



# BAXI

# ECO 3

**GB**

**High efficiency wall-mounted gas-fired boilers**

Instructions for Users and Installers

**[www.garmiran.com](http://www.garmiran.com)**

# 1. INSTRUCTIONS PRIOR TO INSTALLATION

This boiler is designed to heat water at a lower than boiling temperature at atmospheric pressure. The boiler must be connected to a central heating system and to a domestic hot water supply system in compliance with its performances and output power.

Have the boiler installed by a Qualified Service Engineer and ensure the following operations are accomplished:

- a) careful checking that the boiler is fit for operation with the type of gas available. For more details see the notice on the packaging and the label on the appliance itself.
- b) careful checking that the flue terminal draft is appropriate; that the terminal is not obstructed and that no other appliance exhaust gases are expelled through the same flue duct, unless the flue is especially designed to collect the exhaust gas coming from more than one appliance, in conformity with the laws and regulations in force.
- c) careful checking that, in case the flue has been connected to pre-existing flue ducts, thorough cleaning has been carried out in that residual combustion products may come off during operation of the boiler and obstruct the flue duct.
- d) to ensure correct operation of the appliance and avoid invalidating the guarantee, observe the following precautions:

## 1. Hot water circuit:

- 1.1. If the water hardness is greater than 20 °F (1 °F = 10 mg calcium carbonate per litre of water) a polyphosphate or comparable treatment system responding to current regulations.
- 1.2. Domestic Hot Water circuit must be thoroughly flushed after the installation of the appliance and before its use.
- 1.3. The materials used for the domestic hot water circuit of the product comply with Directive 98/83/EC.

## 2. Heating circuit

### 2.1. new system

Before proceeding with installation of the boiler, the system must be cleaned and flushed out thoroughly to eliminate residual thread-cutting swarf, solder and solvents if any, using suitable proprietary products.

To avoid damaging metal, plastic and rubber parts, use only neutral cleaners, i.e. non-acid and non alkaline. The recommended products for cleaning are:

SENTINEL X300 or X400 and FERNOX heating circuit restore. To use this product proceeding strictly in accordance with the maker's directions.

### 2.2. existing system

Before proceeding with installation of the boiler, the system must be cleaned and flushed out to remove sludge and contaminants, using suitable proprietary products as described in section 2.1.

To avoid damaging metal, plastic and rubber parts, use only neutral cleaners, i.e. non-acid and non-alkaline such as SENTINEL X100 and FERNOX heating circuit protective. To use this product proceeding strictly in accordance with the maker's directions.

Remember that the presence of foreign matter in the heating system can adversely affect the operation of the boiler (e.g. overheating and noisy operation of the heat exchanger).

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**Failure to observe the above will render the guarantee null and void.**

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# 2. INSTRUCTIONS PRIOR TO COMMISSIONING

Initial lighting of the boiler must be carried out by a licensed technician. Ensure the following operations are carried out:

- a) compliance of boiler parameters with (electricity, water, gas) supply systems settings.
- b) compliance of installation with the laws and regulations in force.
- c) appropriate connection to the power supply and grounding of the appliance.

Failure to observe the above will render the guarantee null and void.

Prior to commissioning remove the protective plastic coating from the unit. Do not use any tools or abrasive detergents as you may spoil the painted surfaces.

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***The instructions shall state the substance of the following:***

***This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.***

***Children should be supervised to ensure that they do not play with the appliance.***

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### 3. COMMISSIONING OF THE BOILER

To correctly light the burner proceed as follows:

- 1) provide power supply to the boiler;
- 2) open the gas cock;
- 3) turn the selector switch (Figure 2) to set the boiler on summertime (☀) or wintertime (❄) operation;
- 4) turn the central heating (2) and domestic hot water (1) adjusting controls in order to light the main burner.

To increase temperature values turn the control clockwise and anticlockwise to decrease it.

When on summertime operation (☀) the main burner and the pump will start running only when there is a call for hot water.

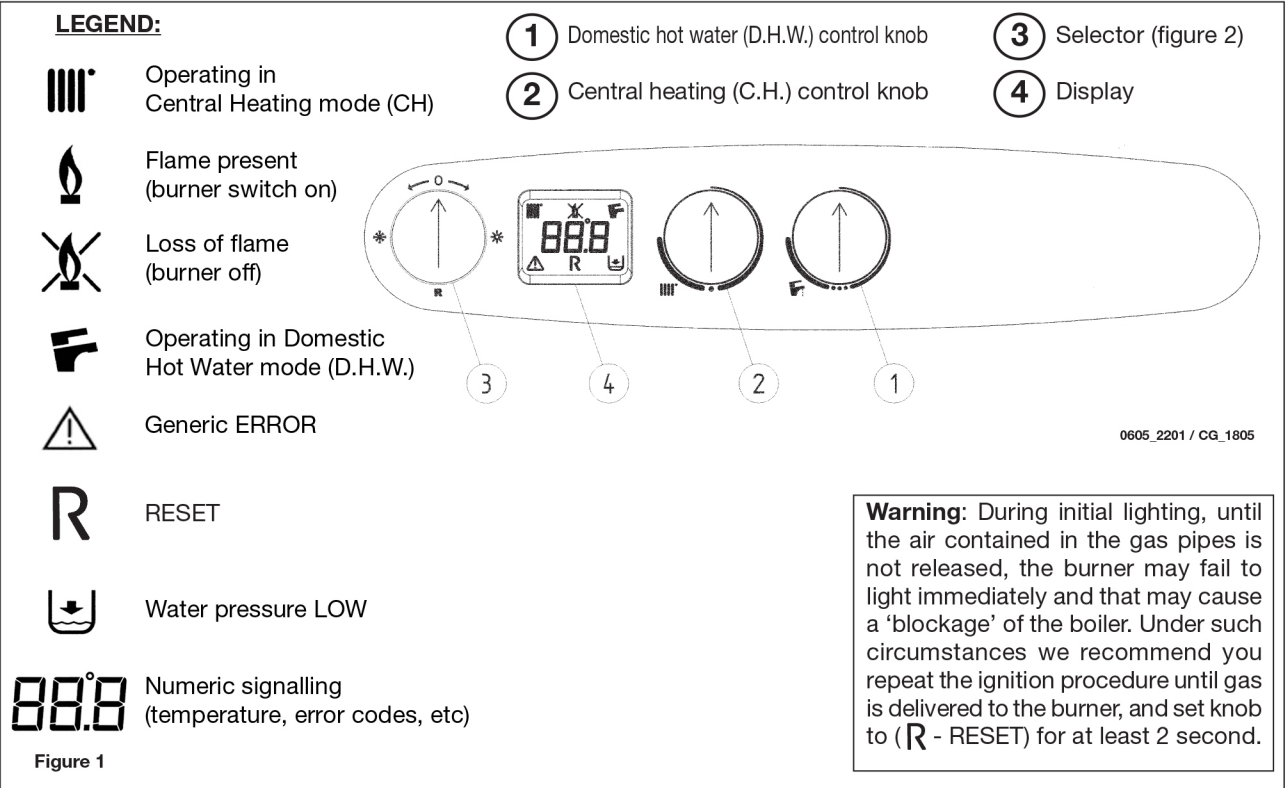


Figure 1

#### Summer / Winter / Reset / OFF selector positions

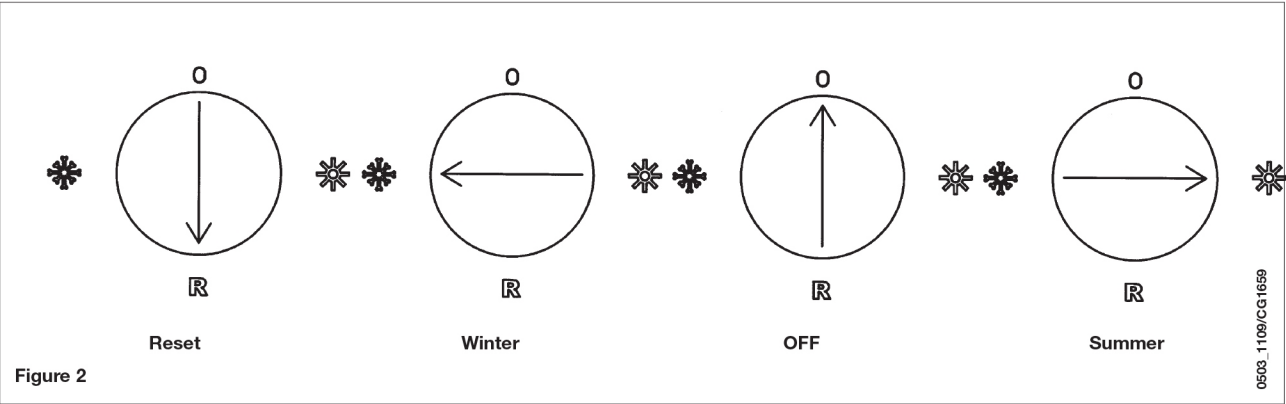


Figure 2

### 4. DHW TEMPERATURE ADJUSTMENT

The gas valve is provided with an electronic flame-modulating function, which operates depending on the DHW temperature adjusting control (1) settings and on the quantity of water drawn from the taps.

This electronic device allows to keep the water coming out of the boiler at a constant temperature also when small quantities of water are drawn.

During a domestic ho water request, the display shows a domestic hot water (D.H.W.) temperature.

To increase temperature values turn the control clockwise and anticlockwise to decrease it.

## 5. ROOM TEMPERATURE ADJUSTMENT

The system must be equipped with a room thermostat (see the relevant regulations) to control the temperature in the rooms.

In case there is no room thermostat, during initial lighting, it will be possible to control the room temperature by turning control (2).

During a central heating mode, the display shows a central heating (C.H.) flow temperature.

To increase temperature values turn the control clockwise and anticlockwise to decrease it. Electronic modulation of the flame will enable the boiler to reach the set temperature by adapting the gas supply to the burner to the actual heat exchange demand.

## 6. FILLING THE BOILER

**Important:** Regularly check that the pressure displayed by the pressure gauge is 0.7 to 1.5 bar, with boiler not operating.

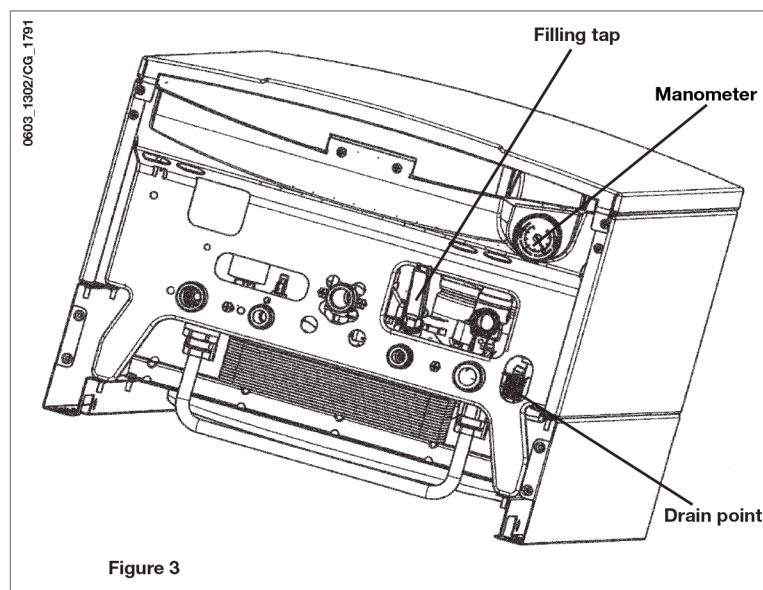
In case of overpressure, open the boiler drain valve (Figure 3).

In case the pressure is lower open the boiler filling tap (Figure 3).

We recommend you open the tap very slowly in order to let off the air.

During this operation, the Summer/Winter selector (Figure 2) must be in the OFF position (0).

**NOTE:** In case pressure drops occur frequently have the boiler checked by a Qualified Service Engineer.



The boiler is supplied with a hydraulic pressure sensor, which blocks the boiler in case water is lacking.

## 7. TURNING OFF THE BOILER

The electric supply to the boiler must be removed in order to switch it off. With the selector in O position (off – figure 2), the gas boiler remain switched off, the display (4 – figure 1) reads out “OFF” but the main board is still supplied and the Frost protection function is activated.

**NOTE:** with the selector in “0” position and external probe connected, the display carries out the actual value of the external temperature.

## 8. GAS CHANGE

These boilers set for natural gas can be converted to work with **LPG**.

Any gas change must be effected by a Qualified Service Engineer.



## 9. PROLONGED STANDSTILL OF THE SYSTEM. FROST PROTECTION

We recommend you avoid draining the whole system as water replacements engender purposeless and harmful limestone deposits inside the boiler and on the heating elements. In case the boiler is not operated during wintertime and is therefore exposed to danger of frost we suggest you add some specific-purpose anti-freeze to the water contained in the system (e.g.: propylene glycole coupled with corrosion and scaling inhibitors).

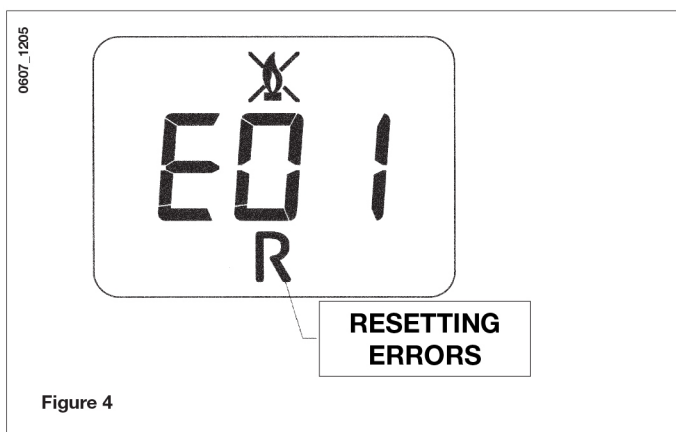
The electronic management of boilers includes a “frost protection” function in the central heating system which operates the burner to reach a heating flow temperature of 30° C when the system heating flow temperature drops below 5°C.

The frost protection function is enabled if:

- \* electrical supply to the boiler is on;
- \* the gas service cock is open;
- \* the system pressure is as required;
- \* the boiler is not blocked.

## 10. SAFETY DEVICE INDICATORS - ACTIVATION

If a fault occurs, the display reads out an error message identifying it (es. E 01):



To RESET the gas boiler, turn selector (Figure 2) to “R” for at least 2 seconds. If the fault persists, call an authorised service centre.

**Note:** It is possible to carry out n° 5 relighting attempts in a row, after which the RESET function is disabled and the gas boiler still blocked.

To carry out a new RESET attempt, turn the selector (figure 2) in OFF position for at least 2 seconds.

Error code	Description of FAULTS	Corrective action
E01	Gas supply fault	Turn selector (figure 2) to “R” for at least 2 seconds. If this fault persists, call an authorised service centre.
E02	Safety thermostat sensor tripped	Turn selector (figure 2) to “R” for at least 2 seconds. If this fault persists, call an authorised service centre.
E03	Flue thermostat sensor tripped / Flue pressure switch tripped	Call an authorised service centre.
E05	Central heating NTC sensor fault	Call an authorised service centre.
E06	Domestic Hot Water NTC sensor fault	Call an authorised service centre.
E10	Water pressure LOW	Check that the pressure in the system is as specified. See section 6. If this fault persists, call an authorised service centre.
E25	Boiler max temperature exceeded(probable pump jammed)	Call an authorised service centre.
E35	Fault flame (parasitic flame)	Turn selector (figure 2) to “R” for at least 2 seconds. If this fault persists, call an authorised service centre.

**NOTE:** if a fault occurs, the display reads out an error code flashing together with background light.

## 11. SERVICING INSTRUCTIONS

To maintain efficient and safe operation of your boiler have it checked by a Qualified Service Engineer at the end of every operating period.

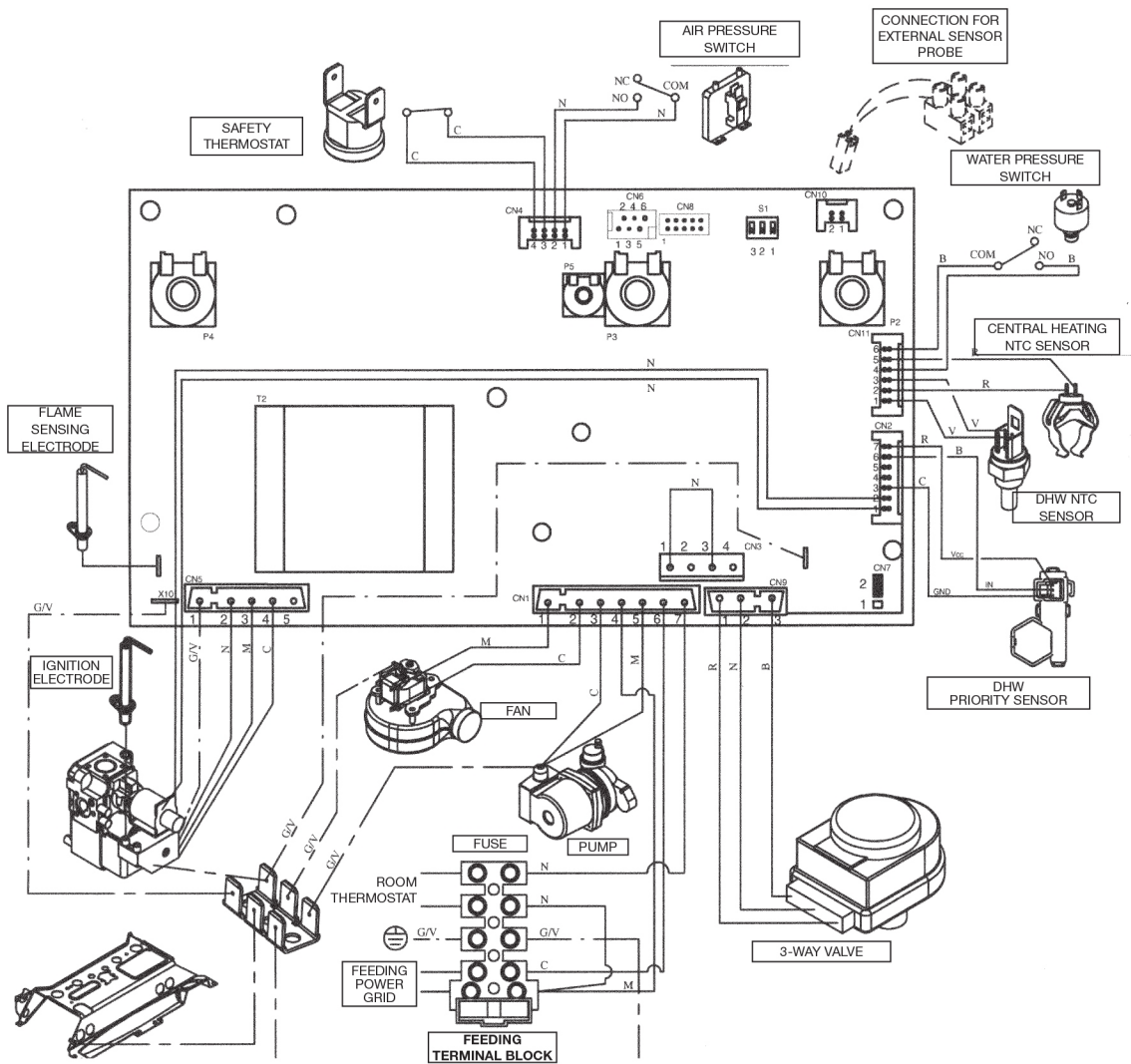
Careful servicing will ensure economical operation of the system.

Do not clean the outer casing of the appliance with abrasive, aggressive and/or easily flammable cleaners (i.e.: gasoline, alcohol, and so on). Always isolate the electrical supply to the appliance before cleaning it (see section 7 “Turning off the boiler”).



# ILLUSTRATED WIRING DIAGRAM

240 Fi - 280 Fi



## CABLES COLOURS

**C=** light blue  
**M=** brown  
**N=** black  
**R=** red  
**G/V=** yellow/green  
**B=** white  
**V=** green

## KEY

**P2:** DHW potentiometer  
**P3:** S/W/OFF selector  
**P4:** Central heating potentiometer  
**P5:** Heating power regulation trimmer

0711\_2211 / CG\_1801\_1

# TECHNICAL DATA

Model ECO3		240 Fi	280 Fi
Category		II <sub>2H3P</sub>	II <sub>2H3P</sub>
Maximum heat input	kW	25,8	30,1
Reduced heat input	kW	10,6	11,9
Maximum heat output	kW	24	28
	kcal/h	20.600	24.080
Reduced heat output	kW	9,3	10,4
	kcal/h	8.000	8.900
Useful efficiency according to 92/42/CEE directive	—	★★★	★★★
Central heating system max. pressure	bar	3	3
Expansion vessel capacity	l	8	10
Expansion vessel pressure	bar	1	1
DHW system max. pressure	bar	8	8
DHW system min. dynamic pressure	bar	0,5	0,5
DHW system min. output	l/min	2	2
DHW production at ΔT=25°C	l/min	13,7	16
DHW production at ΔT=35°C	l/min	9,8	11,4
Specific output (*)	l/min	10,7	12,5
Type	—	C12-C32	C82-B22
Concentric flue duct diameter	mm	60	60
Concentric air duct diameter	mm	100	100
2-pipe flue duct diameter	mm	80	80
2-pipe air duct diameter	mm	80	80
Discharge pipe diameter	mm	-	-
Max. flue mass flow rate	kg/s	0,016	0,017
Min. flue mass flow rate	kg/s	0,015	0,017
Max. flue temperature	°C	135	140
Min. flue temperature	°C	100	110
NOx Classe	—	3	3
Type of gas used	—	G20	G20
	—	G31	G31
Natural gas feeding pressure	mbar	20	20
Propane gas feeding pressure	mbar	37	37
Power supply voltage	V	230	230
Power supply frequency	Hz	50	50
Power consumption	W	135	165
Net weight	kg	38	40
Dimensions	height	mm	763
	width	mm	450
	depth	mm	345
Protection-limit against humidity and water leakages (**)		IP X5D	IP X5D

(\*) according to EN 625  
 (\*\*) according to EN 60529