

KONA

Basso NOx

Faible NOx

Niski poziom NOx

Low NOx



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GENERAL INFORMATION

- Read the warnings in this instruction booklet carefully, since they provide important information on installation, use and maintenance.
 - This instruction booklet is an integral and essential part of the product and must be kept with care for future reference.
 - The manual must stay with the unit even in case of transfer to another owner or user or to another system, so that the new owner or installer can consult it.
 - Installation and maintenance must be carried out by authorized technicians, according to current regulations and the manufacturer's instructions.
 - Incorrect installation or inadequate maintenance can result in personal injury or damage. The Manufacturer declines any liability for damage due to errors in installation and use or failure to follow the instructions.
 - Before carrying out any cleaning or maintenance operation, disconnect the unit from the supply mains via the system switch and/or the special shut-off devices.
 - In case of a fault and/or poor operation, deactivate the unit and have it repaired exclusively by authorized technicians.
- Contact professionally qualified personnel. Any repair/replacement of parts must only be carried out by professionally qualified personnel using original spare parts. Failure to comply with the above can compromise the safety of the unit.
- Regular maintenance, carried out by qualified personnel, is essential for ensuring proper operation of the unit.
 - This unit must only be used for its intended purpose. Any other use is deemed improper and therefore hazardous.
 - Unpack the unit and make sure it is in perfect condition. The packing materials are potentially hazardous and must not be left within the reach of children.
 - The unit is not intended to be used by children under 8 years of age or by persons with reduced physical, sensory or mental capabilities, or lack of experience or necessary expertise, unless under supervision or according to the instructions of a person responsible for their safety, and who are not aware of the dangers associated with its use. Children must not play with the unit. Cleaning and maintenance of the unit to be carried out by the user can be done by children aged 8 years or over provided they are constantly supervised.

- In case of doubt, do not use the unit. Contact the supplier.
 - The unit and its accessories must be appropriately disposed of in compliance with current regulations.
 - The images given in this manual are a simplified representation of the product. In this representation there may be slight and insignificant differences with respect to the product supplied.
- **UNIT INTENDED FOR DOMESTIC USE, NOT SUITABLE FOR INDUSTRIAL USE**

	<i>This symbol means "Attention" and is located next to the safety warnings. Strictly comply with these warnings to avoid dangerous situations or damage to people, animals or property.</i>
	Important information which does not involve personal or material risks is marked with this symbol.



The CE marking certifies that the products meet the essential requirements of the applicable directives.

The declaration of conformity can be requested from the manufacturer.

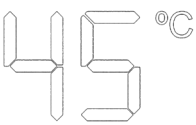
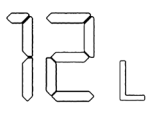
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1 USER INSTRUCTIONS

1.1 Introduction

The new **KONA** is a high performance, low emissions FULLY SEALED water heater for the production of domestic hot water, running on **natural gas, LPG or propane air** and equipped with high modulation, state of the art burner which reduces the emission of pollutant gases and provides stable and precise combustion. It also includes a fan that works in conjunction with the burner and through an intuitive, touch-sensitive microprocessor control system. This water heater can also work in combination with solar panels.

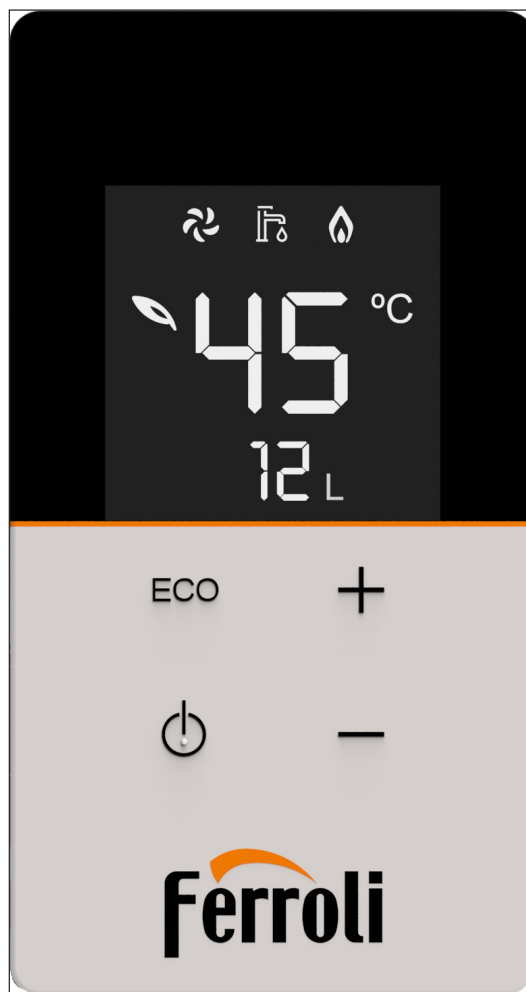
1.2 Display symbols

SYMBOL	DESCRIPTION
	FLAME: This symbol lights up when the burner is on.
	TAP: This symbol lights up when water flows through the unit.
	FAN: This symbol lights up when the fan motor is on.
	ECO: This symbol lights up when the ECO function is activated.
	UPPER DIGITS: 1. Water temperature (by default it shows the actual unit outlet water temperature) 2. Temperature adjustment value (by touching the "+" or "-" buttons) 3. Error codes 4. Value of each parameter
	LOWER DIGITS: 1. Water flow 2. Reference parameters

1.3 Control panel buttons

SYMBOL	DESCRIPTION
ECO	ECO function: This button is used to activate/deactivate ECO mode.
	STANDBY: This button is used to put the unit in STANDBY and/or OPERATION mode.
+	These buttons are used to change the temperature adjustment value, both in NORMAL and ECO mode, and the internal parameters.
-	

1.4 Control panel



1.5 OPERATION

The gas water heater has the following OPERATING modes:

- STANDBY (in Standby mode)
- OPERATION:
 - » NORMAL mode
 - » NORMAL mode with the support of solar thermal energy
 - » ECO mode
 - » ECO mode with the support of solar thermal energy

1.5.1 Turning on and off

From STANDBY mode, by touching the Standby button the unit enters OPERATION mode, the display turns on. From OPERATION status, by touching the Standby button, the unit enters STANDBY mode, the display turns off. In both cases, an acoustic signal confirms each single operation.

In STANDBY mode the burner does not start when a tap is turned on.

1.5.2 NORMAL operation

NORMAL operation of the water heater instantly supplies domestic hot water at the required temperature set by the user. When normal water heater operation is activated, the actual water outlet temperature is displayed and the symbol  goes off.

1.5.2.1 Temperature setting

The outlet water temperature can be set with the “+” or “-” buttons.

The NORMAL temperature setting is between 35°C and 50°C (**the maximum value, initially 50°C, can be changed with the parameter nS, see Section 3.5**). The normal default temperature setting is 50°C.

1.5.2.2 Domestic hot water

When the tap is turned on and the flowmeter detects a flow of water, the unit starts working and the symbol  lights up on the display.

The fan symbol  and the flame symbol  light up according to their status.

When the tap is turned on, the lower digit display indicates the current water flow (.

The water heater will heat the water continuously for a maximum of 60 minutes (**value modifiable with parameter nE, see Section 3.5**), after which it will stop for safety reasons.

1.5.3 ECO mode

This mode is generally used to reduce power consumption. When this function is enabled, the symbol  appears on the display.

In ECO mode the output capacity is limited to 80% of the maximum value and a separate temperature setting is used.

1.5.3.1 ECO mode activation

If this mode is disabled, it is necessary to touch the **ECO** button. The symbol  will light up on the display immediately.

In this mode, when the tap is turned on, the burner starts the ignition sequence and, when the electrode detects the flame, the unit keeps the burner lit by modulating the fan and the gas.

1.5.3.2 Temperature setting in ECO mode

In this mode the water temperature adjustment value can be different from that of the NORMAL mode, but will never be higher than it. The ECO temperature setting, just like the NORMAL one, can be changed with the “+” or “-” buttons.

The ECO temperature setting is therefore between 35°C and the NORMAL temperature setting. The ECO default temperature value is 42°C.

1.5.3.3 ECO mode deactivation

To deactivate this mode, touch the **ECO** button on the control panel. The symbol  goes off.

1.5.4 Solar energy function

To activate the SOLAR function, the parameter “**FC**” must be set to “**ON**” to enable the setting of parameters **S1**, **S2** and **t1**.

The water heater is activated only when the inlet water temperature, produced by solar energy, is lower than the set temperature.

S1: Burner ignition hysteresis (default 10°C)

S2: Burner shutdown hysteresis (default 10°C)

t1: Burner ignition delay time (default 10s)

- When the inlet water temperature is lower than the “**setpoint - S1**”, the burner starts the timing **t1**, after which the burner ignites.
- When the inlet water temperature is higher than the “**setpoint + S2**”, the burner shuts down.
- For the first 30 seconds, after the burner is lit, the controller automatically brings the shutdown temperature to “**setpoint + 30°C**”. This is to avoid frequent turning on and off of the unit.

To change these parameters, **S1**, **S2** and **t1**, see **Section 3.5** list of parameters.

2 INSTALLATION INSTRUCTIONS

2.1 General instructions



Water heater installation, as well as the respective electrical, gas and exhaust/fume/air intake connections, must be carried out by a qualified and authorized installer, complying with all the instructions in this technical manual, standard EN 26, and the requirements of national and local standards on installation and the discharge of combustion products.

2.2 Place of installation

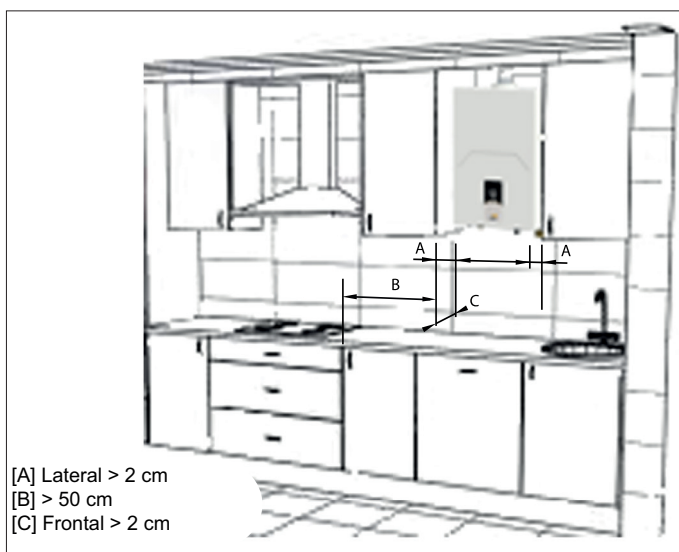
- The combustion circuit is sealed with respect to the place of installation and therefore the unit can be installed in any room. The place of installation must be sufficiently ventilated to prevent the creation of dangerous conditions in case of gas leaks.
- This safety standard is set by **Directive (EU) 2016/426** for all units that use gas (including sealed chamber units).
- The unit is suitable for operation in a partially protected place in accordance with **EN 26**.

The place of installation must in any case be free of dust, flammable materials or objects or corrosive gases.

The unit is arranged for wall-hung installation.

- Respecting the measurements given in **Section 4.1**. Wall mounting must be firm and stable.
- Do not install the unit above a heat source.

✋ If the unit is enclosed in a cabinet or with other elements alongside, there must be sufficient space for removing the casing and for normal maintenance activities.



2.3 Water heater installation



Before installing the water heater, make sure the water and gas connections are secured, identified and positioned correctly.

For dimensions and connections see Section 4.1.

- 1 The unit's mounting template is located on the back of the packaging. Cut it out and place it on the wall at the required height (check the distances) and as horizontally as possible using a spirit level.
- 2 Mark the position of the fastening holes.
- 3 With a drill and Ø 8 mm bit, make the mounting holes into which the expansion plugs are to be inserted.
- 4 Remove the unit from the packaging, take out the bag containing the accessories supplied, remove the screws and/or fastening hooks and place the unit in position.
- 5 Check that all the documentation is present.
- 6 Remove the caps from the water and gas connections.
- 7 Check the reference of the destination country and the type of gas for the unit on the data plate.





FERROLI S.p.A.
Via Ritonda, 78/A - 37047 San Bonifacio (VR) - ITALY

KONA 17

Code: 0DK97KAA

Ser. n.: 2418LE9001

B32-C12-C22-C32-C42-C52-C62-C82-C92

II2H3P (IT, GB, IE)
II2R3R (IT, FR)
II2HM3B/P (IT)
II2ELwLs3B/P (PL)

II2Esi3P (FR)
II2Er3P (FR)

3P - G31 - 37 mbar

	Max	-	Min		
<i>Q_n</i> (Hi)	= 33	-	4		kW
<i>P_n</i>	= 30	-	3.6		kW

	pw	=	10		bar
<i>t_{max}</i> = 65 °C	D	=	14.3		l/min

NOx 6 (< 56 mg/kWh) H₂O



0085 / 24



8 430709 516595



2418LE9001

230 V, 50 Hz

48 W

IPX4D

For outdoor installation in partially protected place
Temp. min.: -5 °C

MADE IN SPAIN

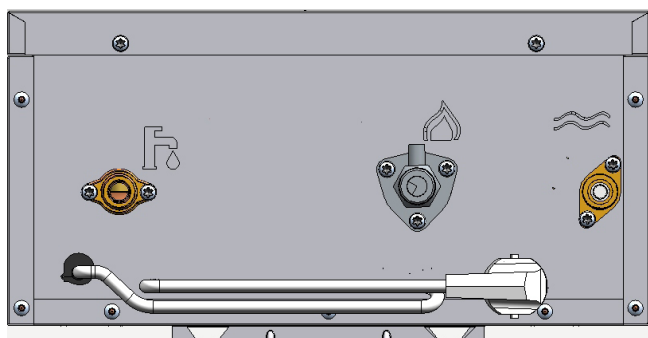
Fig. 1 - Data plate

2.4 Plumbing connections



Never place the water heater down on the water / gas connections. Carry out the connections according to the dimensions and connections given in Section 4.1.

The inlet (water and gas) and water outlet connections are identified on the bottom of the unit. They are all 1/2".



SYMBOL	DESCRIPTION
	WATER inlet symbol
	GAS inlet symbol
	HOT WATER outlet symbol

 **In case of water harder than 25 °fH (1 °fH = 10 ppm CaCO₃), use suitably treated water in order to avoid possible scaling in the unit.**

2.5 Gas connection



Before making the connection, check that the unit is arranged for operation with the type of fuel available and carefully clean all the system pipes to remove anything able to affect its proper operation. Carry out the connections according to the dimensions and connections given in Section 4.1.

- 1 The gas connection (see Section 4.1) must be carried out in compliance with current regulations.
- 2 Carry out the connection with a rigid metal pipe (for the gas supply) or a flexible pipe (of approved type, not to be confused with flexible elastomer connectors) for LPG system, with continuous s/steel wall, placing a gas valve between the system and the water heater (AS CLOSE AS POSSIBLE TO THE UNIT).
- 3 After connection, check that all gas connections are tight. Therefore, do a tightness test and, to avoid any damage to the unit due to overpressure, leave the gas inlet valve closed.

Make sure the pressure and flow rate are those indicated for the unit's consumption.

See "4.3 Technical data table"



When using the hose (approved, not to be confused with the flexible elastomer connectors) for LPG, pay particular attention to the following:

- Make sure the hose complies with current regulations.
- Avoid areas with heat emission.
- Avoid bending or pinching the hose.
- The connections on both sides (gas valve and other components) must comply with the national regulations.

2.6 Electrical connections



The unit must be connected to a grounding system in compliance with the applicable safety regulations. Have the efficiency and suitability of the grounding system checked by professionally qualified personnel; the manufacturer declines any liability for damage caused by failure to ground the system.

The unit's power cable must never be replaced by the user. If the cable is damaged, turn off the unit and contact the authorized Technical Assistance Service to have it replaced.

For replacement, use exclusively **HAR H05 VV-F** 3 x 0.75 mm² cable with maximum ext. diameter of 8 mm.

2.7 Air and fume ducts



The unit is "C type" with sealed chamber and forced draught. The air inlet and fume outlet must be connected to the exhaust/intake systems specified below.

The unit is type-approved to work with all the **Cxy** flue configurations given on the technical data plate (some are illustrated in the examples provided further on).

However, some configurations may be expressly limited or not permitted by local laws, rules or regulations.

Before proceeding with installation, check and carefully observe the above-mentioned prescriptions.

Also, comply with the provisions on the positioning of wall and/or roof terminals and the minimum distances from windows, walls, ventilation openings, etc. see **Section 2.2**

IMPORTANT FLUEING INFORMATION – KONA WATER HEATER

The **KONA water heater** is primarily designed for the following flueing configurations:

- Vertical flueing
- Left-hand or right-hand horizontal flueing



Rear Horizontal Flueing – Special Requirements

If rear horizontal flueing is required, please note the following:

• Extra Clearance Required

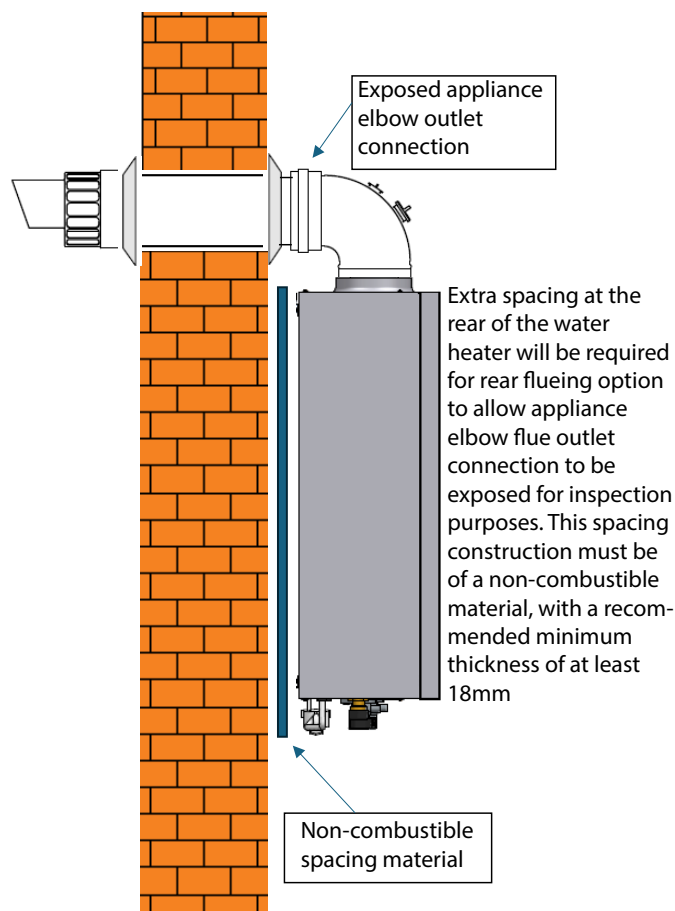
An **increased spacing** between the **rear of the water heater** and the **wall** is necessary.

• Non-Combustible Material

This spacing **must be constructed** using a **non-combustible material**, with a **recommended minimum thickness** of 18 mm.

• Inspection Access

The additional clearance is essential to ensure the **flue outlet joint** on the **appliance adaptor** remains **visible and accessible** for inspection.



2.7.1 Connection with coaxial pipes

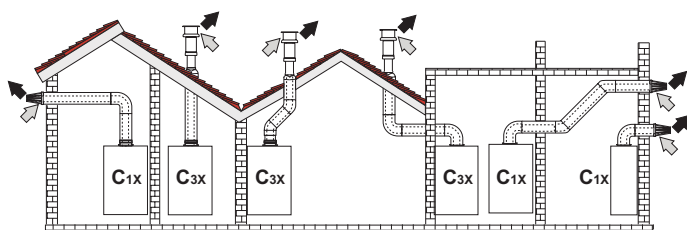


Fig. 2 - Example of connection with coaxial pipes

C1x - Wall horizontal exhaust and intake.

C3x - Roof vertical exhaust and intake.

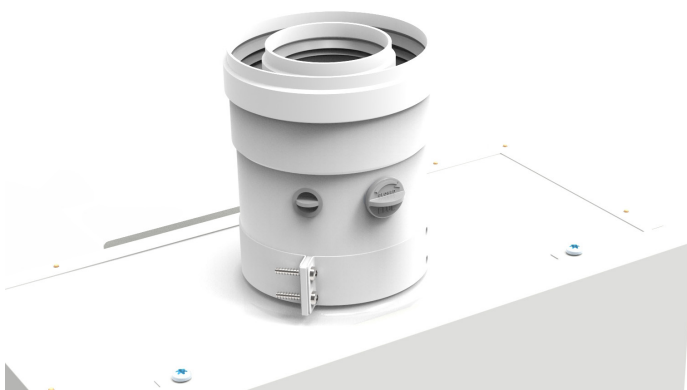
→ = Air

→ = Fumes

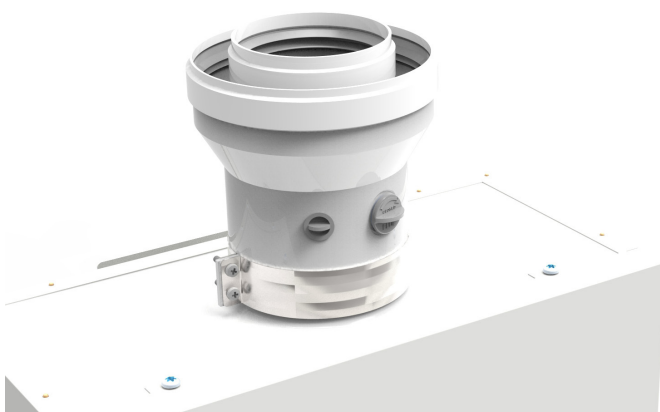
	Coaxial 60/100	Coaxial 80/125
Max. permissible length	4 m	10 m
Reduction factor 90° bend	1 m	0.5 m
Reduction factor 45° bend	0.5 m	0.25 m

For coaxial connection, fit the unit with one of the following starting accessories. For the wall hole measurements, **see Section 4.1**. The fume exhaust horizontal sections must slope slightly towards the outside to prevent any return of condensate to the unit.

- For connection of coaxial vertical pipe Ø 60/100 (**010037X0**):



- For connection of coaxial vertical pipe adjusted from Ø 60/100 to Ø 80/125 (**010038X0**):



- Coaxial intake / exhaust duct kit

For connection 90° + coaxial pipe, Ø 60/100 (**010040X0**):



2.7.2 Connection with separate pipes

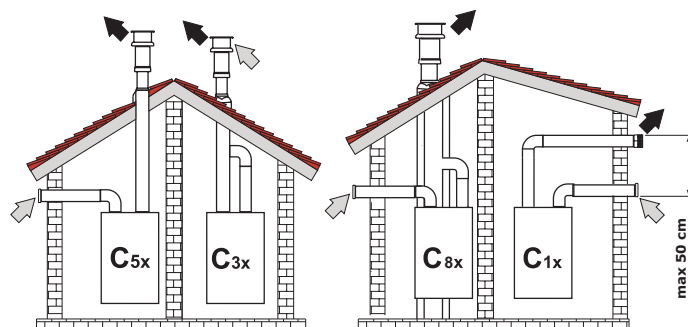


Fig. 3 - Example of connection with separate pipes

- C1x** - Wall horizontal exhaust and intake.
The inlet/outlet terminals must be concentric or close enough (max. distance 50cm) to be subjected to similar wind conditions.
- C3x** - Roof vertical exhaust and intake.
Inlet/outlet terminals like for C12.
- C5x** - Separate wall or roof intake and exhaust and in any case in areas with different pressures.
The exhaust and intake must not be located on opposite walls.
- C6x** - Intake and exhaust with separate certified pipes (**EN 1856-2**).
- B3x** - Intake from installation room and wall or roof exhaust.

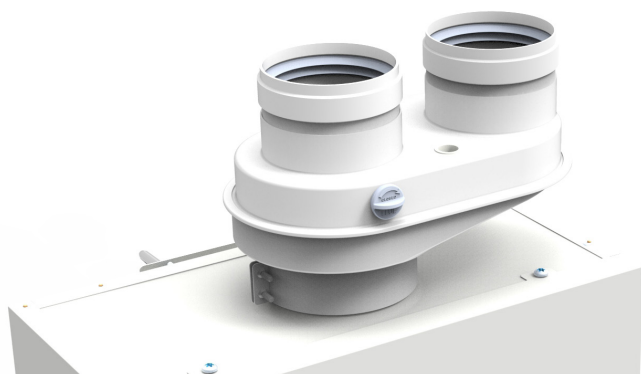
→ = Air

→ = Fumes



IMPORTANT- THE ROOM MUST HAVE ADEQUATE VENTILATION.

- For connection of separate pipes Ø 80 (010039X0):



Before installation, check by a simple calculation that the maximum permissible flue length is not exceeded:

1. Establish the entire system of separate flues, including accessories and exhaust terminals.
2. Consult **Table 1** and identify the losses in m_{eq} (equivalent meters) for each component, according to its assembly position.
3. Check that the sum total of losses is less than or equal to the maximum permissible length given in **Table 2**.

Table 1

			Losses in m_{eq}		
			Air inlet	Fume outlet	
				Vertical	Horizontal
Ø 80	RIGID PIPE	0.5 m M/H	0.5	0.5	1
		1 m M/H	1	1	2
		2 m M/H	2	2	4
	BEND	45° H/H	1.2	2.2	
		45° M/H	1.2	2.2	
		90° H/H	2	3	
		90° M/H	1.5	2.5	
		90° M/H + test outlet	1.5	2.5	
	FLEXIBLE PIPE	With test outlet	0.2	0.2	
		For condensate drain	-	3	
	T	For condensate drain	-	7	
	TERMINAL	Air, wall	2	-	
		Fumes, wall with antiwind	-	5	
	FLUE	Separate for air/fumes 80/80	-	12	
		Only discharge duct Ø 80	-	4	

Table 2

MAX. PERMISSIBLE LENGTH		
KONA 12	KONA 15	KONA 17
65 m_{eq}	55 m_{eq}	45 m_{eq}

3 SERVICE AND MAINTENANCE

All adjustment, commissioning and periodic checking operations described below must only be carried out by an authorized technician in compliance with current regulations. FERROLI declines any liability for personal injury or damage to property due to unqualified and unauthorized persons tampering with the unit.

3.1 ADJUSTMENTS

3.1.1 Gas conversion

The FERROLI **KONA** water heater can only work with one of the following three gases:

- **G20** (METHANE, NATURAL GAS)
- **G31** (PROPANE, LPG)
- **G230** (propane-air)

depending on the model purchased, as indicated on the packaging and on the technical data plates.

The unit can run on NATURAL GAS (G20, G25), PROPANE AIR (G230) or LPG (G30, G31). The unit can be adjusted to work with a gas different from the factory-set one, by adopting the following procedure depending on the type of gas conversion:

- 1 Turn off the gas valve
- 2 Conversion using the GAS CONVERSION KIT (Except for the change between G30 and G31)
- 3 Turn on the gas valve
- 4 Set parameter FA (type of water heater and gas)
- 5 Calibrate the gas valve Except for the change between G30 and G31
- 6 Confirm and exit the parameters menu
- 7 Gas data plate positioning

1. Turn off the gas valve

Before starting any conversion:

- The gas valve must be turned off.
- The water heater must then be connected to the new gas it is being converted to.

2. Conversion using the GAS CONVERSION KIT



Conversion for operation with a gas different from the factory-set one must be carried out by an authorized technician, using original parts and in compliance with the regulations in force in the country where the unit is installed.



All components damaged during conversion operations must be replaced.

For every conversion of gas in the **KONA** water heater, **except in**

the LPG model to go from G30 to G31 (from PROPANE to BUTANE and vice versa, without Kit), it is necessary to purchase and install the special conversion kit, according to the type of gas the water heater will use and the class (in liters) of KONA model available:

	CONVERSION KIT	CODE
KONA 12	to gas G20	R83000280
	to gas G30 / G31 (GPL)	R83000290
	to gas G25 / G27 / G230	R83000300
KONA 15 KONA 17	to gas G20	R83000250
	to gas G30 / G31 (GPL)	R83000260
	to gas G25 / G27 / G230	R83000270

Use the following procedure to install the conversion Kit:

- Disconnect the KONA water heater from the power supply.
- Remove the burner manifold and fit the new one according to the supplied **Conversion Kit** instructions.
- Connect the KONA water heater to the power supply.

3. Turn on the gas valve

Once the water heater is connected to the new gas (and converted with the Kit), turn on the gas valve.

4. Set parameter FA (type of water heater and gas)

It is necessary to do a simple setting on the electronic part. Just correctly configure the parameter "FA". It indicates the type of water heater model (i.e. how many liters) and the type of gas set:

- Put the water heater on STANDBY, using the Standby button
- Activate the list of parameters by pressing the ECO button for 5 seconds until "PP" appears on the display.
- By touching the **Standby** button the first parameter "FA" appears.
- Press the Standby button to enter water heater model. configuration.
- Touch the "+" or "-" buttons to set the parameter FA according to the water heater model and gas (see Section 3.5.1 List of parameters).
- Confirm the value of parameter "FA" with the Standby button.

These steps always apply to the following 2 cases:
(Case A and B)

A. Gas conversion from G31 to G30, from Propane to Butane and vice versa (from G30 to G31, from Butane to Propane)

For the KONA LPG model, which will be factory set to G31 (Propane), to convert it to G30 (Butane) just set the parameter "FA", which in this example would be as follows:

Model:	12 L	15 L	17 L
From the factory value, for G31 (Propane)	2	7	12
to the new value, for G30 (Butane)	3	8	13

according to the liters of the water heater model, as indicated in the table of parameters (see Section 3.5.1). To convert from G30 to G31, still for the KONA LPG model, the procedure would be the same up to this point, modifying the parameter FA with the corresponding value.

B. Gas conversion with conversion kit

If the gas conversion was done by converting the water heater, it is necessary to set first also the parameter FA, according to the gas to be used by the KONA water heater:

<i>Model:</i>	<i>12 L</i>	<i>15 L</i>	<i>17 L</i>	
Conversion to G20	1	6	11	
Conversion to LPG	G31, Propane	2	7	12
	G30, Butane	3	8	13
Conversion to G25/G27	4	9	14	
Conversion to G230	5	10	15	

and according to the liters of the water heater model, as indicated in the table of parameters (see Section 3.5.1).

In this case, after modifying the parameter FA, the gas valve must be calibrated using the parameters following FA.

5. Gas valve calibration

The gas valve must be calibrated for every conversion of gas in the KONA water heater converted using the corresponding kit (i.e. for every conversion except the LPG model which is converted from G31 to G30 and vice versa).

Therefore, follow the entire procedure in Section 3.1.2 to carry out this operation correctly.

6. Confirm and exit parameters

To complete the parameter change procedure:

- Touch the "+" button until the symbol "qU" appears.
- Touch the Standby button to confirm and exit

The water heater returns to STANDBY status

7. Gas data plate positioning

After carrying out the conversion, apply the label for the new gas, contained in the document bag, near the technical data plate.

3.1.2 Gas valve calibration

To be done only in the following cases:

- GAS VALVE REPLACEMENT
- ELECTRONIC BOARD REPLACEMENT
- GAS CHANGE WITH CONVERSION

The gas valve (with integrated modulating actuator) is not mechanically calibrated; the minimum and maximum flow rates are electronically adjusted by 2 parameters: PH and P2.

Par.	Description	Range
PH	Total maximum pressure (entire burner)	20 - F0
P2	Minimum pressure (burner minimum section)	20 - F0

- 1 Check that the supply pressure, according to the type of gas, corresponds to that indicated in the Technical Data table (see section section 4.3). This check must be carried out with a pressure gauge connected to the gas inlet pressure test point (ref 17 of section Fig. 4 and section Fig. 5) while the water heater is operating.
- 2 Open the front panel, leaving the display connected to the PCB.
- 3 Press the **ECO** button, setting the water heater to NORMAL mode. The  symbol is not displayed.
- 4 Press the **+** button to set maximum DHW temperature. Connect a pressure gauge to the pressure test point on the gas manifold (ref. 18 in section Fig. 4 and section Fig. 5) to check pressure at the gas valve outlet.
- 5 Make sure the hot water taps are closed.
- 6 Press the **Standby** button  (display switches off).
- 7 Press the **ECO** button for 5 seconds: "PP" will appear on the display. Press **Standby**  to display the first parameter "FA".
- 8 Press **Standby**  to check parameter "FA" is correct. If necessary, edit the parameter value with **+** or **-**, entering the value shown in the **Parameter list** table (see section section 3.5.1).
- 9 Press **Standby**  to return to the parameter list. The display will show "FA".
- 10 Press **+**. Parameter "PH" will be displayed, showing Maximum Pressure. Fully open a hot water tap. The appliance will light and assume the Maximum Pressure value.
- 11 Press **Standby**  to check the set value is as shown in the **Parameter List** table (see section section 3.5.1). If necessary, enter the value shown in the table using **+** or **-**. The display will show the value (large characters) and also burner gas pressure in mbar (small characters).
- 12 Check the pressure gauge connected to the test point on the gas manifold (ref. 18 in section Fig. 4 and section Fig. 5) to ensure the gas outlet pressure value coincides with the value shown in the technical data table (see section section 4.3). If necessary, press **+** or **-** to

set the pressure to the value shown in the table. Close the hot water tap.

- 13 Press **Standby**  to return to the parameter list. The display will show "PH".
- 14 Press **+** until displaying parameter "P2", showing Minimum Pressure. Fully open a hot water tap. The appliance will light and assume the Minimum Pressure value. Press **Standby**  to check the set value is as shown in the **Parameter List** table (see section section 3.5.1). If necessary, enter the value shown in the table using **+** or **-**.
- 15 Check the pressure gauge connected to the test point on the gas manifold (ref. 18 in section Fig. 4 and section Fig. 5) to ensure the gas outlet pressure value coincides with the value shown in the technical data table (see section section 4.3). If necessary, press **+** or **-** to set the pressure to the value shown in the table.
- 16 Press **Standby**  to return to the parameter list. The display will show "P2".
- 17 Close the hot water tap.
- 18 To complete the calibration process, touch the **+** button until reaching final parameter "qU".
- 19 Press **Standby**  to confirm the set values and exit the parameter menu.
- 20 Disconnect the pressure gauge and close the pressure test point. Refit the front panel.
- 21 Press the Standby button again to switch on the water heater and set the required temperature.

3.1.3 Electronic board replacement

- Remove the power supply.
- Replace the electronic board and restore the power supply.
- Turn the water heater OFF using the **Standby button** .
- Press the ECO button (about 5s) until the symbol "PP" appears.
- Press the **Standby button** . The symbol "FA" appears.
- Press the **Standby button** .
- To enter water heater model configuration. The default value is "1".
- Press the **+** or **-** buttons to set the correct value (see table 3.5.1).
- Press the **Standby button**  to confirm the value. The symbol "FA" appears.
- To exit the parameters menu, press the **+** button until the symbol qU appears.
- Press the **Standby button** . The water heater turns off.
- Press the **Standby button**  again to turn on the unit.

3.2 STARTUP



The first startup of the water heater must be carried out by a qualified specialist technician.

The checks indicated must be carried out during first startup, after maintenance operations requiring the unit to be turned off and after any intervention on the safety devices or components of the unit.

3.2.1 Before turning on the water heater

- Check the tightness of the gas system with soapy water to detect any leaks in the connections.
- Run water through the hydraulic circuit and check that there are no water leaks in the system or unit.
- Make sure there are no water leaks in the system or unit.
- Check the grounding system and correct connection of the electrical system.
- Make sure the gas pressure value is that required.
- Make sure there are no flammable liquids or materials in the immediate vicinity of the water heater.
- To avoid damaging the connections, do not place the water heater on the floor with them facing downwards.

3.2.2 Checks during operation

- Turn the unit on.
- Check the tightness of the fuel circuit and water circuit.
- Check the efficiency of the flue and the air/fume ducts while the water heater is working.
- Check that the gas valve works properly.
- Check correct lighting of the water heater by turning it on and off several times.
- Make sure the fuel consumption matches that given in the Technical Data table, **section 4.3**

3.3 MAINTENANCE

3.3.1 Periodic inspection

To ensure proper operation of the unit over time, have qualified personnel carry out a yearly inspection, providing for the following checks:

- The control and safety devices (gas valve, flowmeter, etc.) must work properly.
- The fume exhaust circuit must be perfectly efficient.
- The air/fume terminal and ducts must be free of obstructions and leaks.
- The burner and exchanger must be clean and free of any fouling. For possible cleaning do not use chemical products or wire brushes.
- The electrode must be properly positioned and free of any fouling.
- The gas and water systems must be tight.
- The gas flow rate and pressure must match that given in the respective tables.



To clean the casing or the external parts of the water heater, use a soft cloth moistened with soap and water if necessary. Do not use abrasive cleaners or solvents.

3.3.2 Opening the casing

To open the casing:

- 1 Undo the screws
- 2 Remove the front panel
- 3 Disconnect the display panel cable



Disconnect the power supply and turn off the gas valve before carrying out any operation inside the unit.



3.4 FAULTS

The water heater has an advanced self-diagnosis system. In case of a fault in the unit, the display will flash together with the fault symbol indicating the relevant code. At the same time, an acoustic signal sounds. If a fault occurs, all the gas valves are turned off immediately. The fan keeps running for 30 seconds until stopping. **With fault E2, the fan will continue to run until the flame signal disappears, after which it will stop after 30 seconds.**

To restore operation of the unit after an error, just turn off the hot water tap, or touch the **Standby** button to put the water heater in STANDBY mode. **In case of fault E2, to reset the water heater the user must disconnect and reconnect it.** If the fault persists after these reset steps, troubleshooting is required.

3.4.1 List of faults

Code	Fault	Possible cause	Cure
E0	Outlet temperature probe fault	Water outlet NTC temperature probe sensor open or shorted	Check wiring / Replace temperature probe
E1	No ignition or no flame	The system does not detect a flame after two ignition attempts, or there is no flame during normal operation	Check gas inlet pressure / Check ignition electrode / Adjust parameter dF (see section 3.4.2)
E2	Presence of a flame fault or parasite flame	The system detects the flame before startup or after the system stops for 5 seconds	Check circuit board and replace if necessary
E3	Overheating safety thermostat	Overheating safety thermostat circuit interruption	Check wiring / Replace thermostat
E4	Inlet temperature probe fault	Water inlet NTC temperature probe sensor open or shorted	Check wiring / Replace temperature probe
E5	Fan fault	Speed constantly below 600 rpm for 2 s, or the system is unable to detect the speed signal	Check fan / Check fan connector / Check wiring
E6	DHW overheating	Water outlet NTC sensor temperature above 85 °C for 5 s	Check heat exchanger / Clean or replace heat exchanger as necessary
E7	Valve fault	Valves activating shorted transistors or valve open circuit	Check gas valve / Check gas valve connector / Check wiring
E8	Pipe blocked	Fan speed higher than the wind pressure warning speed set by the software, or higher than the HC or LC values shown in the parameter menu (see parameters HC and LC). Possible flue obstruction	Check flue and clean as necessary
En	DHW timeout	Maximum continuous heating time, according to nE (default 60 min, see parameter nE)	Set parameter nE to off
EC / Ec	Display panel connection	Fault in the communication cable between the main electronic board and the display panel	Check connector / Check wiring
F“X”	PCB fault	Timer abnormal operation Internal short circuit	Electronic board replacement

3.4.2 Adjusting parameter “dF”

In case of failure to ignite (**error E1**) in particular installations (for example with very short exhaust pipe sections), it may be useful to adjust the quantity of air at ignition, adjustable by the “**dF**” parameter (in particular by decreasing it). To change this parameter, see section “3.5 PARAMETERS”.

NOTE: Parameter “dF” (fan speed) can be set at up to a maximum of +/-16 steps with respect to the value shown in the table in section 3.5.1. To check burner ignition after changing the parameter, open and close the hot water tap a few times.

Example: In the **KONA 12G20** version, if parameter **dF** is set to **5F** by default, the minimum speed setting will be **50** while the maximum speed setting will be **6E** (change of +/- 5-6 Hz).

	G20			G31			G30		
	Mini- mum speed	Preset value	Maximum speed	Mini- mum speed	Preset value	Maximum speed	Mini- mum speed	Preset value	Maximum speed
KONA 12	50	5F	6E	3E	4d	5C	3E	4d	5C
KONA 15	5b	6A	79	54	60	6F	66	75	84
KONA 17	5b	6A	79	54	60	6F	66	75	84

3.4.3 Faults history

From the **STANDBY** condition, keep the “**—**” button pressed for 5 seconds to access the Faults history Interface, which initially shows “**HI**”. By touching the **Standby** button, the last 10 faults that occurred in the water heater start appear. At this point the lower display shows the last fault code generated, while the upper display indicates “01”, starting to list the faults that occurred. By scrolling them (01~10), the last ten water heater fault codes are displayed. Touch the **Standby** button to exit the faults history.

Touch the “**—**” button to go from “**HI**” to reset “**rE**” faults; starting from this option, keep the **ECO** button pressed for 5 seconds to delete the history (the 10 faults) and at the same time exit the interface. From one of the two modes, “**HI**” or “**rE**”, keep the “**—**” button pressed for 5 seconds to exit the faults history interface.

3.5 PARAMETERS

There is a list of parameters (that the user cannot modify), to make the water heater internal settings. The Parameters menu can be accessed from **STANDBY** status by **keeping the ECO button pressed for 5 seconds**, until **"PP"** appears on the display. By touching the **Standby** button, the first parameter **"FA"** appears on the display.

All parameters can be changed from the control panel. Use the **"+"** or **"-"** buttons to scroll the list of parameters until reaching the parameter to set. Once the desired parameter has been selected, touch the **Standby** button to display its current value. To change the parameter value, touch the **"+"** or **"-"** buttons until obtaining the desired value.

To confirm the value, touch the **Standby** button, then return to viewing the list of parameters, to go forward or back to another parameter to be set. **After setting the desired parameters, it is necessary to go to the last parameter of the list "qU" (touching the "+" button until reaching it), and from this parameter confirm the completion of configuration by touching the Standby button, to exit and saving all the changes.**

3.5.1 List of parameters

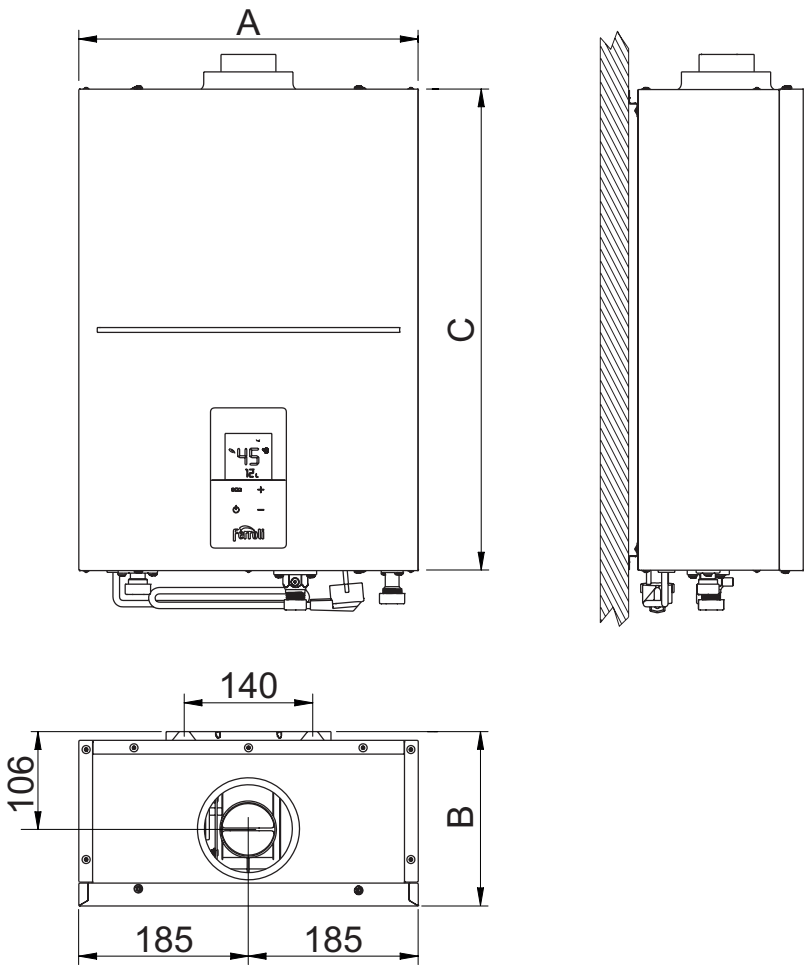
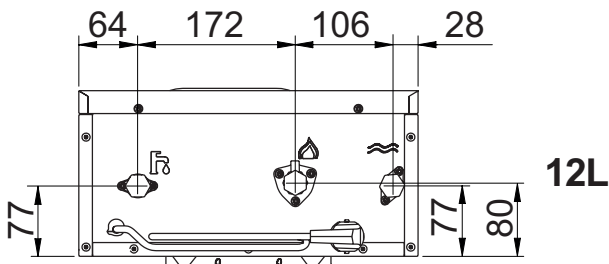
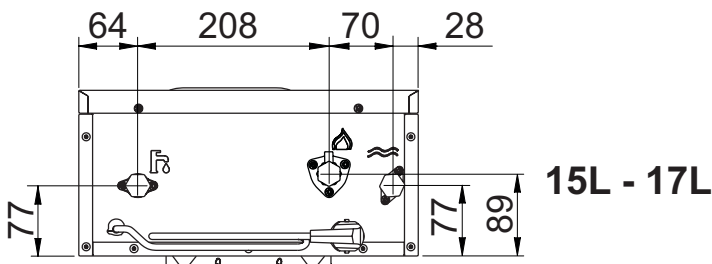
Par.	Description	Range	Default value														
FA	Unit adjustment: - Type of water heater (12 L, 15 L, 17 L) - Type of gas (G20, G31, G30, G25, G27, G230)	1 - 15	KONA 12					KONA 15					KONA 17				
			G20	G31	G30	G25 G27	G230	G20	G31	G30	G25 G27	G230	G20	G31	G30	G25 G27	G230
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PH	TOTAL MAXIMUM PRESSURE – entire burner	20 - F0	b7	dE	C1	C6	b7	9A	bC	A6	A9	9d	A9	d3	b2	bC	AC
FH	Fan maximum speed – Entire burner	20 - F0	A4	A3	A3	A4	A3	bb	Ad	b4	A5	bb	Cd	d1	Cd	Cd	Cd
PL	Minimum pressure – Entire burner	20 - F0	6c	6F	6F	6c	6F	71	7d	75	7B	74	71	7d	75	7B	74
FL	Fan minimum speed – Entire burner	20 - F0	4E	4d	4d	4E	4d	67	64	62	67	67	67	64	62	67	67
dH	Startup pressure	20 - F0	83	8F	8F	83	8F	80	A0	A0	84	83	80	A0	A0	84	83
dF	Fan speed during startup	20 - F0	5F	4d	4d	5F	4d	6A	60	75	6A	6A	6A	60	75	6A	6A
P1	Maximum pressure – Burner minimum section	20 - F0	C1	dA	dA	C1	dA	A8	F0	d6	b7	Ab	A8	F0	d6	b7	Ab
F1	Fan maximum speed – Burner minimum section	20 - F0	9b	98	98	9b	98	dA	C3	C8	dA	dA	dA	C3	C8	dA	dA
P2	MINIMUM PRESSURE – Burner minimum section	20 - F0	6d	75	71	6E	6E	6E	83	7b	72	71	6E	83	7b	72	71
F2	Fan minimum speed – Burner minimum section	20 - F0	53	4A	4A	53	4A	6d	77	76	6d	6d	6d	77	76	6d	6d
P3	Maximum pressure – Burner section 2 - Right	20 - F0	-	-	-	-	-	97	bF	b1	A0	9A	97	bF	b1	A0	9A
F3	Fan maximum speed – Burner section 2 - Right	20 - F0						bE	A3	Ad	bE	bE	bE	A3	Ad	bE	bE
P4	Minimum pressure – Burner section 2 - Right	20 - F0						66	70	6d	68	69	66	70	6d	68	69
F4	Fan minimum speed – Burner section 2 - Right	20 - F0						45	4E	4E	45	45	45	4E	4E	45	45
P5	Maximum pressure – Burner section 3 - Left	20 - F0						A5	d3	b6	b3	A8	A5	d3	b6	b3	A8
F5	Fan maximum speed – Burner section 3 - Left	20 - F0						C9	C8	C8	C9	C9	C9	C8	C8	C9	C9
P6	Minimum pressure – Burner section 3 - Left	20 - F0						71	80	77	75	74	71	80	77	75	74
F6	Fan minimum speed – Burner section 3 - Left	20 - F0						64	69	69	64	64	64	69	69	64	64
HC	Fan safety exclusion speed at maximum pressure	20 - 89						67 Hz					82 Hz				
LC	Fan safety exclusion speed at minimum pressure	20 - 89	34 Hz					56 Hz					56 Hz				
nE	Burner continuous operation timing	OFF / 20 - 60	60 min														
nP	Enable or disable operating status memory	OFF - ON	ON														
FC	Enable or disable solar energy function	OFF - ON	OFF														
S1	Solar function – On hysteresis	1 - 20	10 °C														
S2	Solar function – Off hysteresis	1 - 20	10 °C														
t1	Solar function – Burner ignition delay	0 - 20	10 s														
nS	Hot water maximum temperature setting	50 - 65	50 °C														
nL	Minimum water flow rate options for start/stop -- 0: 4/3.5 L/min -- 1: 3.5/3 L/min -- 2: 3/2.5 L/min -- 3: 2.5/2 L/min -- 4: 2/1.5 L/min	0 - 4	2 (3/2.5 L/min)														
qU	EXIT and SAVE changes	-	-														

Notes:

The parameters that have different values vary the operating mode (never the range) with respect to the initial parameter FA (*water heater model according to the type of gas and liters*). The parameters highlighted in gray (from P3 to F6) appear in the list of real parameters only if the FA value is between 6 and 15 (*i.e. for all models except the 12-liter*).

4 TECHNICAL DATA AND CHARACTERISTICS

4.1 Dimensions and connections



Model	A (mm)	B (mm)	C (mm)	Connections		
				Cold water	Hot water	Gas
KONA 12	370	190	525	1/2"		
KONA 15						
KONA 17						

4.2 General view and main components

Modello KONA 12

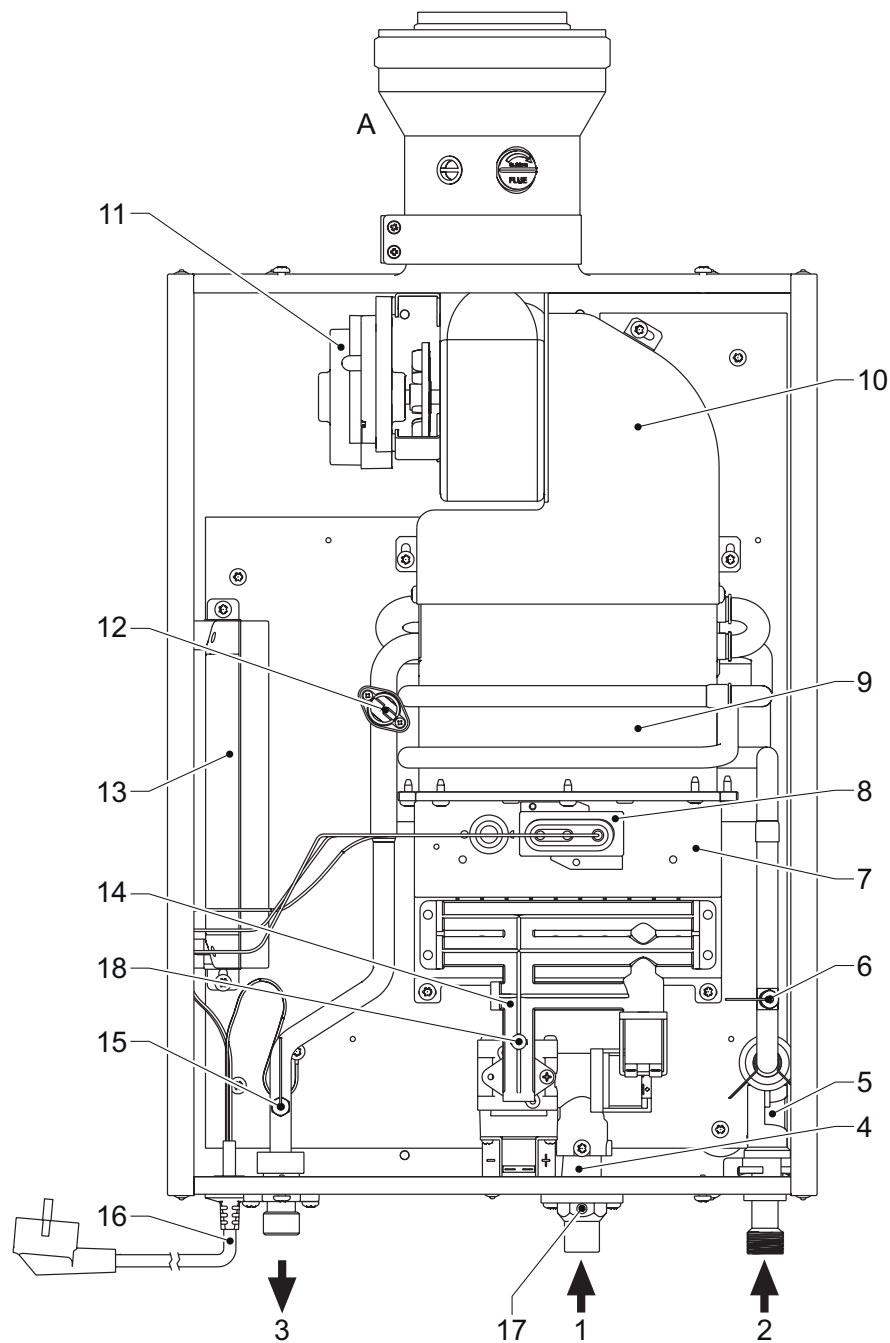


Fig. 4 - Main model components KONA 12

- | | | | |
|----|--|----|--------------------------------|
| 1 | Gas inlet | 13 | Electronic board (PCB) |
| 2 | Cold water inlet | 14 | Gas manifold |
| 3 | Domestic hot water outlet (DHW) outlet | 15 | Hot water temperature sensor |
| 4 | Gas valve | 16 | Power cable (230 V) |
| 5 | Flowmeter | 17 | Gas pressure inlet |
| 6 | Cold water temperature sensor | 18 | Gas pressure inlet on manifold |
| 7 | Burner assembly | A | Optional accessory |
| 8 | Electrode assembly | | |
| 9 | Copper exchanger | | |
| 10 | Smoke chamber | | |
| 11 | Fan | | |
| 12 | Safety thermostat | | |

Modello KONA 15 e KONA 17

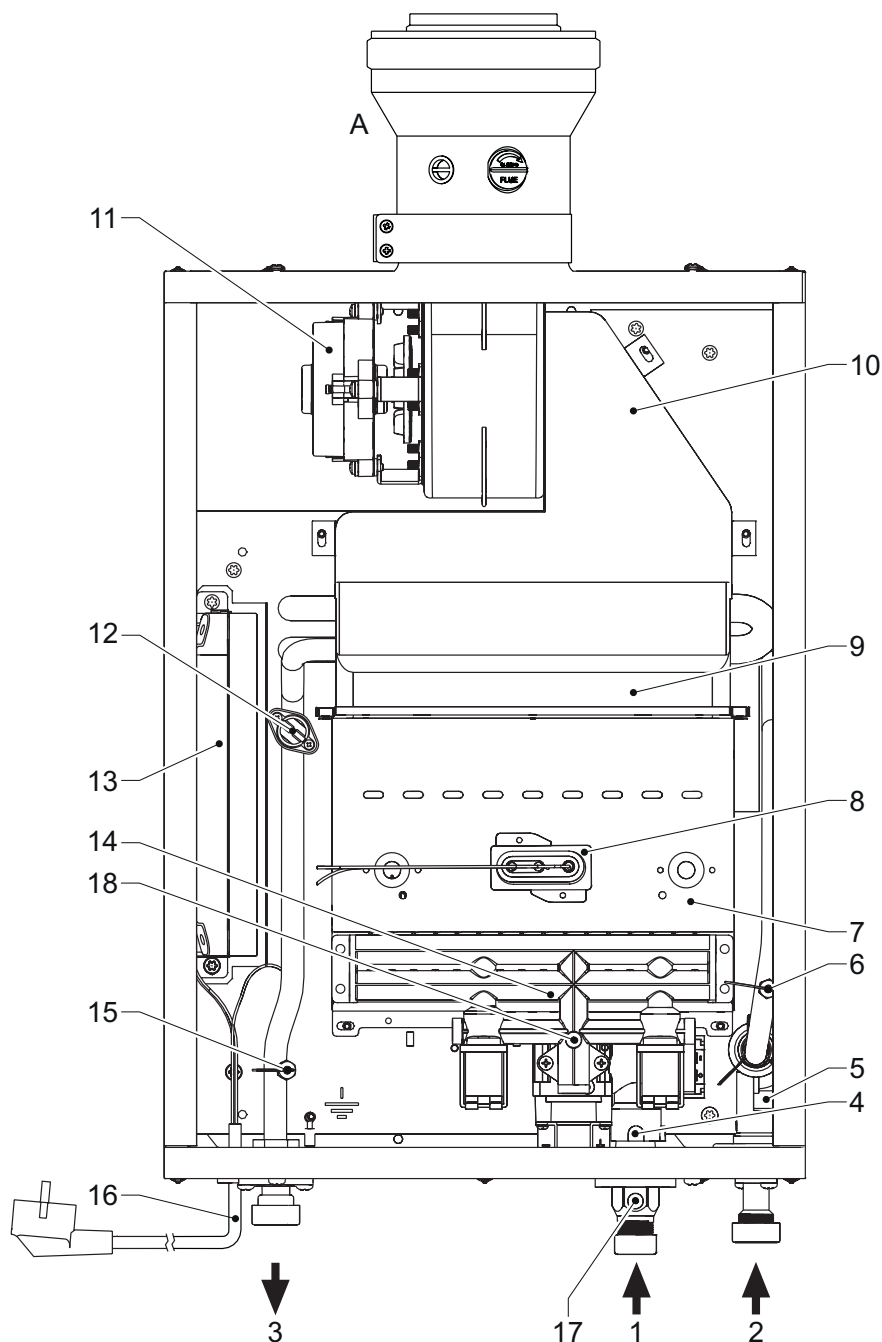


Fig. 5 - Main model components KONA 15 and KONA 17

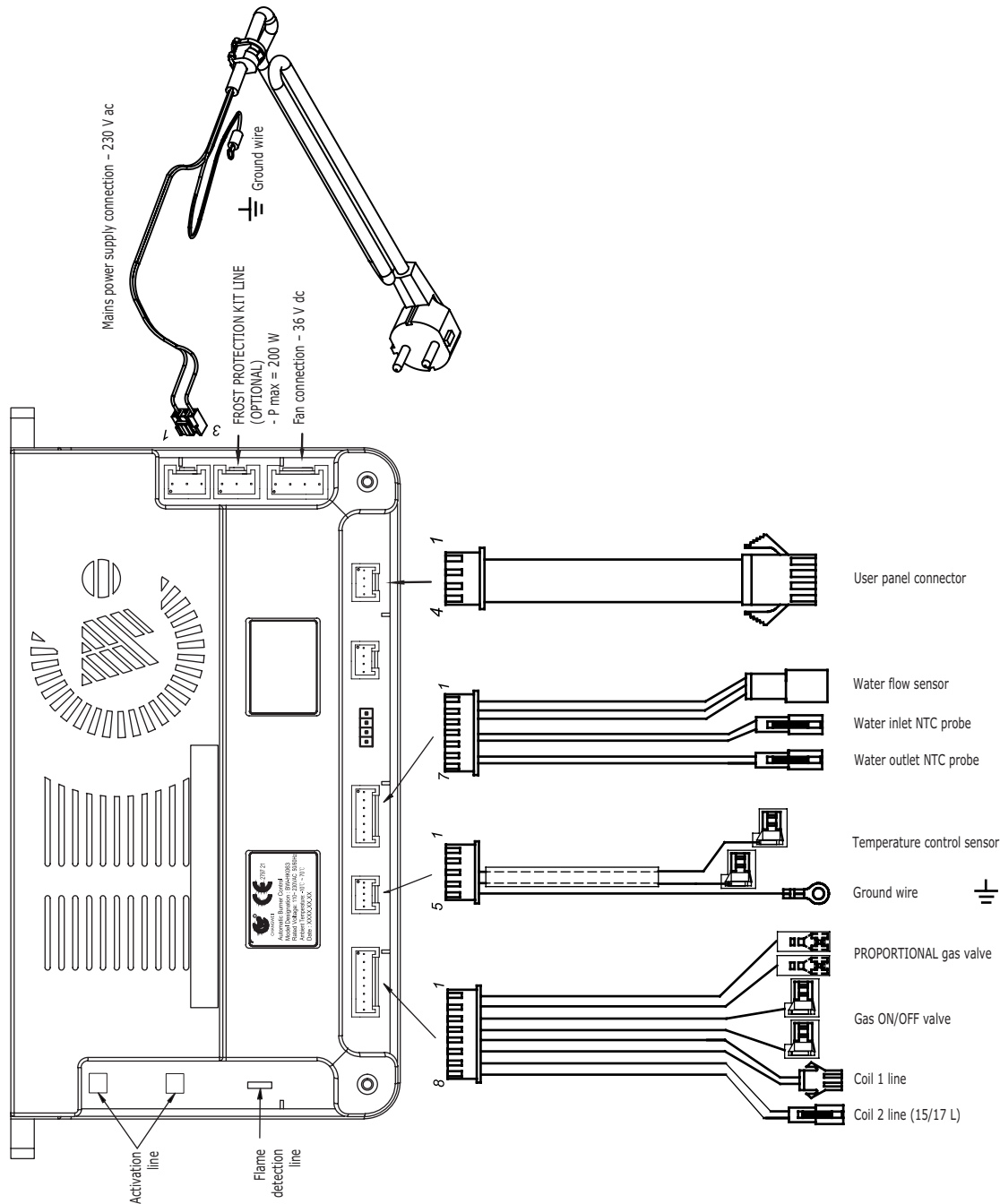
- | | | | |
|----|--|----|--------------------------------|
| 1 | Gas inlet | 13 | Electronic board (PCB) |
| 2 | Cold water inlet | 14 | Gas manifold |
| 3 | Domestic hot water outlet (DHW) outlet | 15 | Hot water temperature sensor |
| 4 | Gas valve | 16 | Power cable (230 V) |
| 5 | Flowmeter | 17 | Gas pressure inlet |
| 6 | Cold water temperature sensor | 18 | Gas pressure inlet on manifold |
| 7 | Burner assembly | A | Optional accessory |
| 8 | Electrode assembly | | |
| 9 | Copper exchanger | | |
| 10 | Smoke chamber | | |
| 11 | Fan | | |
| 12 | Safety thermostat | | |

4.3 Technical data table

Data		Unit	KONA 12	KONA 15	KONA 17	
CODE		-	0DK96IAA	0DK95IAA	0DK97IAA	G20
			0DK96KAA	0DK95KAA	0DK97KAA	G31
Unit categories		-	II2H3P (IT, GB, IE) II2ELwLs3B/P (PL) II2R3R (IT, FR) II2Esi3P (FR) II2HM3B/P (IT) II2Er3P (FR)			
Countries of destination:		-	IT - IE- GB - FR - PL			
Max. heating capacity (Hi)		kW	23	29.7	33	Q (Hi)
Min. heating capacity (Hi)		kW	4	4	4	Q (Hi)
Max. heating capacity		kW	20.9	27	30	P
Min. heating capacity		kW	3.6	3.6	3.6	P
Burner nozzles G20		No. x Ø	10 x 0.74 10 x 1.07	16 x 0.75 16 x 1.13	16 x 0.75 16 x 1.13	
G20	Gas supply pressure	mbar	20			
	Max. gas pressure at burner	mbar	12.5	7.3	9	
	Min. gas pressure at burner	mbar	2.5	3	3	
	Gas flow rate – Max / min	m³/h	2.43 / 0.42	3.14 / 0.42	3.49 / 0.42	
	CO2 Max / min	%	5.7 / 1.9	4.4 / 1	4.8 / 1	
Burner nozzles G25 / G27 / G230		No. x Ø	10 x 0.80 10 x 1.15	16 x 0.85 16 x 1.20	16 x 0.85 16 x 1.20	
G25 G27	Gas supply pressure	mbar	20 / 25			
	Max. gas pressure at burner	mbar	14.5	8.7	10.5	
	Min. gas pressure at burner	mbar	3	3.6	3.6	
	Gas flow rate – Max / min G25	m³/h	2,83 / 0,49	3,66 / 0,49	4,06 / 0,49	
	Gas flow rate – Max / min G27		2,91 / 0,50	3,77 / 0,50	4,18 / 0,50	
	CO2 – Max / min	%	5.7 / 1.9	4.4 / 1	4.8 / 1	
G230	Gas supply pressure	mbar	20			
	Max. gas pressure at burner	mbar	14.8	9.2	11	
	Min. gas pressure at burner	mbar	3.2	3.8	3.8	
	Gas flow rate – Max / min	m³/h	1.88 / 0.33	2.43 / 0.33	2.7 / 0.33	
	CO2 – Max / min	%	6.5 / 1.9	5 / 1.2	5.4 / 1.2	
Burner nozzles G30 / G31		No. x Ø	10 x 0.50 10 x 0.75	16 x 0.47 16 x 0.75	16 x 0.47 16 x 0.75	
G30	Gas supply pressure	mbar	28 - 30			
	Max. gas pressure at burner	mbar	15.5	10.8	12.8	
	Min. gas pressure at burner	mbar	3.8	5.7	5.7	
	Gas flow rate – Max / min	kg/h	1.81 / 0.32	2.34 / 0.32	2.6 / 0.32	
	CO2 max / min	%	6.5 / 1.9	5 / 1.2	5.4 / 1.2	
G31	Gas supply pressure	mbar	37			
	Max. gas pressure at burner	mbar	20.5	14.5	18	
	Min. gas pressure at burner	mbar	4.3	7.5	7.5	
	Gas flow rate – Max / min	kg/h	1.79 / 0.31	2.31 / 0.31	2.56 / 0.31	
	CO2 – Max / min	%	6.5 / 1.9	5 / 1.2	5.4 / 1.2	
NOx emissions class		-	6 (< 56 mg/kWh)			NOx
Max. working pressure		bar	10			pw
Min. working pressure		bar	0.2			
DHW flow rate	Δ 25 ° Max	l/min	12	15.5	17	
	Δ 30 ° Max	l/min	10	12.9	14.3	D
Max. operating temperature (configurable via param.)		°C	65			tmax
Protection rating		IP	IPX4D			
Power supply voltage		V - Hz	230 V - 50 Hz			
Electrical power input		W	34	36	48	
Empty weight		kg	13.7	14.5	14.5	
Type of unit		-	B32-C12-C22-C32-C42-C52-C62-C82-C92			
CE		-	0085 / 24			
Max. fume pressure at Pmax		Pa	80			

Brand: FERROLI					
Type of product: Sealed water heater					
MODEL			KONA 12	KONA 15	KONA 17
KONA M – METHANE	CODE		0DK96IAA	0DK95IAA	0DK97IAA
KONA LPG – LIQUEFIED PETROLEUM GAS			0DK96KAA	0DK95KAA	0DK97KAA
Element	Symbol	Unit	Value		
Declared load profile	-	-	XL	XL	XL
Water heating energy efficiency class (from A+ to F)	-	-	A	A	A
Daily power consumption	Qelec	kWh	0.082	0.082	0.082
Yearly power consumption	AEC	kWh	18	18	18
Water heating energy efficiency	NWh	%	85	85	85
Daily fuel consumption	Qfuel	kWh	21.052	20.996	20.996
Yearly fuel consumption	AFC	GJ	18	18	18
Thermostat temperature settings, as marketed	-	-	MAX		
Sound power level, internal	LWA	dB	54	56	56
NOx emissions	NOx	mg/kWh	32	26	26

4.4 Wiring diagram





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