

# HOT WATER GENERATOR HEALTH TO BUILD A HOUSE OPEN AND NATURAL DRAFT (type B)

**TX160**

**TX220**

**TX300**

**TX400**

**TX600**

**TX800**



## ENG - Manual installation, use and maintenance.

Original instructions.

Read and follow these instructions before installing the unit.

Always keep on hand this manual during the maintenance phase.

This manual is also available in electronic format and can be downloaded from the website [www.atimariani.it](http://www.atimariani.it)

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## 1. SYMBOLS IN THE MANUAL

In reading this book, particular attention should be given to the parts marked with symbols represented:



**DANGER!**  
serious danger to the life and limb



**WARNING!**  
Possible dangerous situation for the  
product and the environment







**NOTE!**  
Tips for users

## 2. GENERAL WARNINGS

- this instruction booklet is an integral and essential part of the appliance and must be kept with care near the appliance for future reference. It contains important information about safety, installation, use and maintenance.
- the apparatus has been built for the production of hot water: any other type of use is to be considered as dangerous and unsuitable.
- the appliance must not be installed in damp environments, to be protected from splashes, jets of water or other liquids, to avoid anomalies to electrical and thermal devices.
- installation must be performed by professionally qualified personnel responsible for complying with current safety standards. incorrect installation, without complying with the instructions given by the manufacturer, may cause damage to people, animals or things, for which the manufacturer assumes no responsibility.
- parts of the packaging (plastic bags, polystyrene, wood, staples, etc.) must not be left within reach of children as they are potential sources of danger.
- The device can be used by children aged under 8 years old and people with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, provided under surveillance or after the companies have received instructions to 'safe use of and understanding of the dangers inherent in it.
- children should not play with the appliance.
- cleaning and maintenance intended to be performed by the user must not be performed by unsupervised children.
- If the appliance should be sold or transferred to another owner, ensure that this booklet accompanies the same, so that they can be consulted by the new owner and / or installer.
- not to support any kind on the subject. to avoid risk of damage due to freezing, in the case it is planned to leave the unit unused for a long period in an environment not heated, it is advisable to empty it completely. The manufacturer is not liable for malfunctions or breakage of components due to frost and water leakage from the plant.
- to get the best result and the warranty terms, we recommend that you carefully follow the instructions below and use only original spare parts and kits supplied by the manufacturer.
- multiple devices in the same room for a greater overall thermal capacity to 35 kw, constitute thermal power station and are subject to the provision of the circular n ° 68 VVFF.
- You are not tamper with any device calibrated and sealed at the factory by the manufacturer.
- the devices should be checked and verified regularly by a competent person according to the law of the country where the equipment is installed.
- this apparatus must be kept at suitable distance from any flammable materials
- any repair or replacement components shall be performed by personnel authorized by the manufacturer.
- danger hot surfaces: the device are present of the warm surfaces, in particular the area break wind hood and burner assembly, a warning sticker and 'was put in correspondence with the high temperature surfaces. and 'absolutely it is forbidden to touch these surfaces while the appliance is in operation.

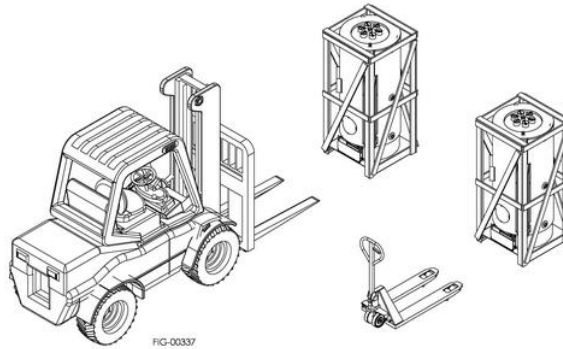
## 3. TRANSPORTATION, STORAGE AND RECYCLING

The apparatus

-  It must be transported and stored dry and protected from frost.
-  It must be stored, transported and used at a temperature between +10 and +40 ° C and at a humidity between 40% and 80%.
-  It must not be turned upside down during transport
-  must not be handled and / or laid horizontally: it is only and exclusively in the vertical can carry it.

## GENERAL INFORMATION AND FEATURES

- Use, for the movement, a forklift or a hand pallet truck. As indicated in the figure, insert the forks in the lower part of the appliance.



- Remove the packing 4 by unscrewing the screws at the bottom corners of the appliance, then pull upwards the packaging for whole, taking care not to damage the appliance. The European Directive 2002/96 / EC imposes the selective disposal and recycling of electrical and electronic equipment.

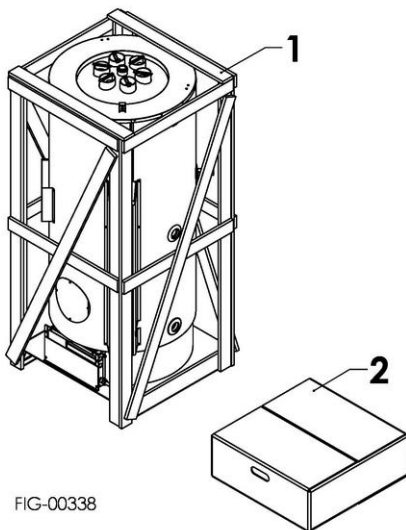
### 3 CONTENT, WEIGHT AND DIMENSIONS OF PACKAGE

The appliance is delivered packaged in a wooden crate (1) with appropriate protections.

The break windproof pulling device is provided in a separate housing (2) (to be mounted subsequently during installation)



Make sure that both parts (1 and 2) are present and that they are not damaged during transport

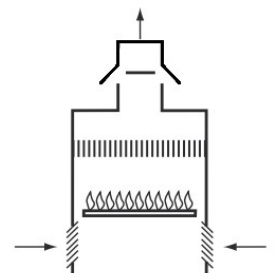


	1	2
TX160	cm 58 x 58 x 185 131 kg	cm 46 x 46 x 23 5 kg
TX220	cm 78 x 78 x 141 184 kg	cm 68 x 68 x 25 6 kg
TX300	cm 78 x 78 x 176 220 kg	cm 68 x 68 x 25 6 kg
TX400	cm 78 x 78 x 211 260 kg	cm 68 x 68 x 25 6 kg
TX600	cm 98 x 98 x 180 262 kg	cm 68 x 68 x 25 6 kg
TX800	cm 98 x 98 x 210 320 kg	cm 68 x 68 x 25 6 kg

### 4 DEVICE CATEGORY

These appliances are classified as "generators of hot water at atmospheric gases, water storage."

With reference to the European standard EN 483, the apparatus is of type B11BS, i.e. is a "device ready for connection to a flue pipe which provides the evacuation of the combustion products out from the environment; the combustion air is drawn directly from the environment in which the appliance is installed. "



### 5 TECHNICAL DATA

class healthcare efficiency

load profile

nominal capacity

210-0197.04

L

TX160	TX220	TX300	TX400	TX600	TX800
C	C	C	C	C	C
XL	XXL	XXL	XXL	XXL	XXL
155	220	300	400	580	740
	4				

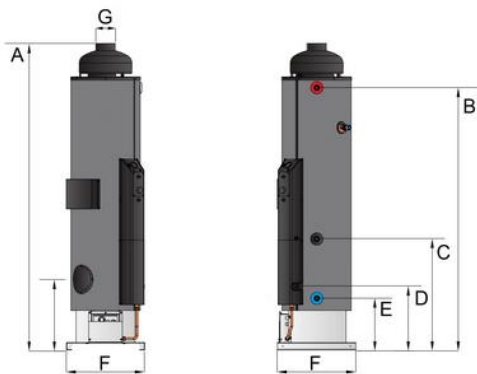
ed. 2023-06

## GENERAL INFORMATION AND FEATURES

efficiency	%	84	86	85	89	86	86
nominal thermal capacity Q	kW	12,0	23,0	24,0	24,0	27,0	28,0
nominal thermal power P	kW	11,5	19,8	20,9	20,9	23,6	25,2
continuous withdrawal $\Delta 25^\circ \text{C}$	l / h	416	680	702	735	873	905
heating time - $T = 25^\circ \text{C}$	min	23	19	26	33	40	49
single levy - $T = 25^\circ \text{C}^*$	L	384	528	720	960	1,404	1,776
consumption gas (G20 - methane)	m <sup>3</sup> / h	1.3	2.4	2.5	2.5	2.9	3.0
consumer gas (G31 - propane)	kg / h	0.9	1.8	1.9	1.9	2.1	2.2
NOx emission value	mg / kWh	54	26	29	36	35	37
Max water pressure	kPa	600	600	600	600	600	600
empty weight	Kg	118	173	206	243	246	301
full weight	Kg	278	393	506	643	831	1,041
electrical characteristics	V / Hz / W	230V / 50Hz / 10w					

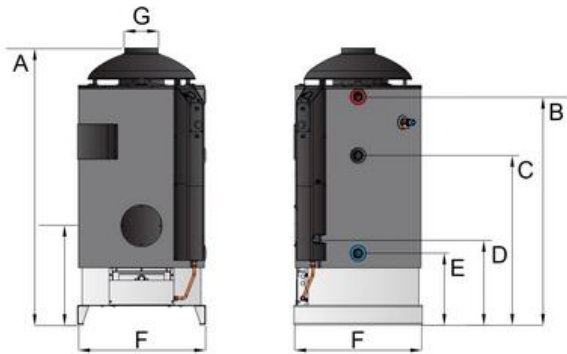
\* T accumulation  $70^\circ \text{C}$  -  $10^\circ \text{C}$  cold T

## 6 DIMENSIONS AND EQUIPMENT



TX160			
A			2038
B	hot	$\frac{3}{4}$ "	1743
C	Recirculation	$\frac{3}{4}$ "	738
D	Gas	$\frac{1}{2}$ "	408
IS	Cold	$\frac{3}{4}$ "	343
F			520
G			130

Dimensions in millimeters: mm



			TX220	TX300	TX400	TX600	TX800
A			1600	1960	2310	1919	2269
B	hot	1 "1/4"	1330	1680	2030	1639	1989
C	Recirculation	1 "	605	605	605	1021	1021
D	Gas	$\frac{1}{2}$ "	545	545	545	462	462
E	Cold	1 "1/4"	460	460	460	402	402
F			720	720	720	920	920
G			180	180	180	180	180

Dimensions in millimeters: mm

## 7 DESTINATION COUNTRIES AND GAS CATEGORIES

Country (EN ISO 3166-1):	Category:	gas / pressure type (EN 437):
AT	I2H, II 2H3P appliance	G20 - 20 mbar
BE	I2E +, II2E 3P +	G20 - 20 mbar; G31 - 37 mbar
CH	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
CZ	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
DK	I2H	G20 - 20 mbar
EE	I2H	G20 - 20 mbar
ES	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
FI	I2H	G20 - 20 mbar
FR	I2E +, I2Esi, II2E 3P +	G20 - 20 mbar; G31 - 37 mbar
GB	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
GR	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
HR	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
HU	I2H	G20 - 25 mbar; G31 - 37 mbar
IE	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
IT	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
LT	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
LU	I2H	G20 - 20 mbar
LV	I2H	G20 - 20 mbar
NL	I3P	G25 - 25 mbar; G31 - 37 mbar
NO	I2H	G20 - 20 mbar
PL	I3P	G20 - 20 mbar; G31 - 37 mbar
PT	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
RO	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
SELF	I2H	G20 - 20 mbar
YES	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
SK	I2H, II 2H3P appliance	G20 - 20 mbar; G31 - 37 mbar
TR	I2H	G20 - 20 mbar

## 8 DESCRIPTION FUNCTIONAL AND CONSTRUCTION

The function of this device is to generate hot water through the heat exchange between the combustion products of the burner and the water present in the storage tank.

The combustion chamber is open with respect to the environment which contains the device.

### **BOILER**

It is built with a sturdy sheet and ensures a remarkable resistance to pressure. It is also subjected internally to a cryolite glass treatment. To allow for the inspection of the inner part and the cleaning is provided a Ø120 flange.

### **BURNING ROOM**

It is at the bottom of the appliance and contains: the burner manifold, injectors. The chamber is opened with respect to the environment in which the appliance is installed.

### **DRAFT BREAK WIND**

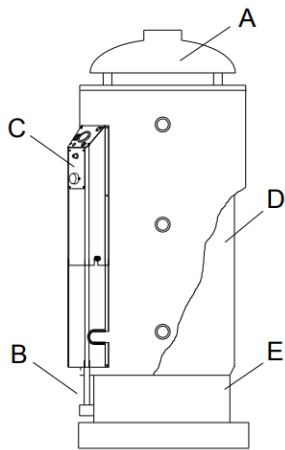
It is placed on the circuit of the combustion products and is intended to maintain the quality of combustion within certain limits and the stability of combustion under certain maximum and minimum draft conditions.

### **INSTRUMENT PANEL**

It contains everything you need to control and regulate the normal functioning: regulating thermostat, ignition switch, button unlock bright, bright operation indicator, thermometer.

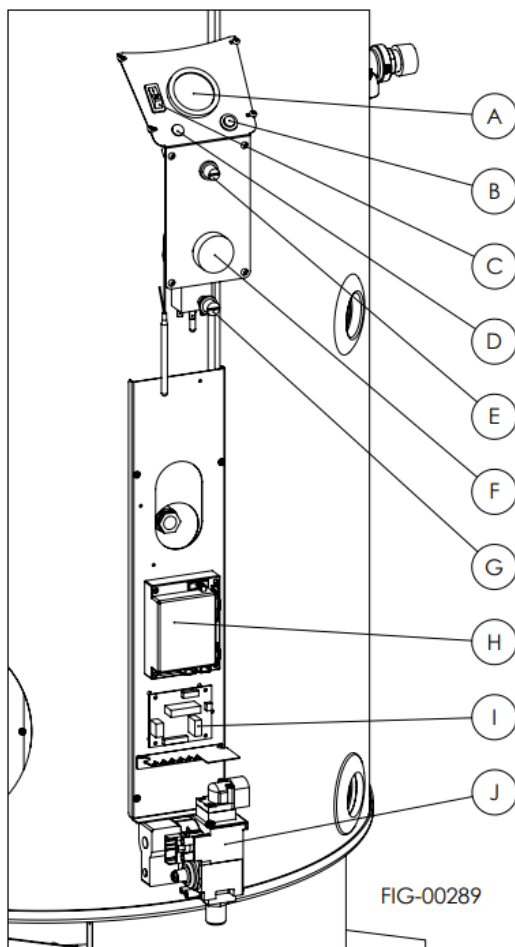
### **MAGNESIUM ANODE**

To protect the device from galvanic currents that can corrode the interior of the device, they are installed two magnesium anodes series, one in the inspection flange and one in the upper part of the appliance.



- A. break-windproof pulling device
- B. atmospheric burner
- C. instrument panel
- D. boiler
- E. the combustion chamber

## 9 EQUIPMENT COMPONENTS



### B. RED LIGHT BLOCK

Report device lock, to unlock, hold down the button for 3 seconds.

### C. SWITCH

It allows switching on and off.

### D. LIGHT GREEN POWER

Report proper burner ignition. Comes into operation when the combustion chamber is fed.

### E. THERMOSTAT WATER SAFETY

When the device temperature rises above the maximum threshold, the safety thermostat comes into operation by blocking the appliance. To unlock it, unscrew the lid and hold the button below.

### F. THERMOSTAT

Used to adjust the internal temperature of the tank.

### G. THERMOSTAT SAFETY SMOKE

When the temperature of the salt fumes beyond the maximum or in case of incorrect evacuation threshold, the flue safety thermostat comes into operation by blocking the appliance. To unlock it, unscrew the lid and hold the button below.

### H. CONTROL UNIT

The control unit has the purpose of controlling, handle the electrical devices and appliance gas.

### I. PCB CONNECTIONS

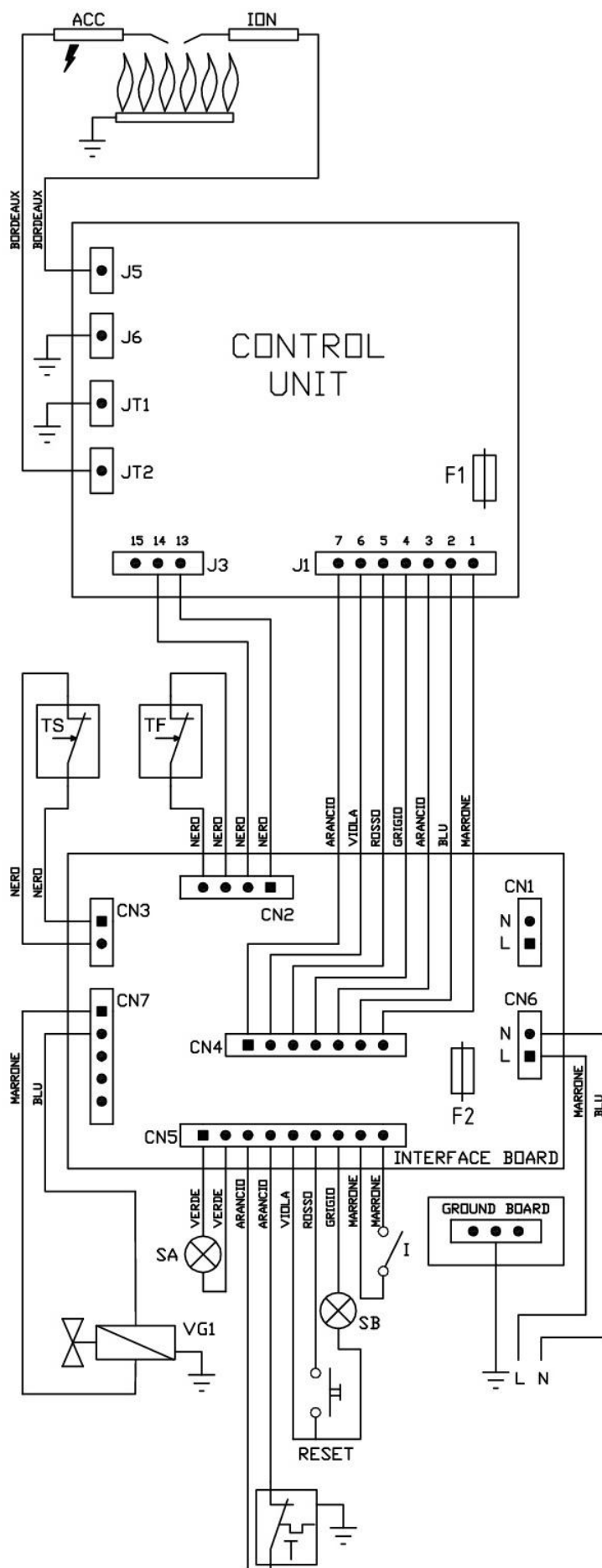
The connection card is used to centralize the user control devices with the controller interface.

### J. GAS VALVE

The gas valve allows to manage and control the gas inlet to the combustion chamber.

### A. THERMOMETER

Measure the temperature inside the tank.

**10 WIRING****L:** Line**N:** Neutral**THE:** Switch**SB:** red lock lamp**RESET:** reset button**T:** Control thermostat**SA:** Power indicator**VG1:** valve GAS**TS:** Water Safety thermostat**TF:** Flue safety thermostat**ACC:** Ignition electrode**ION:** Detection electrode**F1:** Fuse 4 A fast type 250 V**F2:** Fuse 2 A quick type 250 V



## **11 LOCAL REGULATIONS, AND INSTALLATION OF SAFETY**

### **LOCAL REGULATIONS**

In the installation the local regulations must be observed regarding:

- Fire fighters
- Gas Company
- power Company
- Office hygiene and health



### **SAFETY RULES**

- Do not perform any cleaning or maintenance work without turning off the water heater and interrupting power supply.
- E 'absolutely forbidden to operate the water heater with protection of electrical parts or disassembled safety equipment excluded. E 'absolutely it is forbidden to remove or tamper with safety devices.
- In case of failure and / or malfunction switch off the appliance, close the gas valve and not groped to repair it but contact an authorized service center.
- In case of fire should be used in powder extinguishants: not direct jets of water directly against the heaters as they may cause short circuits.
- Apply tools and / or equipment manuals and / or electrical proper use, they are in good condition and used properly.
- Make sure that ladders and / or any rolling ladders are positioned securely, that are appropriate and that the steps are intact and not slippery, that they are not moved when someone climbs them and ensure someone supervises.



### **INSTALLATION INSTRUCTIONS**

- Make sure, for installation and maintenance work at height (generally with higher altitude to two meters), which are used in scaffolding standards and the space below is free during the eventual fall of tools and objects.
- Make sure that, in case of installation and maintenance, the workplace has adequate hygienic conditions with regard to lighting, aeration and solidity.
- Wear during installation and maintenance, clothing and adequate personal protective equipment.
- Do not take any action without a prior assessment of the absence of gas leaks using special detector.
- The installer must be enabled in the installation of heating equipment according to the law n. 46 of 05/05/1990 and after work must issue the CONFORMITY 'DECLARATION to the customer.
- The appliance must be connected to a hot water distribution network compatible with its performance and its power. Make sure the installation site and any systems to which it must connect the device comply with the current regulations.
- Before each installation, maintenance or repair, remove the power supply. Protecting tubes and external connection cables in such a way as to prevent them from being damaged.
- The device is to be installed on the floor surface, leaving a suitable distance from the side walls to allow the gas and water connections, as well as any maintenance interventions. Furthermore, the appliance must be installed on a solid floor, not subject to vibration, not uneven or non-planar.
- The operations inside the unit must be performed with caution so as to avoid abrupt contact with sharp parts.
- Do not take any action without a prior assessment of the absence of an open flame or ignition sources.
- If you detect a smell of burning, see the smoke out exit from the apparatus, or is felt strong smell of gas, remove the power supply, close the gas valve, open the windows and notify the authorized service centers nearest

**IN ANY SITUATION AND 'WELL ALWAYS REMEMBER THAT COMMON SENSE  
IS THE BEST SECURITY AGAINST ANY AND / OR INJURY.**

## 12 INSTALLATION



### **TO AVOID DAMAGE THE TRANSACTION MUST BE CARRIED OUT BY A QUALIFIED**

Before installing the appliance, ensure that the nominal supply voltage is 230 V - 50 Hz.

- Make sure that the electrical system is adapted to deliver, in addition to the operating current required by the unit, also the necessary current for powering appliances and equipment already in use.
- Make the electrical connections in accordance with national laws and regulations.
- Upstream of the unit to provide a single-pole switch with a minimum distance of 3.5 mm contacts.

The installation of the device is divided into 5 distinct phases, listed below, to be followed with attention and respecting the order.

1. Positioning device
2. Installing break-wind hood device
3. Water connections
4. Connection gas circuit
5. Electrical connection

You should always make the grounding of the unit. Check that the power cord is in perfect condition. Under no circumstances must repair the cable, possibly damaged, with tape or clamps. If the power cord is damaged, it must be replaced by service agent or a similarly qualified person in order to avoid a hazard.



Incorrect installation can cause damage to people and things for which the manufacturer can not be held responsible.

## 13 POSITIONING APPARATUS

The device, being of a type B, is expected to be connected to a duct for evacuation of the combustion products towards the outside of the room; the combustion air is drawn directly into the environment where the device itself is installed.



**CAUTION** This unit can be installed and operated in permanently ventilated areas.

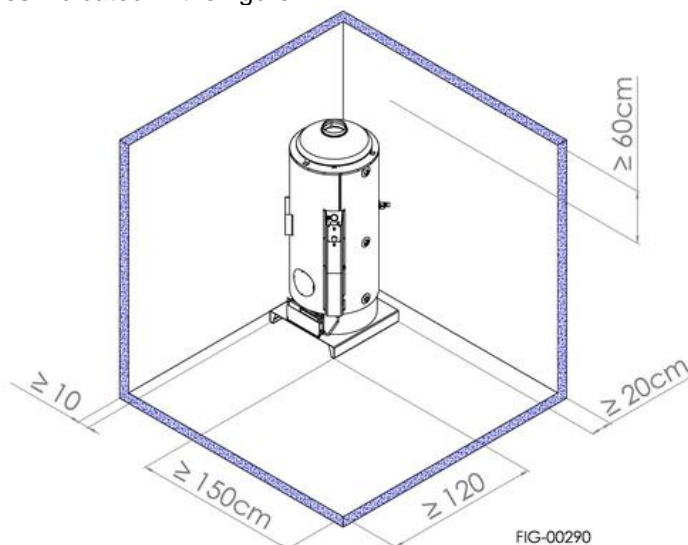


**CAUTION** : Make sure the structure can support the weight of the device fully



**CAUTION** : The device must be placed in a stable position

It is recommended to place the device in order to facilitate the installation and maintenance operations. For this purpose, the minimum distances indicated in the figure:



The front and right of the appliance must be easily accessible, in order to facilitate an easy periodical maintenance. It is also necessary to avoid placing inflammable material in the vicinity of the appliance, in particular the front (leave at least 50 cm from the burner) and close to the break-wind hood device.



**IMPORTANT:** follow the provisions laid down by national installation regulations.

## 14 INSTALLATION DEVICE BREAK-DRAFT DEFLECTOR

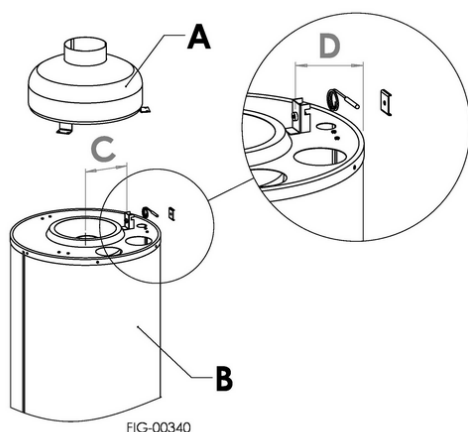
The device break-wind hood A is supplied not assembled. It should be fixed using the screws provided in the upper part (B) of the device during installation.

For it is then connected to the conduit for the evacuation of exhaust fumes, which must be of a diameter not less than the break-wind hood device (Ø 130 mm for mod. 160, Ø 180 mm for all other models) .

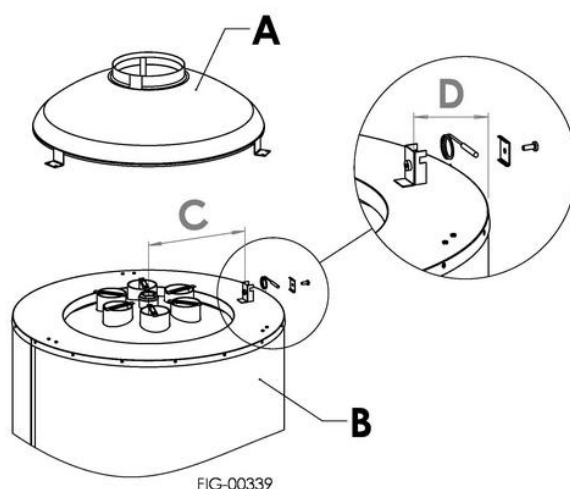


make sure the exhaust duct flue is not blocked

The part of the flue gas pipe connected to the break-wind hood device must also be vertical for at least 50 cm. Then can be inserted a horizontal section, provided that the shortest possible and always maintaining a minimum slope towards the appliance, so as not to obstruct the path of the fumes.



Mod. 160



Mod. 220/300/400/600/800



Make sure that during operation or transportation, the B flue safety thermostat bulb has not been damaged or moved from its original position. It 'not tamper or disabled the flue safety device.

## 15 POSITION BULB THERMOSTAT FOR SAFETY SMOKE

The correct position of the bulb of the flue safety device is:

- Mod. 160: at a distance (C) mm 140 from the center of the appliance (75 mm from the outer edge), in a position perpendicular to the radius and securely locked into bracket
- Mod. 220/300/400: at a distance (C) of 282 mm from the center of the appliance (73 mm from the outer edge), in a position perpendicular to the radius and firmly fixed into the bracket.
- Mod. 600/800: at a distance (C) mm 282 from the center of the appliance (178 mm from the outer edge), in a position perpendicular to the radius and securely locked into bracket



The replacement of the fumes safety device must only be performed by qualified personnel and using the original parts provided by the manufacturer.

## 16 HYDRAULIC CONNECTIONS

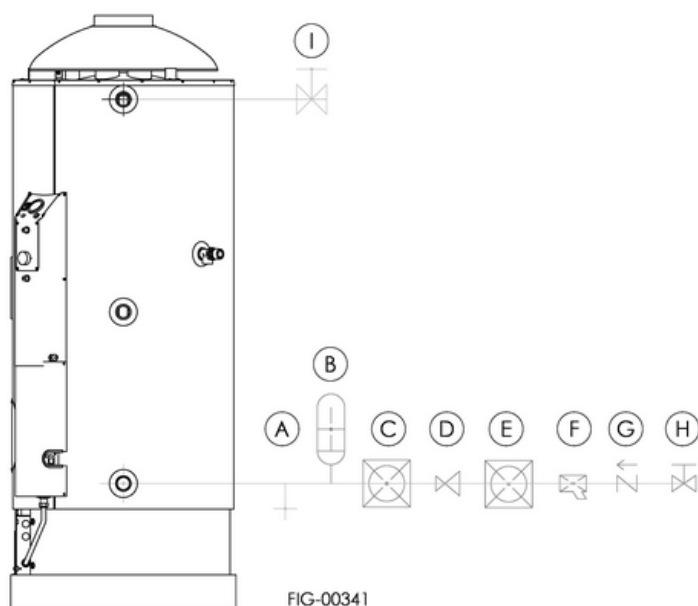


The appliance will last longer if they are met, as provided by D. LGS. February 2, 2001, 31 (implementation of Directive 98/83 / EC on the quality of water intended for human consumption), the following parameters:

1. Total hardness: between 10 ° F and 25 ° F.
2. PH: comprised between 6 and 8
3. Chloride: max 200 mg / l
4. Conductivity: max. 2500 mS / cm



In the presence of water with different parameters to the above, it should be given special care in the periodic maintenance of the tank. In particular it must be replaced several times a year the magnesium anode.



**HYDRAULIC COMPONENTS TO INSTALL OBLIGATORILY (are not included with the appliance)**

- A. drain cock and fitting Tee
- B. expansion vessel capacity of not less than 5% of the content of the appliance
- C. softener (only for water with hardness greater than 25 ° F)
- D. pressure reducer
- E. of chemical conditioning device (polyphosphate)
- F. filter to remove any impurities, such as sand, gravel, mud, etc..
- G. check valve
- H. stopcock cold input
- I. stopcock hot output

**SAFETY VALVE:** l'Appliance is equipped with a safety valve against excess pressure.

The component of the function is to download the tank water in the presence of an internal pressure higher than the maximum pressure of the tank (for example during the water heating).



the possible from the valve discharge of dripping water means the presence of an overpressure and the correct intervention of the valve. If this happens you must turn off the power and remove the cause of the overpressure



the removal or tampering of the safety valve constitutes danger to the user (in addition to cause the non-recognition of the guarantee for damage from overpressure).

The setting of the valve pressure is stamped on the cap of the same and is expressed in Bar. The fluid discharged during the possible intervention for overpressure must be conveyed downwards (consider that in the exhaust pipe downstream decreases the exhaust flow rate).

If drips are caused by impurities deposited on the valve membrane it is possible to remove them by turning the knob and raising the membrane.

## 17 TRUNK GAS

Connect the gas supply line of the thread present on the generator by means of a removable rigid connector. The gas connection is 1/2 "

It is recommended to mount along the pipe, in the vicinity of the generator and in an easily accessible location, a faucet interception manual gas.



Check the tightness of the gas pipe and make sure that it has been performed in accordance with regulations on gas installations.

ADJUSTING GAS: the device is already calibrated in the factory to the pressure of the feed gas for which it was prepared (shown in the label serial number and packaging).

### G20 gas (H-gas or methane)

		TX160	TX220	TX300	TX400	TX600	TX800
inlet pressure	mbar	20.0					
pressure regulating		here I'm					
injector pressure	mbar	11.8	11.8	12.0	12.8	13.5	13.5
N ° Ø injectors		2 x Ø 2:10	3 x Ø 2:40	3 x Ø 2:50	3 x Ø 2:50	3 x Ø 2:50	3 x Ø 2.60

### gas G31 (propane)

		TX160	TX220	TX300	TX400	TX600	TX800
inlet pressure	mbar	37.0					
pressure regulating		here I'm					
injector pressure	mbar	25.5	25.5	27.5	25.0	27.5	27.5
N ° Ø injectors		2 x Ø 1:35	3 x Ø 1:55	3 x Ø 1.60	3 x Ø 1.60	3 x Ø 1.65	3 x Ø 1.70



CAUTION: in the case of G31 to the gas supply pressure of the gaseous phase must be reduced. This operation is achieved by using:

- The stage of a regulator which provides for reducing the gas pressure from the present value inside the tank to a value of about 1.5 bar.
- a regulator stage II which provides further reduction of the gas pressure from the value of 1.5 bar at 30/37 mbar value

## 18 CHANGING GAS SUPPLY



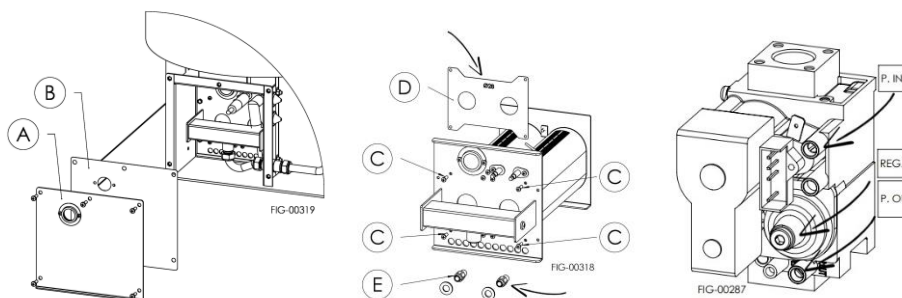
The gas supply exchange intervention must be performed by qualified personnel and enabled according to the regulations



For the gas exchange exclusively use the appropriate kit prepared by the manufacturer and follow the instructions carefully.

	Switching G20 (methane) → G31 (propane)	Switching G31 (propane) → G20 (methane)
TX160	AKPROTX160	AKMETTX160
TX220	AKPROTX220	AKMETTX220
TX300	AKPROTX300	AKMETTX300
TX400	AKPROTX400	AKMETTX400
TX600	AKPROTX600	AKMETTX600
TX600	AKPROTX800	AKMETTX800

# **Model 160**



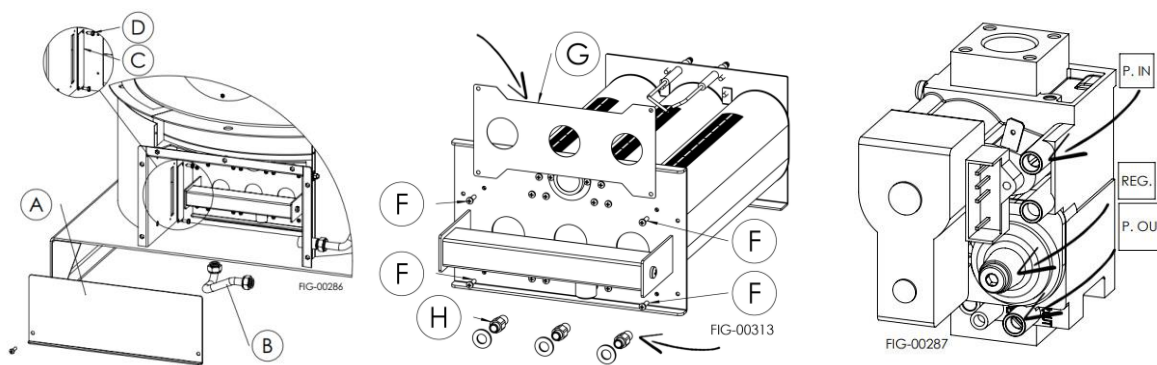
- 1) Turn off the machine, close the gas shut-off valve and remove the power supply
- 2) Remove the burner door (A) and the insulating material (B)

## **POWER CONVERSION TO PROPANE GAS G31**

## **TRANSFORMATION POWER GAS NATURAL GAS G20**

- 3) Unscrew the 4 screws (C), place the mask (D) in front of the burner and tighten the screws (C)
- 4) Replace injector (E). Be careful not to lose the washers seal
- 5) Put the appliance into operation and check with appropriate spray the gas circuit
- 6) Replace the burner door (A) and the insulating material (B) in their original positions and tighten the fastening screws.
- 7) Adjust the pressure to the burner, according to the specified value, through the REG screw on the gas valve. To check the value you can use the outlet pressure of P.OUT
- 8) Stick the label contained in the kit to indicate the new type of gas supply

**Models**      **220**      **300**      **400**      **600**      **800**



- 1) Turn off the machine, close the gas shut-off valve and remove the power supply
- 2) Remove the burner door (A)
- 3) Unscrew the gas pipe (B)
- 4) Loosen the screws (D) present in the left and right side of the burner assembly
- 5) Replace the two closure plates slots (C) with those present in the gas conversion kit. The opening must remain in the lower part

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- 6) Unscrew the 4 screws (F), place the mask (G) in front of the burner and tighten the screws (F)
- 7) Replace injectors (H). Be careful not to lose the washers seal
- 8) Connect the gas pipe (B)
- 9) Put the appliance into operation and check with appropriate spray the gas circuit



- 10) Adjust the pressure to the burner, according to the specified value, through the REG screw on the gas valve. To check the value you can use the outlet pressure of P.OUT
- 11) Replace the burner door (A) in position originaliee tighten the fixing screws.
- 12) Stick the label contained in the kit to indicate the new type of gas supply.



Check the tightness of the gas pipes, screws and joints before restarting the appliance.



Worn gaskets can not be reused: it must be replaced with new parts

## 19 ELECTRICAL CONNECTIONS

The machine is sold without mains plug: CPU must be mounted to the first installation.



Connect electrically to a power network at 230V-50Hz, single phase, and to an effective grounding. E 'need to perform a polarized connection. The appliance cable is composed of three distinct colors cables (refer to the table below to identify the correct polarization).

Connect the power cord of the appliance, taking care to comply with the electrical standards of the country in which the appliance is installed. If the power cord is damaged, it must be replaced by a technical service center authorized by the manufacturer, or by a similarly qualified person in order to avoid a hazard.

For the eventual stopping of the appliance, in the feeding of the same network it is necessary to provide a disconnect device (not supplied) with an opening distance of the contacts that allows complete disconnection in the conditions dictated by the overvoltage category III



LINE AND NEUTRAL PLUG TO BE THE SAME AS LINE AND NEUTRAL THE ELECTRICAL OUTLET.

**Land**



green yellow

**Neutral**



blue

**Line**



Brown

Riding in the vicinity of the appliance a switch omnipolar general for the eventual stopping of the appliance. This disconnect device must be incorporated in the supply system in accordance with installation rules. Connect the power cord, making sure to comply with local electrical codes.



In case of replacement of the electric power cable, use only a cable with the same characteristics (cable H05 VV-F - 3x0.75).



Warning: The device has no protection against the effects caused by lightning.



Before accessing any electrical part of the appliance, remove the power supply using the bipolar switch.

## 20 PUT IN USE



Before turning on the appliance, check that:

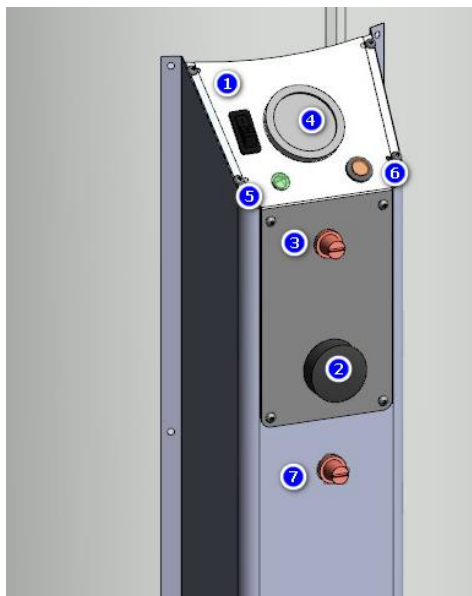
- the unit is arranged to work with the available gas
- the provisions and regulations in force on the installation of these appliances have been observed, especially with regard to the correct connection of the evacuation duct of the combustion and the gas supply piping products
- that the electricity supply is connected, taking into account the polarity of the same (phase and neutral) and which has been executed connection to an earthed socket in accordance with applicable provisions
- that the gas shut-off valves on the meter and in the vicinity of the generator are open
- that the water heater is full of water

## 21 RECOMMENDATIONS FOR YOU



- Keep this booklet for future reference. The booklet should be kept near the stove.
- For free verify the correct installation of the device, the end user can directly contact one of the closest authorized service centers.
- All the steps in the space reserved for the installation and maintenance must be performed by qualified and authorized according to existing regulations. An incorrect installation, caused by not observing the instructions provided by the manufacturer, may cause damage to people, animals or things, for which the manufacturer assumes no responsibility.
- The device has been built for the production of hot water: any other type of use is to be considered as dangerous and unsuitable.
- The appliance does not go outdoors installed in damp environments, to be protected from splashes, jets of water or other liquids, to avoid anomalies to electrical and thermal devices.
- The installation must be performed by professionally qualified personnel responsible for complying with current safety standards.
- Any packaging components (plastic bags, polystyrene, wood, staples, etc.) Must not be left within reach of children as they are potential sources of danger.
- Carefully read the instructions and warnings contained in this booklet as they provide important information about safety, use and maintenance.
- In case the appliance is sold or transferred to another owner, ensure that this booklet accompanies the same, so that they can be consulted by the new owner and / or installer.
- Do not place any kind on the subject.
- To get the best result and the warranty terms, we recommend that you follow the operating instructions below, to make regularly the unit checked by qualified personnel and only use original spare parts and kits supplied by the manufacturer.
- It 'not tamper with any device calibrated and sealed at the factory by the manufacturer.

## 22 IGNITION AND TEMPERATURE CONTROL



- 1) switch
- 2) regulating thermostat
- 3) manual reset safety thermostat (water safety)
- 4) thermometer
- 5) bright green light operation
- 6) reset button and lock indicator
- 7) manual reset safety thermostat (flue safety)

- a) Press the switch **1** to "I"
- b) Check that the red light button lock **6** is off. If it is on, this means that the control apparatus is located in a state of "block". In this case push the same button to unlock the control apparatus. The button's light goes out
- c) Bring the index of the regulating thermostat **2** on the desired water temperature value. From this moment starts the ignition cycle of the generator: are controlled the opening of the gas valve and simultaneously the action of the electrode for the spark ignition of the burner.
- d) During the ignition of the burner the flame must be detected from the special ionization probe within the safety time (10 sec), otherwise the control apparatus goes into a locked state. This is reported ignition button of the red light **6**. This can easily happen in a new plant, where it can still be present air in the gas pipe. In this case,



wait about one minute, reset it by pressing the red illuminated button **6**. Restart a new ignition cycle. Repeat until the residual air has been purged and the ignition is regular.

- e) After the ignition of the burner, indicated by the green light **5**, Begins the phase of heating water. The burner will operate until the water temperature set on the thermostat.

## **23 SHUTDOWN**

To turn off the generator for a short period to rotate the control thermostat knob on the minimum value and press the switch to position "0".

To turn off the generator for a long time:

- rotate the control thermostat knob **2** the minimum value
- press the switch **1** in position "0"
- disconnect the electrical supply to the appliance at the main switch
- close the gas shut-off valve.



in the case is expected to leave the unit unused for a long period in an environment not heated and with the possibility of frost, it is advisable to empty it completely.



in the case of start-up after a long period of inactivity it is necessary to provide a suitable treatment plant in order to reduce the risk of contamination by Legionella pneumophila.

## **24 PERIODIC MAINTENANCE**

To ensure the safety and prolong its life, you should have it checked at least once a year by an authorized service center, which will act as follows:

- replacing the magnesium anode
- internal inspection of the boiler and possible calcium deposited on the bottom cleaning
- verification of the gas pipe sealing
- burner maintenance
- verifies that the primary air input to the burner is not obstructed
- verification of the state of wear of the safety devices and control and possible replacement
- verification of the state of wear of the power supply cable and possible replacement

## **25 POSSIBLE OPERATING FAULTS**



The control device will lock out without controlling the ignition.

- the control apparatus flame detection circuit is faulty and the control self-test does not allow the continuation of the cycle
- the flame detection electrode has a leakage to ground
- the electrode connection of power to the terminal apparatus is interrupted
- It lacks the feed gas or air is present inside the pipe
- the gas valve does not open because the coils are malfunctioning or their electrical connection is interrupted
- the flame does not stabilize properly for lack of gas pressure
- the detection electrode is not properly positioned or is not in contact with the flame

The device will lock during normal operation.

- the gas supply has been interrupted, even if at the moment: the equipment, not by detecting the presence of flame, has gone in block

- It has occurred, during an intermittent operation cycle, one of the cases of the previous point.

The generator runs for short intermittent periods, even if the thermostat is working properly and is in heat demand position.

- the regulating thermostat is defective and does not properly reveals the water temperature

The control apparatus is not blocking but the cycle does not start.

- check if it jumped the printed circuit fuse

## **26 VALIDATION OF THE WARRANTY**

The warranty begins on the date of purchase proven by a document valid for tax purposes (invoice or receipt), considered essential for the enjoyment of the right to the guarantee.

For further details regarding the terms of the warranty, see the warranty card supplied with your machine. The guarantee certificate must be stored together with the purchase document (invoice or receipt) and must be performed at authorized service center staff, in case of a warranty claim. The possession of one device does not give the guarantee.



**IMPORTANT:** And 'Do not tamper with any device, set and sealed at the factory by the manufacturer

## **23 CORRECT DISPOSAL OF THIS PRODUCT**



PRODUCT IN COMPLIANCE WITH EU DIRECTIVE 2012/19 / EU-D.Lgs.49 / 2014 pursuant to art. 26 of Legislative Decree 14 March 2014, n. 49 "Implementation of Directive 2012/19 / EU Waste Electrical and Electronic Equipment (WEEE)" (Applicable in the European Union countries and countries with separate collection systems)

The marking on the product or its literature indicates that the product should NOT be disposed of with other household waste at the end of the life cycle. To prevent possible harm to the environment or human health from uncontrolled waste disposal, the user is encouraged to separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where you purchased the product or their local government office, for details on separate collection and recycling for this type of product. Business users should contact their supplier and check the terms and conditions of the purchase agreement.

## **24 FREQUENT QUESTIONS**

1. **You can use a cleanser (addolcitore, water softener, etc.)?**The use of the purifier reduces the protective effect of magnesium anode and consequently the duration of life of the boiler. The manufacturer recommends not soften the water to a hardness of less than 10 ° F
2. **What is an anode and what is it?**The magnesium anode protects the appliance from corrosion due to electric currents present in the water. The anode, consumed, avoids that these consume electrical current, discharging to the tank, the material of which is composed of the inside of the tank (the enamel), ensuring a longer life of the tank itself. In order to extend the life of the latter, the anode is to be replaced every year.
3. **Inside the boiler feel the blows: What are they?**Excessive formation of limestone (calcium) in the tank can cause some shots audible outside the boiler itself. The amount of limestone that is formed inside the tank may depend on several factors: firstly, the quality of the water distributed in the network, which can have many high hardness values. In addition a high temperature of hot water storage (the temperature set on the thermostat) accelerates the formation of limestone. Since the formation of scale is an inevitable phenomenon, we recommend doing a proper maintenance check and clean the inside of the tank at least once a year by an authorized service center, using the special flange from the tank itself.





**ATI DI MARIANI SRL**  
**Via E. Mattei, 461**  
**Zona Ind. No. 4 Torre del Moro**  
**47522 Cesena (FC) - ITALY**  
**Tel. 0547 609711**  
**[www.atimariani.it](http://www.atimariani.it)**  
**[info@atimariani.it](mailto:info@atimariani.it)**

