A2B ACCORRONI E. G.
Climate Technology

INSTALLATION, USE AND MAINTENANCE MANUAL

SERIE GTFP

MOD. 500
44,5kW

MOD. 800
44,5kW

CE 0051

Storage gas water heaters with forced and sealed conbustion chamber, assisted gas fan

FEBRUARY 2012 Issue (Italy)

- This instruction booklet is an integral and essential part of the appliance and must be kept carefully in the vicinity of the appliance for future reference.

  The apparattis has been constructed for the production of hot water any other type of use is considered inadequate and dangerous.

- The device should not be installed in humid environments, it should be preserved from splashing jets of water or other liquids, to avoid demage to the equipment electrical and thermal.

- The installation must be performed by qualified personnel responsible for the compliance with safety regulations. Incorrect installation, without observing the instructions given by the manufacturer, may cause damage to persons, animals or things, for which the manufacturer declines all responsibility.

- Just put the unit in operation should be tested by and authorized service center.

- Read the instruction and warnings contained in this booklet as they contain important information regarding safety, installation, use and maintenance.

- If the units is sold or transferred to another owner, make sure that this booklet accompanies the same, so you can be consulted by the new owner and/or installer.

- Do not place any objects on top of appliance.

- To avoid risk of damage by frost, if you plan to leave the unit unused for a long period in a non-heated, it is advisable to empty it completely. The manufacturer is not liable for failure or breakage of components because of frost and water leakage from the system.

- To obtain the best results and the recognition of the warranty we recommend that you carefully follow the instructions below and use only genuiine spare parts and kits supplied by manufacturer.

INDEX

DEVICE CHARACTERISTICS

FOR THE INSTALLER

DESCRIPTION OF THE APPLIANCE

1 D.H.W. HEATER CATEGORY

These devices are classified as generator of hot water with sealed combustion chamber and atmospheric burner.
They are classified in the category II2H3+,it means that they can be used with the gas of second class: natural, methane H and of third class Lpg butane, propane.
As for the European norm EN 483 they are identified referring with the system for air aspiration and fumes drain C13.

2 PACKAGING

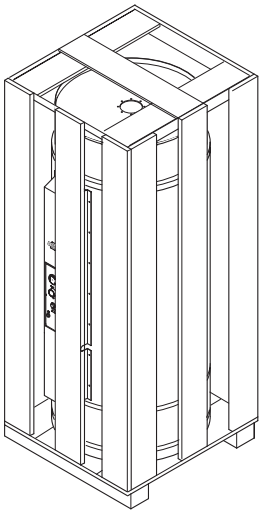


Fig. 01

Mod.	N. pack	Dimensions (h x l x p) (mm)	Weight (Kg)
500	1	2080 x 820 x 820	232
800	1	2150 x 1100 x1100	335

The water heater is supplied in a case of wood, with one envelope, in the frontal containing the present manual and the certificate of guarantee.

3 DESCRIPTION OF THE WATER HEATER

The water heater is composed from a water tank lodged over to a combustion chamber where the heat necessary is developed in order to heat the water.
The produced smoke therefore yields their heat to the water in their fireplace towards the outside, passing through the tubes, the exchanger dipped in the water.
On the high part a canopy collects the fumes from the exchanger and drives them to the drainage system. A fan is situated in the upper cap it, supplies the feeding of the air and the evacuation of the products of combustion. The tank is constructed in sturdy sheet iron and guarantees a remarkable resistance to pressure it's moreover glass lined at 860°. This concurs to obtain an optimal unassailable chemical resistance (from organic solvent and from chemical substances), an optimal thermal stability; the enamel resists until 500° The inner inspection and cleaning from the incrustations is possible through the flange 120 mm diameter.
The combustion chamber is placed in the low part of the water heater and it contains the atmospheric burner and flame probes. Combustion chamber is completely sealed from the place where it is installed.

Control Panel

The control panels contains all the components in order to adjust the normal operation of the water heaters: thermostat, ignition device, luminous release button, thermometer etc..

KIT OF SMOKE DRAINAGE (supplied separately)

As for the different requirements of Installation it can be:
- Concentric with drainage and aspiration to the wall.

4 TEST OF THE WATER HEATER AND SECURITY

Electronic ignition card

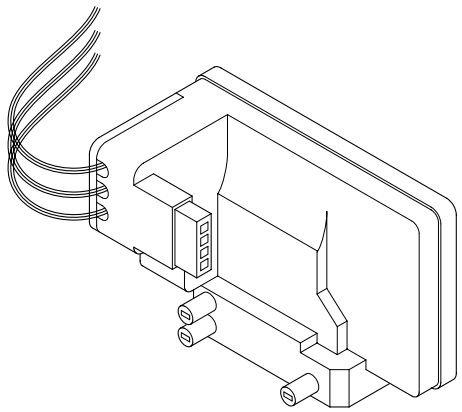


Fig. 02

It controls the opening of the gas valve and the burner ignition. Since when it receives the electrical feeding from the thermostat it initially checks that the contacts of the pressostat are in position of operation otherwise there is no ignition; on the contrary, subsequently, it makes a pre ventilation cycle of the combustion chamber and the ignition spark, if during this cycle it does not find the flame of ignition in the pre fixed time, it is placed in block position; in it this case please wait some second and then press the luminous reset key.
The survey of the flame happens for ionization through appropriate probe on the burner, CE Homologated EN 298.

GAS VALVE

It is made of one multifunctional multigas valve with double safety B class for silent operation.
The valve is equipped of pressure regulator and device for the slow ignition, with adjustable gas capacity (factory pre setted) Homologated as for norms EN 126.

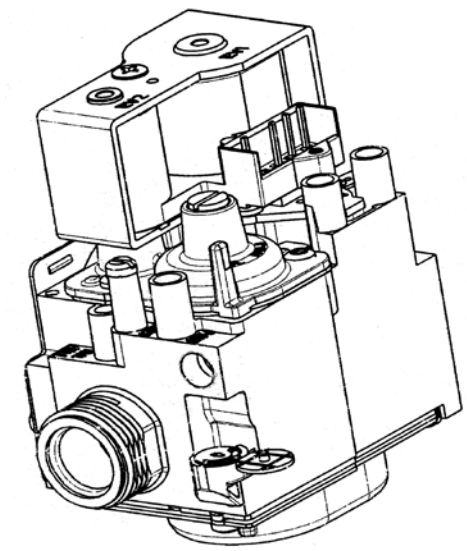


Fig. 03

The body is in fused aluminium it is supplied of inlet and outlet gas connection 1/2". The unit is supplied of inlet gas filter.
The two electro valves are connected in series on the main pipe of the gas and are feeded by co a single tripolar connector, to avoid wrong connections. All the operations of calibration and regulation must be executed from qualified staff.
In case of replacement of the valve be sure that the flow of the gas is in compliance with the arrow on the body of the valve and that during the assembly operations external substances do not enter.

AIR PRESSOSTAT

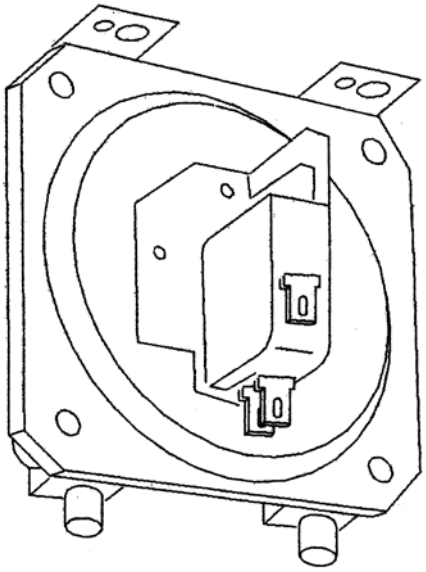


Fig. 04

The function of this device is to control the combustion, interrupting the operation of the burner in case of insufficient capacity of the fan.
The device has 3 contacts,(two positions, one normally in open position NA, the other normally closed NC.

MAGNESIUM ANODE

Magnesium anode is important to protect the water heater from corrosion and galvanic currents. It is suggested to replace the anode once every year, the anode is placed in the inspection flange, in the frontal part of the tank.

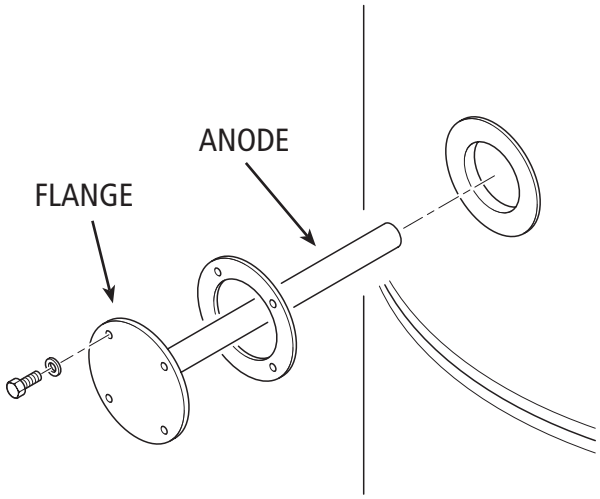


Fig. 05

OVER PRESSURE VALVE

The function of this device is to permit the water flow out from the drain hole of the valve in case that pressure inside the tank increases.

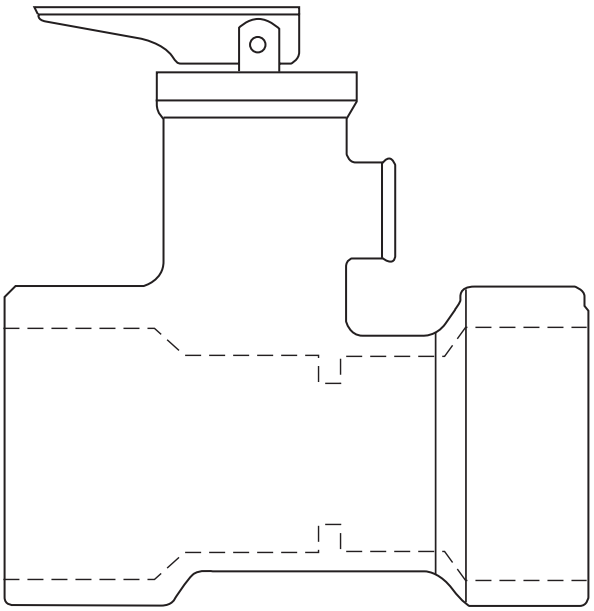
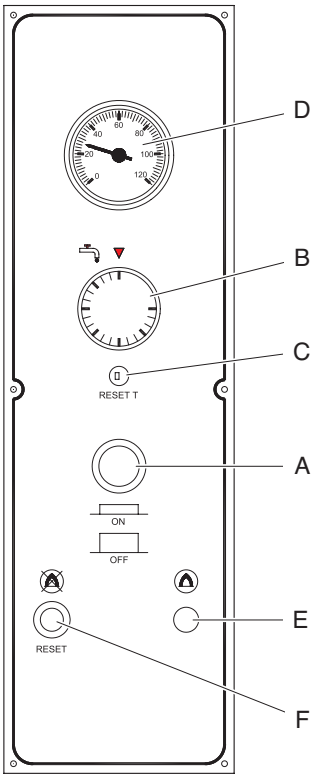


Fig. 06

5 CONTROL PANEL



A Switch on/off key
B Adjustment thermostat
C Safety thermostat
D Thermometer
E Working signal green
F Block and reset key

Fig. 08

9 WORKING AND LIMIT THERMOSTATS

The two thermostats are included in the same body. The operation thermostat adjusts the operation of the generator commanding the ignition and the switching off of the burner, in function of the wished temperature of the water.
It is a capillary thermostat with expansion of liquid probe. The limit thermostat interrupts the operation of the burner in case of overheating of the water, caused from the bad operation of adjustment thermostat. It is a thermostat capillary with expansion of liquid probe with manual reset, once the cause is found manual intervention is necessary. The maximum temperature is factory regulated at 95°C.

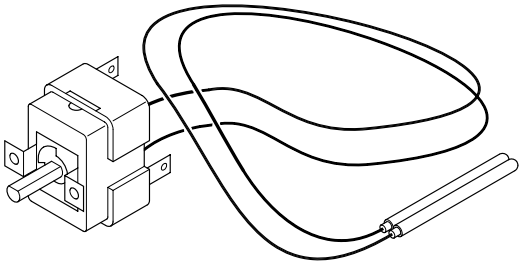
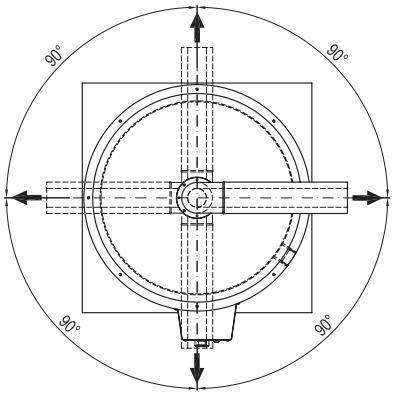


Fig. 07

6 WATER HEATER DIMENSIONS, WATER AND GAS CONNECTIONS



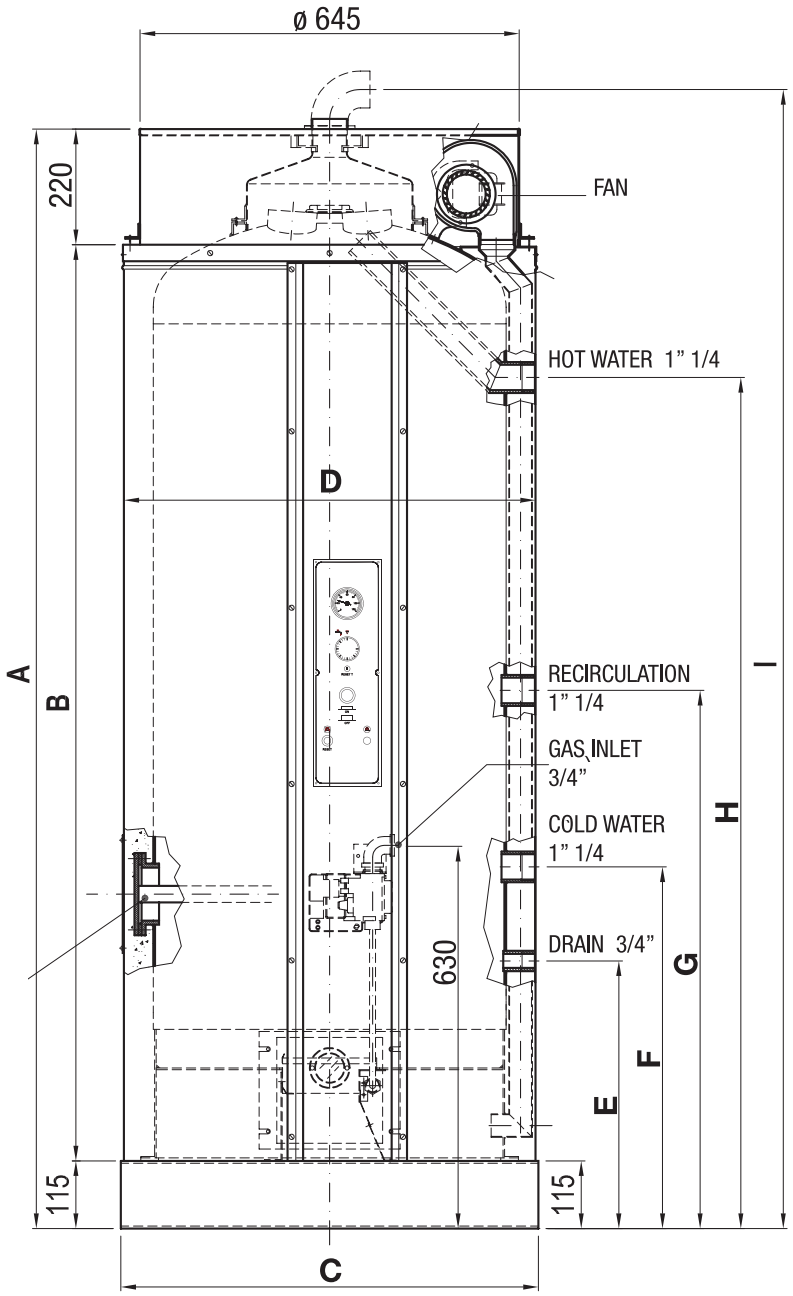


Fig. 09

	GTF-P			500	800
A	Total height		mm	2036	2146
B	Height of body		mm	1700	1810
C	Base width		mm	810	1010
D	Water heater diameter		mm	800	1000
E	Water drain	3/4"	mm	460	545
F	Cold water inlet	1" 1/4	mm	625	645
G	Recirculation	1" 1/4	mm	1026	990
H	Hot water outlet	1" 1/4	mm	1595	1604
I	Outlet axle fumes	Ø 80/125	mm	2136	2246

7 FLUE GAS VENTS

WALL COAXIAL KIT

Cod. PTA 6352

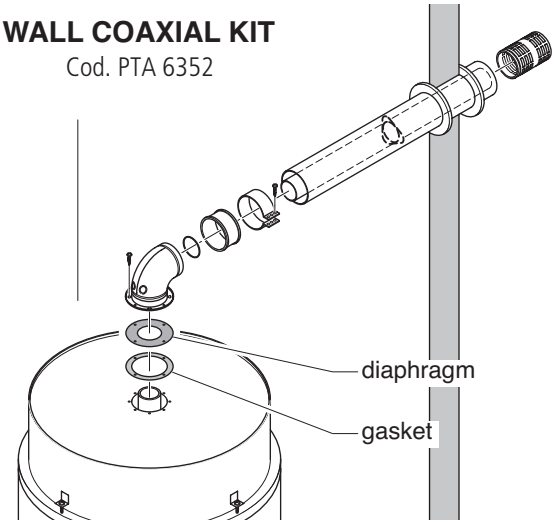


Fig. 10

Accessories:

PRODUCT NO.	DESCRIPTION
A 03.009.000018	Prolunga coass. ø 80/125 da 1 mt

HORIZONTAL COAXIAL DRAIN KIT C13

2 mt kit includes:

- 1 coaxial pipe Ø 80/125
- 1 flanged elbow Ø 80/125
- 1 ring with gaskets Ø 125
- 2 wall plugs Ø 125

To increase the length it's necessary to buy the extention poles, max 3 mt.

8 TECHNICAL DATA

TECHNICAL DATA FOR GTF-P GAS WATER HEATER			
MODEL	unit	GTF-P 500	GTF-P 800
CAPACITY	litres	475	800
NOMINAL THERMIC CAPACITY	kW	44,5	44,5
NOMINAL THERMIC POWER	kW	39	38,8
COMBUSTION EFFICIENCY	%	87,7	87,2
OPERATING TIME AT 25°	min	20	32
OPERATING TIME AT 45°	min	35	58
OPERATING TIME AT 65 °C	min	51	84
SINGLE WATER DRAWING AT 25°C	litres	1100	1760
SINGLE WATER DRAWING AT 45°C	litres	611	977
CONTINUOUS WATER PRODUCTION/HOUR AT 25°C	litres/hour	1341	1341
CONTINUOUS WATER PRODUCTION/HOUR AT 45°C	litres/hour	1118	1118
CONTINUOUS WATER PRODUCTION/HOUR AT 30°C	litres/hour	745	745
CONTINUOUS WATER PRODUCTION/HOUR AT 65°C	litres/hour	516	516
METHANE CONSUMPTION G20	m^3/h	4,70	4,70
METHANE NOZZLE DIAM	mm	1,30	1,30
METHANE NOZZLE PRESSURE	mbar	15,00	15,00
LPG CONSUMPTION G30/31,INLET 29/37 MB	kg/h	3,50	3,50
LPG DIAMETER NOZZLE	mm	0,78	0,78
NOZZLES	nbre	20	20
ELECTRICAL CHARACTERISTICS	V-Hz	220-240 V ~ 50 Hz (IP 20)	
POWER	Watt	100	100
MAX WATER PRESSURE	bar	6	6
WEIGHT EMPTY	kg	237	330
WIEIGHT FULL	kg	747	1140

9 ELECTRIC DIAGRAM

While connection the cable to the electric power respect the polarity of the net /phase-neutral). In case of wrong connection or polarity the water heater does not work.

COMPONENT		UNITS	CABLES COLOUR	
V	Air fan	① Air case	B	white
P	Pressostat		BLU	blue
EA	Ignition electrode	② Ignition card	G/V	yellow/green
ER	Electrode flame		GR	grey
PA	Ingnition key	③ Control panel	M	brown
SV	Green light burner		R	red
SB	Block red light		V	green
PS	Reset key			
ST	Power light			
T	Adjustment and safety thermostat			

Is required to connect the unit to an efficient earth connection.

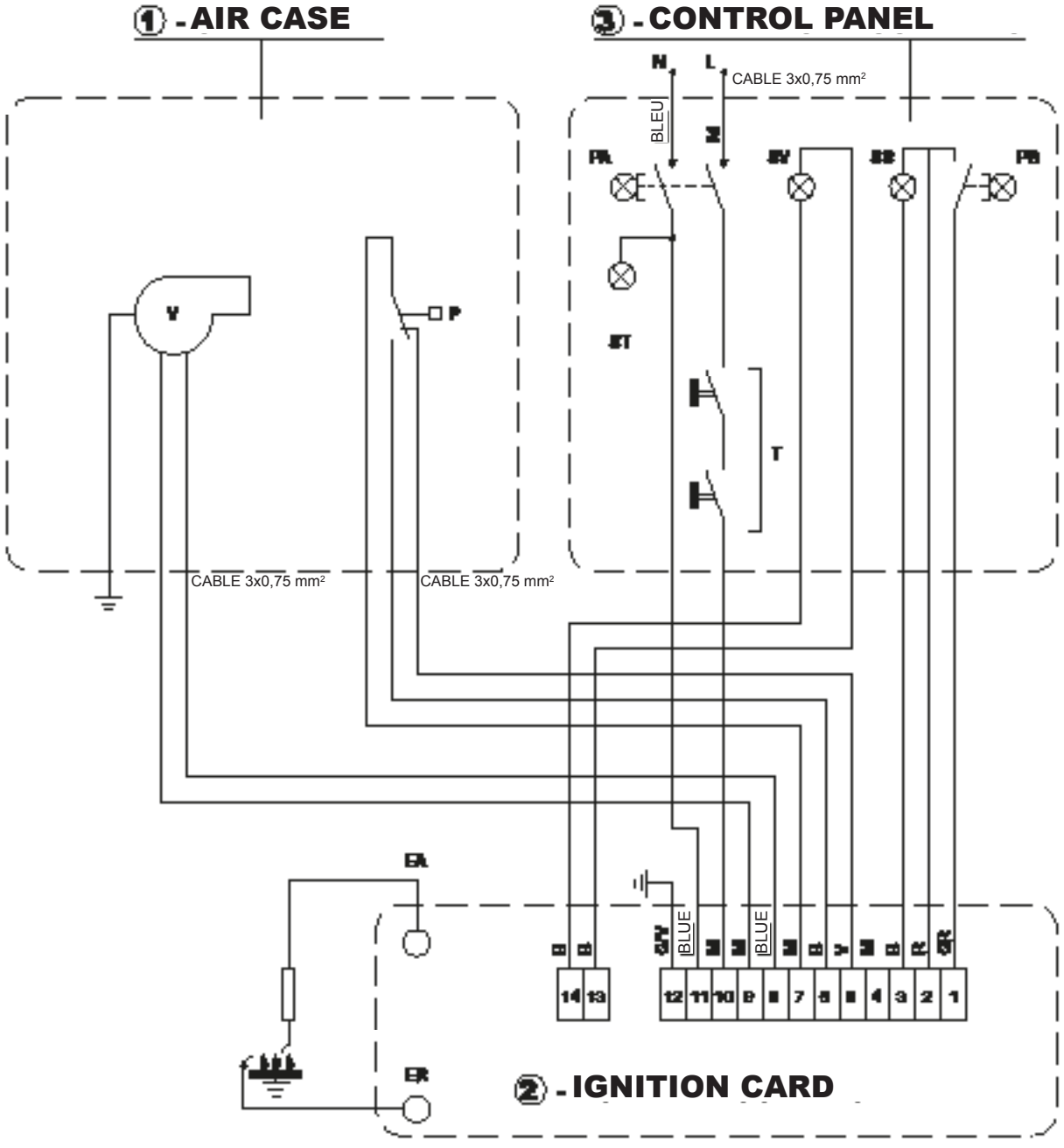
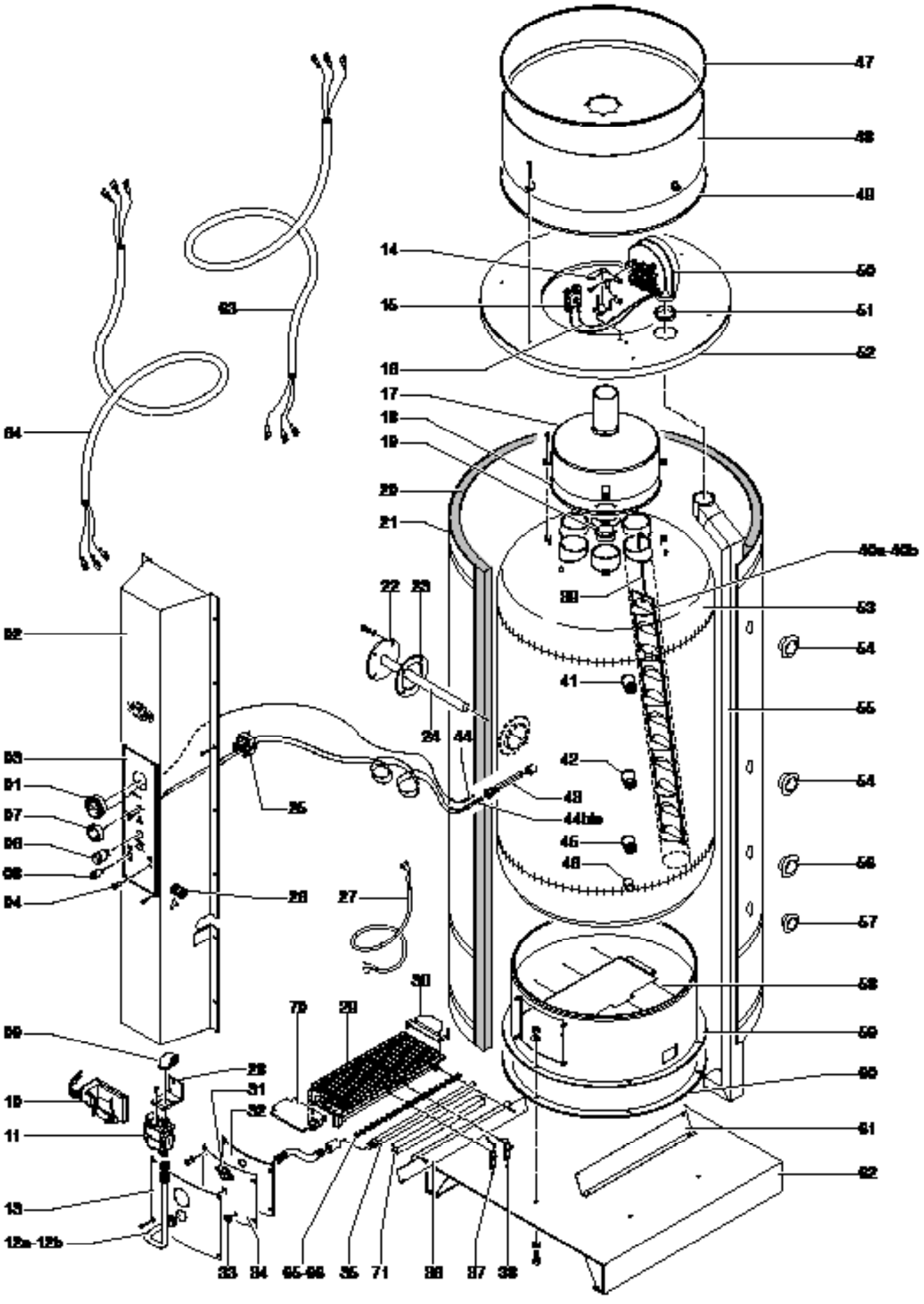


Fig. 15

10 PARTS SCHEME



LIST OF COMPONENTS

POS	CODE	DESCRIPTION	QTY	POS	CODE	DESCRIPTION	QTY
		Thermometer with probe				Electrode	
		Carter				Ignition electrode	
		Control panel				Turbolator bracket	
		Green light operation				Turbolator 500L	
		Ignition key				Turbolator 800L	
		Thermostat knob				Hot water outlet ø 1 1⁄4”	
		Red light with reset				Recirculation ø 1 1⁄4”	
		Inlet gas 3⁄4”				Probes sheath	
		Ignition card				Thermometer probe	
		Gas valve 840.030				Thermostat probes	
		Burner pipe mod. 500L				Cold water inlet ø 1 1⁄4”	
		Burner pipe mod. 800L				Probes sheath ø 3⁄4”	
		Front closing				Air case profile	
		Fan bracket				Air case	
		Air pressostat				Air case gasket	
		Pressostat tube				Fan	
		Fumes canopy				Fan gasket	
		Fumes canopy gasket				Support disc	
		Plug 1 1⁄4”				Tank	
		Tank insulation				Red plastic ring Ø 45	
		External cover				Adduction air tube	
		Inspection flange				Blue plastic ring Ø 45	
		Inspection flange gasket				Blue plastic ring Ø 30	
		Magnesium anode				Combustion chamber disc	
		Adjustment and security thermostat				Combustion chamber	
		with probes				Sealant gasket	
		Cable bracket				Sealant gasket	
		Power cable				Base	
		Bracket for gas valve				Pressostat cable	
		Burner				Fan cable	
		Burner bracket				Methane nozzles set	
		Inspection				LPG nozzles set	
		Door chamber gasket				Front burner bracket	
		Silicon cable protection					
		Combustion chamber door					
		Nozzles collector					
		Upper air blade					

11 FOR THE INSTALLER

The installation must be made from qualified staff as for the regulation in force, in a position to assuring the starting and the test. Pay attention to the choice of the model is for of the requirements of water production, see the values of water production in the scheme of the technical data.
The modifications of the connections and the TAMPERING of the components provoke the decay of the guarantee.
Before every operation to detach the power. This product is included in group C and it can be installed in whichever premises; the passage hole through the wall do not have to be obstructed.
These water heater must be installed on the floor leaving space for being able to make the connections and to make the maintenance.
In order to avoid infiltrations it suggested to incline towards the bottom of the aspiration and fumes pipes, leave in high part at least 20 cm space.

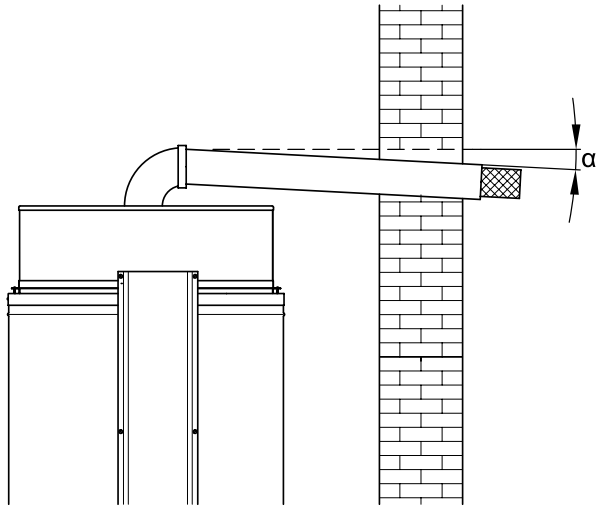


Fig. 17

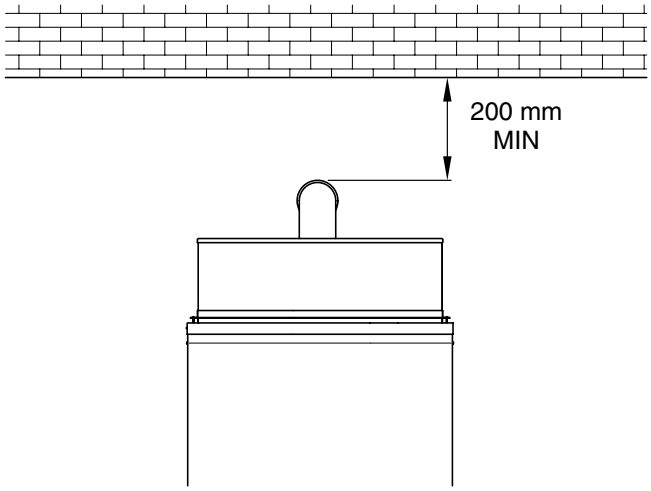


Fig. 18

Consider the following distance in case of wall drain

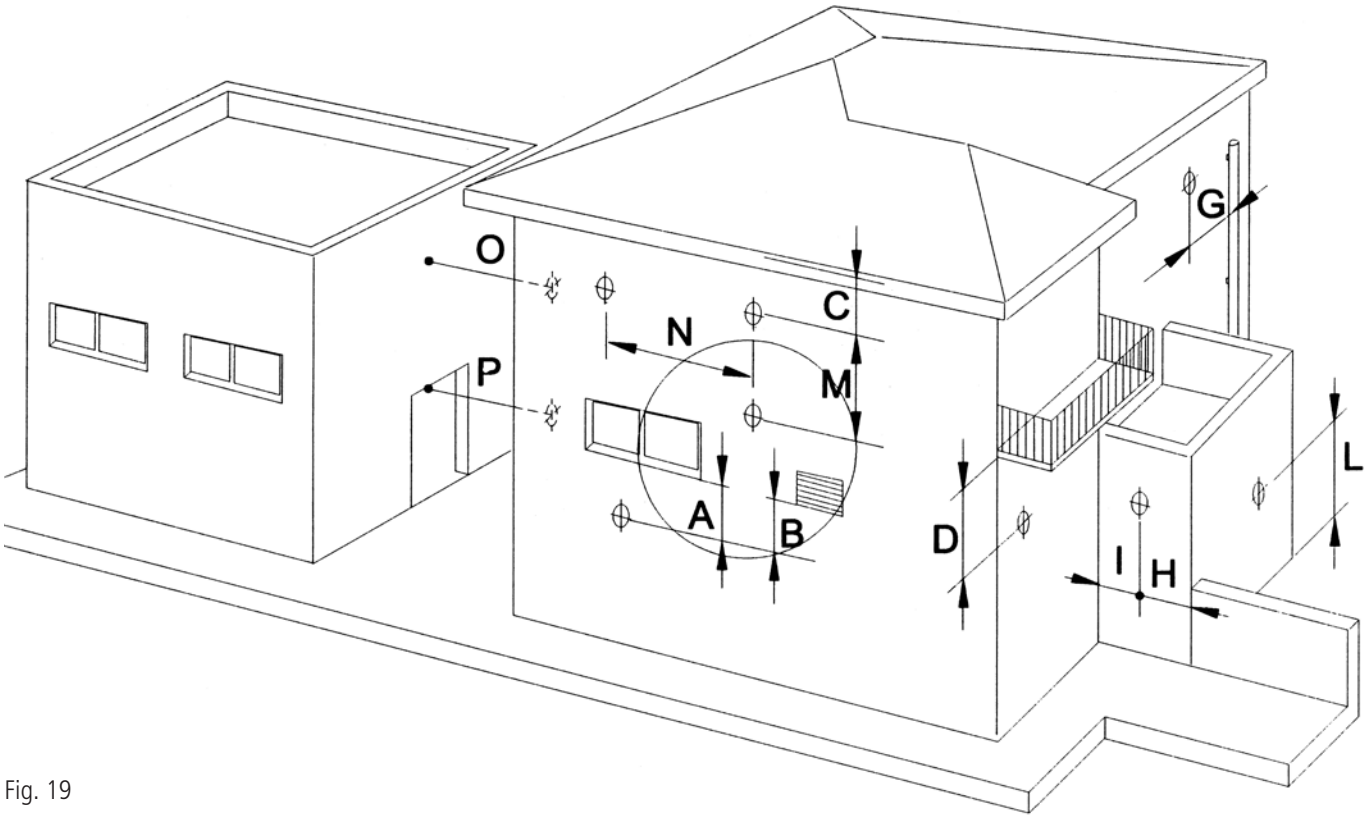


Fig. 19

	TERMINAL DISTANCES	mm
A	Under window	600
B	Under ventilation opening	600
C	Under the eaves	300
D	Under the balcony	300
E	From adjacent window	400
F	From opening of adjacent ventilation	600
G	From pipes	300
H	From pipes	300
I	From a recess	300
L	From the floor	2500
M	Between two vertical terminals	1500
N	Between 2 horizontal terminals	1000
O	From a front surface without opening or terminals in a 3 mt ray from fumes outlet	2000
P	As above	3000

12 PLUMBING CONNECTIONS

MODEL	COLD WATER INLET	HOT WATER OUTLET	RECIR-CULA-TION	DRAIN
500	1"1/4	1"1/4	1"1/4	3/4"
800	1"1/4	1"1/4	1"1/4	3/4"

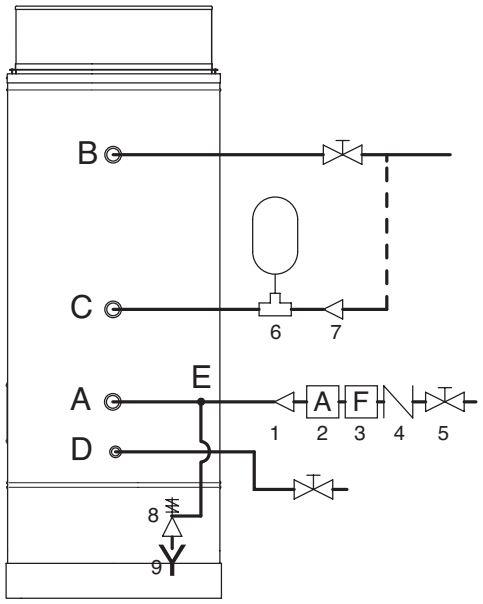


Fig. 20

A Cold water inlet use as follows:
1. Check valve
2. Purifier for hard water
3. Filter against: sand, mud, on request
4. Pressure reducer (suggested)
5. Closing tap

B Hot water outlet to connect with sanitary water, use a closing tap.

C Recirculation:
6. Use a TEE to connect with an expansion tank, not lower than 5% of the storage water.
7. Non return valve (optional) Recirculation is compulsory for mod. 500-800.

D Drain: Use a drain tap

E Connection for safety valve:
8. Safety valve (supplied)
9. Drain siphon

WARNING: Do not replace the safety valve supplied with a no return valve.

13 GAS CIRCUIT

Connect the gas with the threaded connection using a rigid connector that can be disassembled.
Verify the seal that must be in compliance with the norms for gas installations.
For installation with Lpg it is necessary to use a pressure reducer (first stage) in proximity of the tank, in order to reduce the pressure to 1,5 bars. In proximity of every generator must be used a pressure reducer (second stage) in order to reduce the pressure to 29/37 to mbarr.

GAS REGULATION

The product is factory adjusted as mentioned below and on the packing.

Methane or H or G20
- inlet pressure: 20 mbar
- Burner pressure as below

LPG or methane propane or G30/31
- inlet pressure: 29/37mbar
- Burner pressure as below

NOZZLES SCHEME-FLOW-PRESSURE

METHANE		
Model	500	800
Thermal power kW	34	34
Ø nozzle mm	1,30	1,30
Nozzle pressure mbar	13,80	13,80
Methane pressure regulator	on	on

LPG		
Model	500	800
Ø nozzle mm	0,75	0,75
Inlet pressure LPG mbar	29/37	29/37
LPG pressure regulator	off	off

In order to verify the pressure to the burner, insert the tube of a water column gauge in the connection B, after to have removed the closing screw.

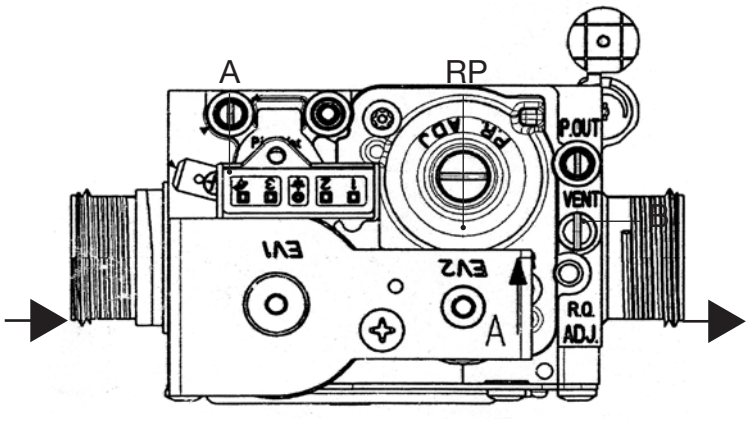


Fig. 21

Burner calibration pressure with methane

While the product is in function, use a screw driver to turn the screw RP to obtain the pressure as below.
Stop the burner and switch on it after some seconds.

Burner calibration with LPG

In this case the pressure regulator is excluded, the screw RP must strongly be screwed. The pressure that arrives to the burner is the boost pressure as for the European norm EN 437 the pressure of gas valve depends from the gas in the bottle G 30 pure butane 29 mbar, G 31 pure propane 37 mbar d of gas.

ATTENTION

As soon as the operation is finished please verify:
1. Electrical isolation
2. Gas seal
3. Closing of A and B screws
4. That product works properly

14 GAS CHANGEMENT

To change the kind of gas use the kit supplied from the producer; this operation must be made from professional staff.

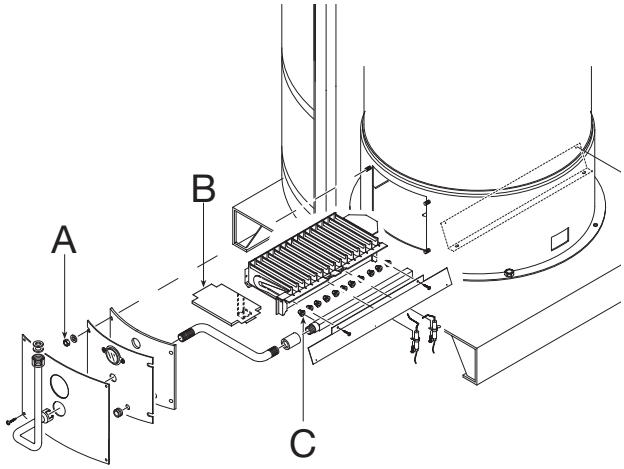


Fig. 22

Modification from methane to LPG

1. Verify that diameter of the injector supplied in the kit corresponds to the model for LPG.
2. Close the gas interception tap and switch off the electricity.
3. Remove the burner unscrewing the fixing bolts A and remove the front support B, unscrew before the gas tube and disconnect the cables of the electrodes.
4. Unscrew the injectors C and replace them with the units inside the kit.
5. Exclude the pressure regulator of the gas valve screwing the RP screw.
6. Switch on the generator and verify that inlet pressure from the valve A is right for the kind of Lpg used (see the scheme).
7. Place the new label on the body to indicate a different gas.
8. Verify with special spray the gas seal on the threads, gaskets.

ATTENTION

If the product is used with Lpg it's necessary to use a pressure reducer "first stage" near the tank to reduce the pressure up to 1,5 bar. Install near the product a second pressure reducer "second stage" to reduce the feed pressure to 29 mbar (pure butane G 30) or 37 mbar (pure propane G31).

Modification from LPG to methane

1. Verify that diameter of the injector supplied in the kit corresponds to the model for LPG.
2. Close the gas interception tap and switch off the electricity.
3. Remove the burner unscrewing the fixing bolt A, unscrew before the gas tube and disconnect the cables of the electrodes.
4. Unscrew the injectors B and replace them with the units inside the kit.
5. Rotating the RP screw adjust the pressure of the injector up to the pressure for methane.
6. Switch on the generator and verify that injector pressure is right for methane gas.
7. Place the new label on the body to indicate a different gas.
8. Verify with special spray the gas seal on the threads, gaskets etc.

15 CONNECTION WITH ELECTRICITY

The unit must be connected to single phase electric net plus a ground; use a bipolar device near the unit.
THE MANUFACTURER IS NOT RESPONSIBLE FOR DAMAGES DUE TO WRONG CONNECTION.

16 MORE UNIT CONNECTED TOGETHER

If more unit must be connected it is important that each one can work singularly, all at the same time or only some units.
This is possible using some sluice taps in the hydraulic circuit in order to decide the qty of unit that must use as for the required qty of water; it's suggested the following types of systems:

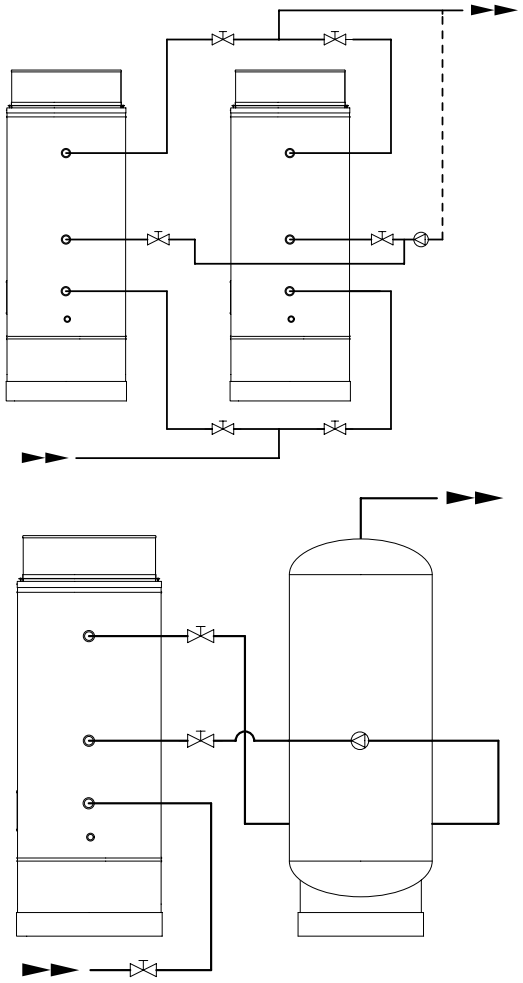


Fig. 24

17 ANOMALOUS OPERATION

The control equipment goes in block without to command to the ignition.

- The survey flame circuit is out of order and the auto check does not allow the end of the cycle.
- The survey electrode flame has a dispersion.

At the end of the phase of pre ventilation the ignition electrode does not make any spark and the equipment goes in block.

- The ignition transformer is out of order, the connection of the electrode of ignition with the card is interrupted.

At the end of the phase of pre ventilation the ignition electrode makes spark, but the flame doesn't take shape and the apparatus goes in block.

- Lacks of gas power or is present air in the tubes.
- The valve of the gas does not open why the coils are out of order or the electrical connection is interrupted.

At the end of the phase of pre ventilation the flame takes shape but the apparatus goes in block.

- The flame is not become stabilized why the pressure is low.
- The electrode of survey of the gas is correctly placed and it is not in contact with the flame.
- The electrical connection of the electrode is interrupted the equipment goes in block during the operation.

The apparatus goes in block while it's operating.

- The feeding of the gas has been interrupted even if temporarily; the device not finding the gas presence has gone in block.

Even if the thermostat works correctly has an intermittent operation.

- The thermostat is defective and the pressostat stops the burner because the capacity of the fan is insufficient.

The device in not in block but it remains in pre ventilation.

- The tubes are clogged with dust.
- The pressostat one does not give the consent because it is out of order or the electrical connection is interrupted.

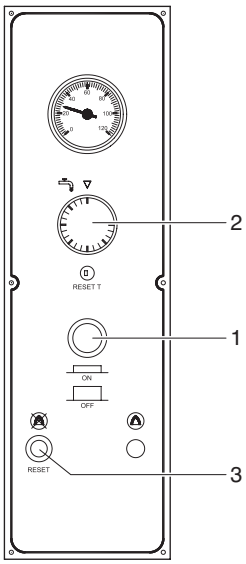
The control unit is not in block but the cycle does not start.

- During the verification the contacts of pressostat was in switched off position or glue or due to a wrong calibration of the pressostat and so is not given the consent to end the cycle.

For safety and warranty reasons, it is recommended, when replacing fault components, to use only genuine components and to contact authorised service centres.

18 IGNITION

1. Press the button of ignition
2. Turn the index of the thermostat of regulation 2 on the value of desired temperature of water.
3. Verify that the red luminous button of block 3 is dark, if it is red press the button in order to unblock the control equipment and the luminous button stops itself.



From this moment begins the cycle of ignition of the generator.
The pressure created from the expulsion fan fumes closes the contacts of the pressostat and the co the consent for the troll unit gives the consent of pre ventilation phase, at the end it commands the opening of the valve gas and the spark of the electrode.
At the moment of the ignition the flame is noticed within 10 second otherwise it goes in block, it can easily happens in a new installation as there is air inside the pipes.

19 TO SWITCH OFF THE WATER HEATER

In order to switch off the generator for a short period turn the knob up to the minimum position and press the push-button.
In order to switch off the generator for a long period turn the knob of the thermostat up to the minimum position and press the push-button:

- Disconnect the power
- Close the tap of the gas
- In case of long inactivity in places not heated is advised to drain the tank

NOTE

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