
- verifica dei collegamenti tra i vari tronchi di tubo, fumo e aria;
- verifica e pulizia generale del ventilatore (mod. MS);
- pulizia generali dei tubi;
- controllo dell'aspetto esterno della caldaia;
- controllo accensione, spegnimento e funzionamento dell'apparecchio sia in sanitario (eventuale) che in riscaldamento;

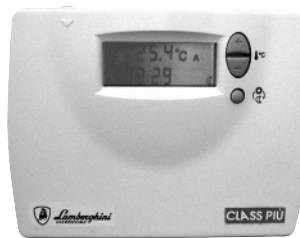


- checking for proper seal on gas/water fittings and pipes.
- checking gas consumption at minimum and maximum power
- checking position of ignition electrode
- checking position of detection electrode
- checking combustion and efficiency parameters
- checking the no-gas safety device
- checking combustion fumes outlet safety device (mod. M)
- water system pressure
- expansion tank efficiency
- checking for proper operation of safety and adjustment thermostats
- checking for proper circulation pump operation
- checking that no gas whatsoever leaks from the system and no combustion gas leaks from the draught diverter or the boiler-flue connection.
- checking gas flow rate.

Do not clean the unit and/or its component parts with easily inflammable substances (e.g. petrol, alcohol etc.)
Do not clean panelling, painted and plastic parts with paint diluents. Clean the panelling with soapy water only.

If a room thermostat is to be installed we recommend our CLASS PIU' timer-thermostat which, in addition to guaranteeing comfort and precise temperature regulation, provides a wide range of heating programmes. Alternatively there is the digital timer-programmer.

WARNING: The 230 V room thermostat must be connected to the earth terminal; alternatively, use the Class II room thermostat.



CLASS PIU' timer-thermostat (accessory)



OPERATION WITH DIFFERENT TYPES OF GAS

CONVERSION FROM NATURAL GAS TO LIQUID GAS

The boiler is factory-set for **G20** (Natural Gas) or **G30/G31** (LPG) operation, as mentioned on the Technical Nameplate and on the apparatus packaging. In the event the heater shall be operated using a different gas from that conceived by factory setting, a special kit has to be installed, which is to be ordered separately. To perform conversion, act as follows:

- Remove the cover and open the tight chamber (for model MS)
- Unscrew the fastening screws (1) and remove the burner (2) (fig. 1)
- Replace the burner nozzles (3) with those supplied with the transformation kit, making sure that the relevant diameter corresponds to that reported in the table shown below. Insert the sealing rings
- Reassemble the burner
- Close the tight chamber checking proper positioning of seal gaskets (for model MS)

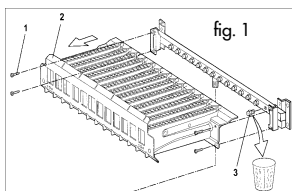
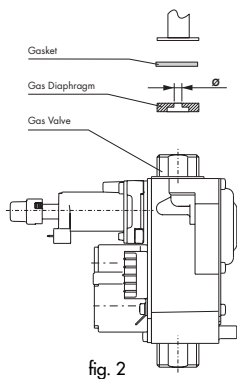
Then act as follows:

For transformation from **G20** (Natural Gas) to **G30/G31** (LPG):

- Insert the gas diaphragm (fig. 2)
- Move jumper JP1 to ON position (fig. 3)
- Disconnect the pressure regulator by screwing tight the nut (H) (page 48) and adjust minimum pressure to the value reported in the table shown below by acting on the screw (I) (page 48)
- If necessary, adjust trimmers RLA and R.MAX according to the system features
- Seal the regulator by applying the cover (G)

For transformation from **G30/G31** (LPG) to **G20** (Natural Gas):

- Remove the gas diaphragm
- Move jumper JP1 to OFF position (fig. 3)
- Regulate the pressure (maximum and minimum values) of the burner according to the values reported in the table shown below, by acting on the nut (H) and on the screw (I) respectively, as described in paragraph 'ADJUSTMENTS' (page 48)
- If necessary, adjust trimmers RLA and R.MAX according to the system features
- To confirm transformation, apply the adhesive plate supplied with the transformation KIT on the Technical Nameplate reporting the information featuring the gas, and according to the factory-setting.



Gas type	Jets pressure mbar				Delivery m ³ /h	Burner jets Ø mm.	L.C.V. kcal/h	NOx Class	Diaphragm (H)		
	XILO T 24 M		XILO T 24 MS						M	MS	
	min.	max.	min.	max.					Ø	Ø	
G20-20mbar (Natural Gas)	3	12,5	2,2	12,5	3,04	1,25	8.550	1	3	-	-
G30-28/30mbar (LPG)	6,3	25,6	6,5	26,8	0,89	0,77	29.330	1	3	6,2	6,4
G31-37mbar (LPG)	8,6	33	8,5	34,5	1,16	0,77	22.360	1	3	6,2	6,4

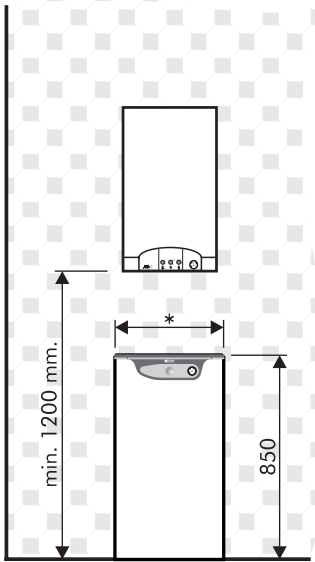


FAULT-FINDING CHART

FAULT	CAUSE	REMEDY
1 NO IGNITION	<ul style="list-style-type: none"> A. Gas tap closed B. Boiler in "lock-out" mode C. No flame detection D. No ignition spark E. Air inside pipes F. Safety thermostat intervention G. Water not circulating H. Boiler water temperature higher than figure set on the adjustment thermostat 	<ul style="list-style-type: none"> A. Open gas tap B. Reset by pressing C. Neutral and phase inverted D. Call technical service E. Repeat ignition F. Press reset push-button G. Adjust boiler pressure and check circulator H. Adjust thermostat setting on desired temperature.
2 CRACKLING IGNITION	<ul style="list-style-type: none"> A. Irregular flame B. Insufficient or wrongly adjusted gas delivery 	<ul style="list-style-type: none"> A. Call technical service B. Call technical service
3 SMELL OF GAS	<ul style="list-style-type: none"> A. Leak in pipes circuit (inside and outside boiler) 	<ul style="list-style-type: none"> A. Check the internal pipes. Call technical service
4 SMELL OF UNBURNT GAS AND BAD BURNER COMBUSTION	<ul style="list-style-type: none"> A. Flue cross-section or height with joint not suitable for the boiler B. Excessive gas consumption - combustion is imperfect C. Flames tend to detach D. Flame has yellow tips 	<ul style="list-style-type: none"> A. Replace unsuitable components B. Adjust gas delivery C. Check/adjust gas valve pressure stabilizer D. Check that air volutes and Venturi cones of the burner are clean. <p>If items A-B-C-D have been checked with negative result call technical service</p>
5 CONDENSATION IN THE BOILER	<ul style="list-style-type: none"> A. Flue cross-section or height not suitable (excessive size) B. Boiler operating at low temperature 	<ul style="list-style-type: none"> A. Replace unsuitable components B. Adjust boiler thermostat at a higher temperature and check if air intake pipe/flue exhaust pipe are operating correctly
6 COLD RADIATORS IN WINTER	<ul style="list-style-type: none"> A. Function selector on heater position B. Room thermostat set too low or faulty C. System or radiators closed D. Circulator blocked 	<ul style="list-style-type: none"> A. Place it on heating/heater position. B. Adjust thermostat at a higher temperature or replace it. C. Check if system gate valves and radiator taps are opened. If item C has been checked with negative result call technical service. D. Unblock with a screwdriver and check electrical supply.



INSTALLATION OF XILO T BOILER WITH PAC HEATER PAC S



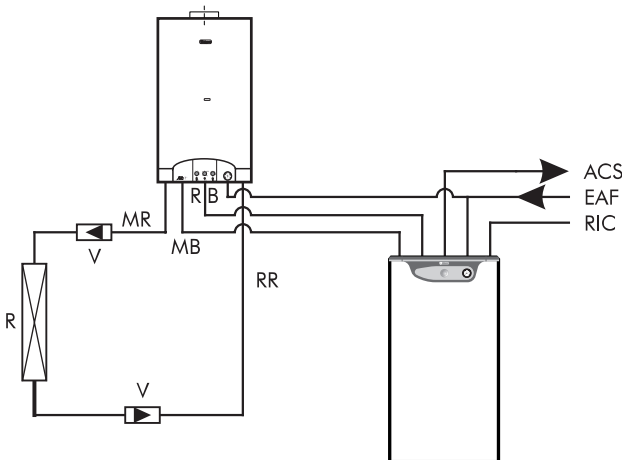
Where abundant hot water supply is required the XILO T boiler is ideal for use together with a PAC heater.

PAC heaters are equipped with:

- Circulator
- Safety valve
- Automatic air bleed valve
- Discharge tap

* PAC S 80 = 450 mm
PAC S 120 = 600 mm

WATER CONNECTION



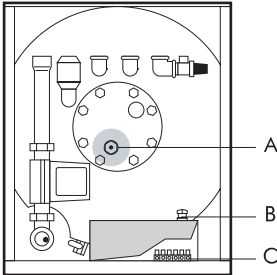
- MR** Heating delivery
- RR** Heating return
- MB** Water heater delivery
- RB** Water heater return
- ACS** Hot water
- EAF** Cold water inlet
- RIC** Recirculation
- V** Non-return valve
- R** Radiator

Remember to install one or more non-return valves on the heating circuit as illustrated in the diagram.

All the components used in the hot water circuit are made from materials that comply with hygiene and health standards.

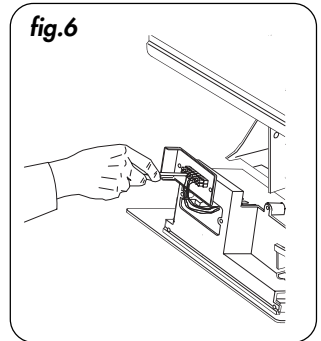
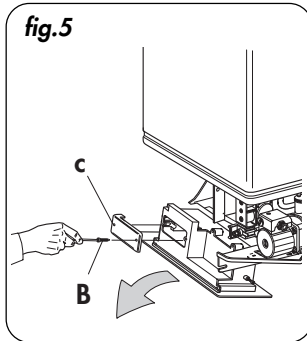
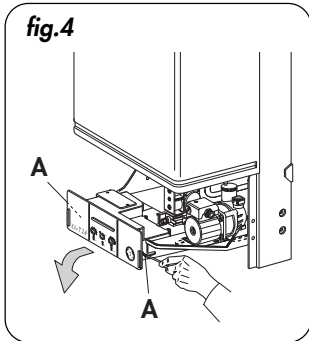
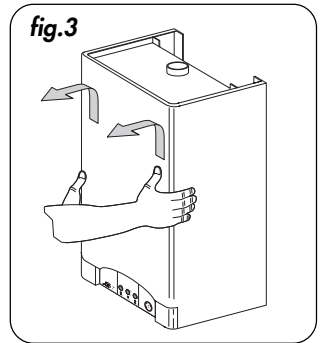
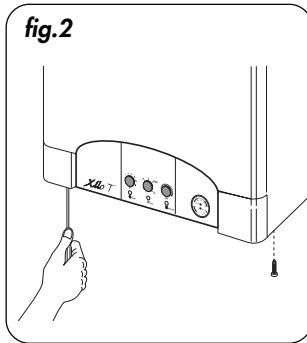
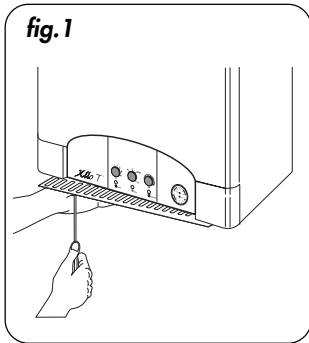


INSTALLING THE HOT WATER SENSOR IN THE PAC HEATER PAC S



The hot water sensor must be housed in the heater well **A**. When effecting heater electrical connections use the lead-grip **B** and connect the wires at the terminal block **C** as illustrated in the wiring diagram.

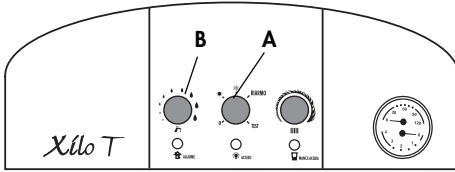
BOILER AND HEATER ELECTRICAL CONNECTIONS



- Disconnect the boiler power supply.
- Undo the two grating screws (fig. 1).
- Undo the two casing fixing screws (fig. 2).
- Raise the casing and then pull it towards you (fig. 3).
- To access electrical and electronic parts loosen screws **A** and pull the entire panel outwards (fig. 4).
- Tilt downwards and undo the screws **B** on the cover **C** (fig. 5).
- Connect the wires as illustrated in the wiring diagram (fig. 6).



ADJUSTING THE BOILER VIA THE CONTROL PANEL

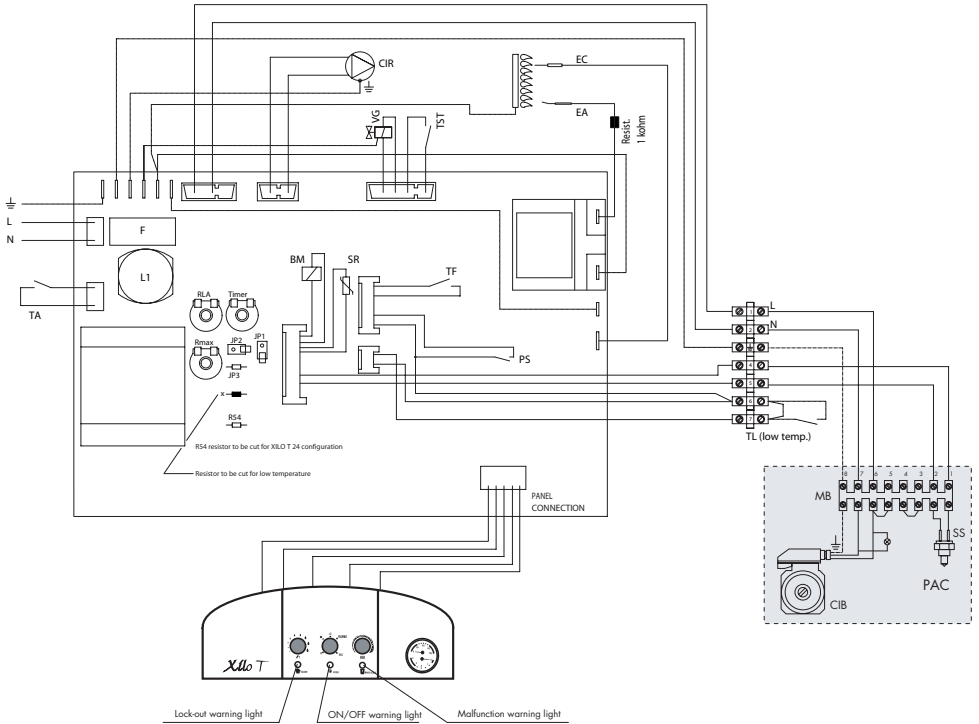


Turning dial **A** to the Heating + Hot Water (|||| ♦♦)* position as illustrated in the figure readies the boiler for operation with the heater. Hot water temperature adjustment is effected by means of dial **B** on the boiler control panel.

* or Hot Water (♦♦)



ASSEMBLY DIAGRAM XILO T 24 M W TOP + PAC 5



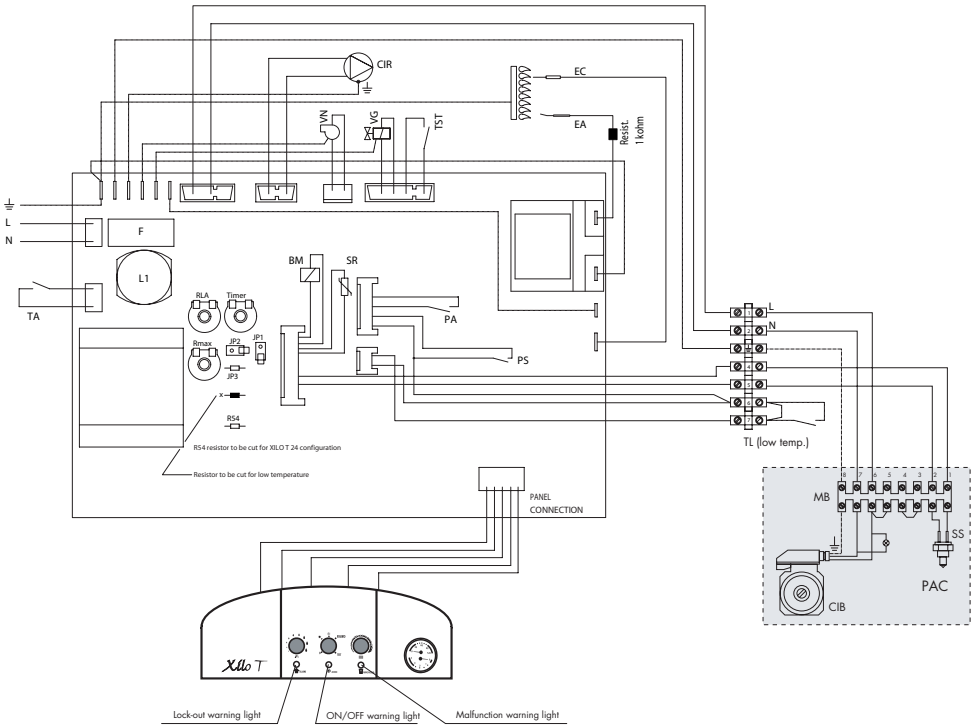
LEGEND

BM	Modulating coil	L	Phase 230 V 50 Hz	TIMER	Boiler timer adjustment
CiR	Heating circulator	N	Neutral	TST	Safety thermostat
CiB	Heater circulator	PS	No-water pressure switch	VG	Gas valve
MB	Ignition electrode	RLA	Slow ignition adjustment	1	Heating potentiometer
EA	Ignition electrode	Rmax.	Heating max. power adjustment	2	Selector: Off
EC	Control electrode	SR	Heating sensor		Heater
F	Fuse	SS	Hot water sensor (if any)		Heater/Heating
FC	Flue control	TA	Room thermostat (if any)		Reset
JP1	Methane/LPG selector	TL	Limit thermostat (if any)		Test
JP2	Post-circulation selector			3	Hot water potentiometer (if any)

N.B.: Before connecting the hot water sensor (SS) remove the resistor.



ASSEMBLY DIAGRAM XILO T 24 MS W TOP + PAC S



LEGEND

BM	Modulating coil	N	Neutral	TIMER	Boiler timer adjustment
CiR	Heating circulator	PA	Air pressure switch	TST	Safety thermostat
CiB	Heater circulator (if any)	PS	No-water pressure switch	VG	Gas valve
MB	Heater terminal block	RLA	Slow ignition adjustment	VN	Fan
EA	Ignition electrode	Rmax.	Heating max. power adjustment	1	Heating potentiometer
EC	Control electrode	SR	Heating sensor	2	Selector: Off Heater Heater/Heating Reset Test
F	Fuse	SS	Hot water sensor (if any)	3	Hot water potentiometer
JP1	Methane/LPG selector	TA	Room thermostat (if any)		
JP2	Post-circulation selector	TL	Limit thermostat (if any)		
L	Phase 230 V 50 Hz				

N.B.: Before connecting the hot water sensor (SS) remove the resistor.



Lamborghini
CALORECLIMA



BRUCIATORI
CALDAIE MURALI E TERRA A GAS
GRUPPI TERMICI IN GHISA E IN ACCIAIO
GENERATORI DI ARIA CALDA
TRATTAMENTO ACQUA
CONDIZIONAMENTO

Le illustrazioni e i dati riportati sono indicativi e non impegnano. La LAMBORGHINI si riserva il diritto di apportare senza obbligo di preavviso tutte le modifiche che ritiene più opportune per l'evoluzione del prodotto.

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Lamborghini

CALORECLIMA

AZIENDA CERTIFICATA ISO 9001



IT CALDAIA MURALE A GAS TERMO
ALTO RENDIMENTO - MODULANTE **2**
MANUALE PER L'UTENTE

Alla cortese attenzione del sig. INSTALLATORE:

Consegnare il presente manuale d'uso all'UTENTE

GB WALL-HUNG GAS BOILER FOR HEATING
FOR HIGH EFFICIENCY - MODULATING **9**
USER MANUAL

For the attention of the INSTALLATION TECHNICIAN:

make sure that this manual is handed over to the USER

ES CALDERA MURAL A GAS PARA CALEFACCIÓN
ALTO RENDIMIENTO - MODULANTE **16**
MANUAL PARA EL USUARIO

A la atención del sr. INSTALADOR:

Entregar el presente manual para el uso al USUARIO

PT CALDEIRA DE PAREDE A GÁS PARA CALEFACÇÃO
ALTO RENDIMIENTO - MODULANTE **23**
MANUAL DO UTENTE

Atenção do Sr. INSTALADOR:

Entregue este manual de uso ao UTENTE



Xílo T

24 M W TOP U/IT
24 MS W TOP U/IT



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CHECKINGS AND MAINTENANCE _____	12
DIMENSIONS mm _____	13
IGNITION - OPERATION - SHUTDOWN INSTRUCTIONS _____	14
FAULT-FINDING CHART _____	15

Dear User...

... you now own a product, result of a thorough project and of advanced construction systems, granting you the utmost reliability, operation safety and great saving for its use.
Carefully read this manual to know all information about the appliance operation.

"LAMBORGHINI AFTER-SALE SERVICE", is at your disposal to grant
you a QUALIFIED MAINTENANCE and a VERY PROMPT AFTER-SALE SERVICE

LAMBORGHINI CALORECLIMA

For boiler installation and location:
STRICTLY FOLLOW LOCAL SPECIFICATIONS IN FORCE.



GENERAL INSTRUCTIONS

- This booklet constitutes an integral and essential part of the product and should be preserved for any further consultation.
Read carefully the instructions contained in this booklet as they provide important directions regarding the operation of the appliance, allowing a great saving in its use and maintenance.
- If the appliance is sold or transferred to other people or if you move house and leave your apartment, ensure that the manual remains with the appliance so that it can be used by the new owner.
- This appliance should be destined only for the use for which it has been expressly envisaged.
Any other use is to be considered improper and therefore dangerous.
The manufacturer cannot be considered responsible for any damages caused from improper, erroneous or unreasonable use.
- Do not touch the parts of the boiler which during the operation become overheated.
These parts can be dangerous for children or inexperienced persons.
- Do not obstruct the inlet or dissipation screens.
- Do not make the boiler wet with splashes of water or other liquids.
- Do not rest any object upon the boiler.
- Use of the boiler is prohibited for children or the inexperienced.
- Do not carry out any cleaning of the boiler with inflammable substances.
- Do not deposit containers of inflammable substances in the location where the boiler is situated.
- In the presence of the risk of freezing suitable provisions must be taken which are not however the concern of the boiler manufacturer

ALL INSTALLATION, MAINTENANCE AND GAS CONVERSION OPERATIONS MUST BE CARRIED OUT BY AUTHORISED SKILLED TECHNICIANS.

TO ENSURE THAT BOILER IS INSTALLED CORRECTLY AND THAT IT FUNCTIONS PROPERLY, WE RECOMMEND THAT ONLY LAMBORGHINI ACCESSORIES AND SPARE PARTS BE USED.

ON NOTICING THE SMELL OF GAS DO NOT TOUCH ANY ELECTRIC SWITCH. OPEN DOORS AND WINDOWS. SHUT OFF THE GAS COCKS.



INSTRUCTION FOR THE USE

- In case of breakdown and/or malfunctioning of the appliance, disconnect it avoiding any attempt of repair or direct intervention.
Call exclusively professionally qualified personnel.
Any repair must be carried out by an after-sale service centre "LAMBORGHINI SERVICE" authorised by the manufacturing firm, and using original replacements exclusively;
Non-observance of the above could compromise the guarantee and the safety of the appliance.
In order to guarantee the efficiency of the appliance and its proper operation it is indispensable to keep to the manufacturer's directions, by ensuring the periodical servicing of the appliance is carried out by professionally qualified personnel.
- Check the hydraulic pressure of the installation on the hydrometer and that the indication, when the system is cold, is within the limits set by the manufacturer: if one should find a drop in pressure request for an inspection by qualified personnel.
- After each reopening of the gas cock wait a few minutes before restarting the boiler
- Do not leave the boiler switched on if it is not used for long time: in this case switch gas main supply, electricity and water supply off by their own cocks and switches.
- As soon as one decides not to use the appliance further, one should take care to render innocuous those parts liable to be potential sources of danger.
- As soon as one decides to disconnect the boiler definitively, one should ask qualified personnel to effect the related works, then ensure that the main supplies have been disconnected.
- For the power supply to the boiler the use of adaptors, multiple sockets or extensions is not permitted. The use of a switch as indicated by the safety regulations in force must be provided.
- The use of appliances which utilise electrical energy involve the observation of fundamental rules which are:
 - a) not to touch the appliance with parts of the body which are wet or when in bare feet;
 - b) not to pull electrical wires;
 - c) not to expose the appliance to the atmospheric agents;
 - d) not to allow use of the appliance to children or the inexperienced.
- In the case of structural work positioned near the flue pipe, turn off the boiler and at the end of the work ensure that the efficiency of the flue exhaust is verified by qualified personnel.
- On noticing the smell of gas do not touch any electric switch. Open all doors and windows. Shut off the gas cocks and call qualified personnel.



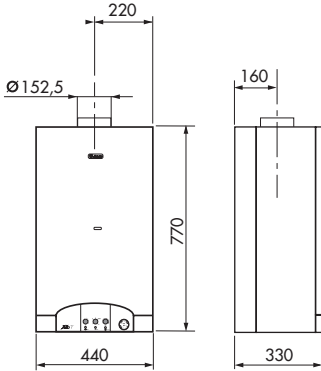
CHECKS AND MAINTENANCE

- Prima di avviare la caldaia far verificare da Personale Qualificato "LAMBORGHINI SERVICE":
 - a) that the data on the information plate corresponds to that required by the gas, electrical and water supply networks;
 - b) that the pipes which branch off from the boiler are lined with suitable thermally-insulated sheathing;
 - c) the proper functioning of the flue pipe;
 - d) that the comburent air flow and the fumes evacuation take place properly in accordance with the regulations in force.
 - e) that correct aeration and maintenance are possible in case of installation in the furniture.
- The transformation from a gas (methane or liquid gas) to a gas of another group, which can also be made with the boiler installed, must be made exclusively by qualified personnel.
- Ensure that the installer has connected the boiler safety discharge to a waste. In the case of the contrary the intervention of the safety valves could flood the premises and the manufacturer would not be held responsible for this.
- Ensure that the piping of the installation is not used as an earth outlet for other installations; beyond not being ideal for such a use it could in short bring serious damage to the other appliances connected to it.
- Ask qualified personnel "LAMBORGHINI SERVICE" to check:
 - a) the internal and external tightness of the gas system;
 - b) that the gas delivery is that required by the boiler output;
 - c) that the type of gas is suitable for the boiler;
 - d) that the pressure of gas supply is within the values stated on the boiler plate;
 - e) that the gas installation is the correct size and equipped with all the safety and checking devices prescribed by the current regulations.
- Ask periodically to check the proper functioning and the good state of the flue exhaust.
- Ensure that the electrical system has been confirmed by qualified personnel to be adequate for the power required by the appliance itself.
- The electricity supply cable must not be replaced by the user, but by qualified personnel only.
- The electrical safety of the appliance is attained only if the same has been connected to an effective system earthed in accordance with the current regulations. The verification of this fundamental prerequisite should be made by qualified persons as the manufacturer will not be responsible for damage caused by the lack of adequate earthing of the installation.

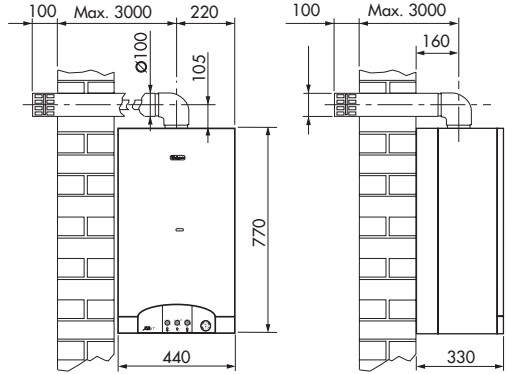


DIMENSIONS mm

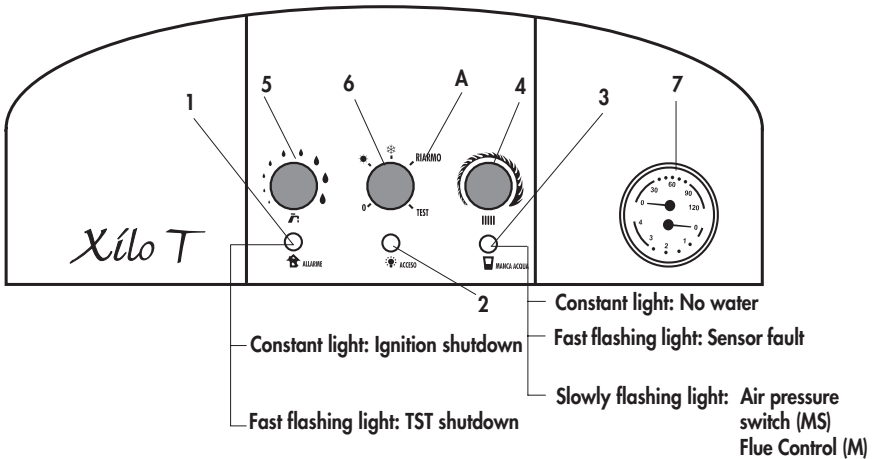
XILO T 24 M W TOP



XILO T 24 MS W TOP



CONTROL PANEL AND ADJUSTMENTS



Should the boiler shut down it must be reset by rotating functions selector switch 6 to position A.

- | | |
|------------------------------------|--------------------------------------|
| 1 Lock-out warning light | 5 Hot water adjustment potentiometer |
| 2 ON/OFF warning light | 6 Function selecto |
| 3 Malfunction warning light | 7 Thermohydrometer |
| 4 Heating adjustment potentiometer | |



IGNITION - OPERATION - SHUTDOWN INSTRUCTIONS

IGNITION

Open the gas tap and turn the selector switch (6) to the desired position. The burner will ignite automatically. Should ignition fail to take place check the lock-out warning light (1) and fault warning light (3) to see if they have come on. Turn the selector (6) to the reset position A. Then rotate the selector (6) again to the desired position. Then adjust heating temperature (4) and hot water temperature (5) as desired via the appropriate controls.

TEMPORARY IGNITION/SHUTDOWN

Proceed as follows:

- adjust the room thermostat;
- adjust the potentiometers on the front panel (4) (5).

PROLONGED SHUTDOWN

Should the boiler remain idle for a long period close the gas tap, position the selector switch (6) at position (0) and disconnect the electrical power supply.

HEATER MODE (IF ANY)

Turn the selector switch (6) to Heater position ●●

Regulate the hot water potentiometer (5) to a position corresponding to desired water temperature.

HEATING/HEATER MODE (IF ANY)

Turn the selector switch (6) to Heating/Heater position ■■■■ ●●

Regulate the heating potentiometer (4) to a position that corresponds to desired room temperature.

If a room thermostat is installed then the thermostat will keep room temperature at the set level.

Adjust the hot water potentiometer (5) to a position corresponding to desired water temperature.

IMPORTANT:

The unit is fitted with Flue Control to monitor flue draught. This safety device shuts down the boiler if there is a risk of combustion fume backflow into the room. This device must never be deactivated. If combustion fumes re-enter the room they may cause chronic or acute intoxication that can be fatal. If the Flue Control device is changed use only original spare parts. If the device trips repeatedly check for proper fume outflow via the chimney flue and contact a Lamborghini Service Centre.

WARNING: When Heater ●● or Heating/Heater ■■■■ ●● mode is selected the ON indicator light comes on indicating that the boiler is electrically powered.

WARNING: Use only 2A/250VC - 5x20 rapid fuses.



FAULT-FINDING CHART

FAULT	CAUSE	REMEDY
1 NO IGNITION	A. Gas cock closed B. "Lock-out" button locked C. No flame detection D. No ignition spark E. Air inside pipes F. Safety thermostat intervention	A. Open gas cock B. Reset by pressing C. Call technical service D. Call technical service E. Repeat ignition F. Wait for the temperature to drop
2 CRACKLING IGNITION	A. Irregular flame B. Insufficient or wrongly adjusted gas delivery	A. Call technical service B. Call technical service
3 SMELL OF GAS	A. Leak in pipes circuit (inside and outside boiler)	A. Call technical service
4 MELL OF UNBURNT GAS AND BAD BURNER COMBUSTION	A. Flue section or height with joint not suitable for the boiler B. Excessive gas consumption - combustion state is imperfect C. Flames tend to move away or have yellow tips	A. Call technical service B. Call technical service C. Call technical service
5 CONDENSATION IN THE BOILER	A. Flue cross-section or height not suitable (excessive size) B. Boiler operating at low temperature	A Call technical service B Adjust boiler thermostat at a higher temperature.
6 COLD RADIATORS IN WINTER	A. Function selector on summer position B. Room thermostat set too low or faulty C. System or radiators closed D. Circulator blocked	A. Place it in winter position B. Adjust thermostat at a higher temperature or replace it. C. Check if system gate valves and radiator cocks are opened. If item C has been checked with negative result call technical service D. Call technical service

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CALDAIE MURALI E TERRA A GAS
GRUPPI TERMICI IN GHISA E IN ACCIAIO
GENERATORI DI ARIA CALDA
TRATTAMENTO ACQUA
CONDIZIONAMENTO

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