

# LCD VERSION



## DIAGNOSTICS MODE

The following list is a diagnostic indicator and it does not solve all the technical problems that may occur with the appliance. It is very important to retain a good working knowledge of the appliance, its electrical and hydraulic layout and functional operation.

The diagnostic mode allows the installer to see the boiler selected values by 21 parameters.

### Enter diagnostic mode:

Turn ON the appliance, put Central Heating knob in the minimum position, press and hold the reset switch and turn DHW knob from left end to right end.

By rotating CH knob to the right, it is possible to change between the different parameters and, by rotating the DHW knob, it is possible to adjust or change the value. To memorize, press and hold the reset button for at least 2 seconds. The digital display blinks with the symbol " - - ".

Display	Parameter	Type
01	ECO Mode/Quick tap	Adjustment
02	Solar mode	Adjustment
03	Last 8 damages	Reading
04	Temperature in the primary circuit sensor (heating)	Reading
05	Selected temperature for the primary circuit (heating).	Reading
06	Temperature in the secondary circuit sensor (sanitary water)	Reading
07	Selected temperature for the secondary circuit (sanitary water)	Reading
08	Not used	-----
09	Pressure switch	Reading
10	Temperature limiter	Reading

Display	Parameter	Type
11	Flow detector	Reading
12	Gas safety valve	Reading
13	Gas modulating valve	Reading
14	Thermostat	Reading
15	Fan	Reading
16	Ionisation	Reading
17	Pump	Reading
18	3 way valve	Reading
19	Pump test	Test
20	3 way valve test	Test
21	Digital display test	Test

### 01 – Eco mode / Quick tap

Rotate CH knob until getting the instruction “01” on display.

The boiler can be configured to supply sanitary hot water in a faster way (Quick tap). If a hot water tap is opened during two or five seconds, the boiler will heat the internal circuit and assures a faster sanitary water heating by the next water tapping.

“00” – ECO

“01” – Quick tap

“02” – Keep hot

“03” – Keep hot + Quick tap

### 02 – Solar mode

Rotate CH knob until getting the instruction “02” on display.

In order to use as an accessory to a solar energy system, this parameter must be set to the “S0” value.

“No” – disabled solar mode

“So” – enabled solar mode

### 03 – Last 8 detected damages (error codes)

Rotate CH knob until getting the instruction “03” on display.

It is possible to see the last 8 failures on the boiler. By rotating the DHW knob you can choose from the most recent failure (left) to the oldest one (right).

### 04 – Temperature in the primary circuit sensor (heating)

Rotate CH knob until getting the instruction “04” on display.

Display shows the actual temperature in the heating circuit sensor

### 05 – Selected temperature for the primary circuit sensor (heating)

Rotate CH knob until getting the instruction “05” on display.

Display shows the selected temperature for the heating circuit

### 06 – Temperature in the secondary circuit sensor (sanitary water)

Rotate CH knob until getting the instruction “06” on display.

Display shows the actual temperature in the sanitary water circuit sensor

### 07 – Selected temperature for the secondary circuit sensor (sanitary water)

Rotate CH knob until getting the instruction "07" on display.  
Display shows the selected temperature for the sanitary water circuit

#### **08 – Flue gas safety device (only in the open flue OF model – KE)**

Rotate CH knob until getting the instruction "08" on display.  
This shows status from flue gas safety device

#### **09 – Differential pressure switch (only in the room sealed flue RSF model – AE)**

Rotate CH knob until getting the instruction "09" on display.  
This shows status from pressure switch

"00" – open pressure switch – fan off \_ no flue gases flow  
"01" – closed pressure switch – fan on \_ with flue gases flow

#### **10 – Temperature limiter**

Rotate CH knob until getting the instruction "10" on display.  
This shows status from temperature limiter

"01" – temperature within the limit (close circuit)  
"E9" – temperature above the limit (open circuit)

#### **11 – Flow detector (only in ZW appliances)**

Rotate CH knob until getting the instruction "11" on display.  
This shows status from flow detectors

"00" – no water flow (open circuit)  
"01" – with water flow (close circuit)

#### **12 – Safety gas valve**

Rotate CH knob until getting the instruction "12" on display.  
This shows status from gas safety valve

"00" – closed valve  
"01" – opened valve

#### **13 – Modulation gas valve**

Rotate CH knob until getting the instruction "13" on display.  
This shows status from modulation valve

"00" – closed valve  
"01–70" – mini/max (% of instantaneous power, according to the voltage on the valve)

#### **14 – Thermostat (RT)**

Rotate CH knob until getting the instruction "14" on display.  
This shows status from thermostat

"00" – opened thermostat  
"01" – closed thermostat

#### **15 – Fan (Only in RSF appliances – AE)**

Rotate CH knob until getting the instruction "15" on display.  
This shows status from fan

"00" – fan off  
"01" – fan on

## **16 – Ionisation**

Rotate CH knob until getting the instruction “16” on display.  
This shows status from flame sensor

“00” – flame not detected

“01” – flame detected

## **17 – Pump**

Rotate CH knob until getting the instruction “17” on display.  
This shows status from pump

“00” – pump on

“01” – pump off

## **18 – 3 Way valve**

Rotate CH knob until getting the instruction “18” on display.  
This shows status from 3 way valve

“01” – working for DHW

“02” – working for CH

## **19 – Pump test**

Rotate CH knob until getting the instruction “19” on display.  
Depending of the DHW position knob the appliance carries out a pump test

“00” – off

“01” – on

“- -“ – the burner is working, it is not possible to perform the test

## **20 – 3 way valve test**

Rotate CH knob until getting the instruction “20” on display.  
Depending of the DHW position knob the appliance carries out a 3 way valve test

“01” – DHW service

“02” – CH service

“- -“ – burner on, it is not possible to perform test

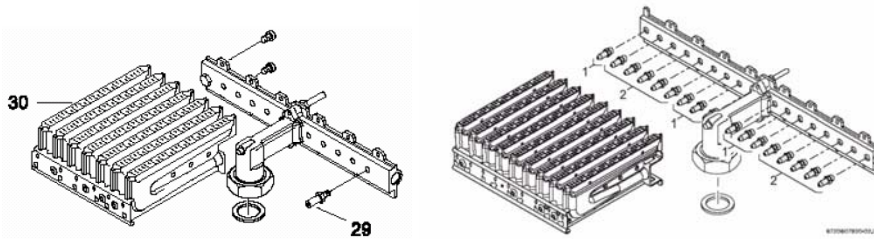
## **21 – Testing display**

Rotate CH knob until getting the instruction “21” on display.  
All symbols appear on the display

**To go out from the diagnostic mode, disconnect and connect the appliance again**

Display	Possible cause	Solution	Reset
<b>EA r</b>	No ionisation stream	Check: <ul style="list-style-type: none"> <li>• whether the gas cock is on</li> <li>• inlet gas pressure</li> <li>• the connection to the electric network</li> <li>• the ionisation electrode and its wire</li> <li>• the ignition electrode and its wire</li> </ul>	Y
<b>F7 r</b>	Wrong ionization signal	Check <ul style="list-style-type: none"> <li>• whether the ionisation and its wire are damaged</li> <li>• whether the electronic box is not wet*</li> </ul>	Y
<b>F0</b>	Internal error in the electronic plate	<ul style="list-style-type: none"> <li>• Check electric connections and wiring</li> <li>• replace the plate*</li> </ul>	N
<b>FA</b>	Error in the gas valve	<ul style="list-style-type: none"> <li>• Check the gas valve wiring state*</li> </ul>	N
<b>E0</b>	Low electric power	<ul style="list-style-type: none"> <li>• Check frequency and power supply*</li> </ul>	N
<b>E2</b>	Defective NTC central heating temperature sensor	<ul style="list-style-type: none"> <li>• Check the NTC sensor and its connections*</li> </ul>	N
<b>E9 r</b>	Overheating, temperature limiter on	<ul style="list-style-type: none"> <li>• Switch on the boiler heating circuit cocks in the template. Bleed the installation and open the boiler bleed.*</li> <li>• Draw the air from the pump removing the front bolt</li> <li>• Check the temperature limiter state*</li> </ul>	Y
<b>A7</b>	Defective NTC sanitary water temperature sensor.	<ul style="list-style-type: none"> <li>• Check the NTC sensor and its connections*</li> </ul>	N
<b>AA</b>	Excessive temperature in the primary circuit sensor (heating) Insufficient water flow for current power demand	<ul style="list-style-type: none"> <li>• Pump stopped</li> <li>• Check primary circuit temperature drill (heating) – NTC*</li> <li>• Check whether the plate exchanger and / or heat exchanger are full of lime*</li> </ul>	N
<b>A4</b>	Flue safety device activated	<ul style="list-style-type: none"> <li>• Check the chimenea configuration or change it</li> <li>• Check obstructions in the flue conduct</li> <li>• Wait for the sensor cool and turn on the boiler</li> </ul>	N
<b>A3</b>	Fan or pressure switch connections defective	<ul style="list-style-type: none"> <li>• Check connections</li> </ul>	N
<b>C1 r</b>	Pressure switch opens the circuit during boiler operation	<ul style="list-style-type: none"> <li>• Remove dirt or any other obstruction to a good flue exhaust</li> <li>• Check pressure switch connections*</li> </ul>	Y
<b>C4 r</b>	Pressure switch does not open the circuit in resting position	<ul style="list-style-type: none"> <li>• Remove dirt or any other obstruction to a good flue exhaust</li> <li>• Check pressure switch connections*</li> </ul>	Y
<b>C6 r</b>	Pressure switch does not close the circuit.	<ul style="list-style-type: none"> <li>• Remove dirt or any other obstruction to a good flue exhaust</li> <li>• Check pressure switch connections*</li> </ul>	Y
<p>“ * ” means that the damages must be repaired by an authorised person  “r” means that it is necessary to repair the damage and press reset button</p>			





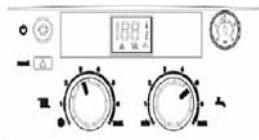
		Nozzle code			Quantity of Nozzles			
		NG	Butane	Propane	NG (1)	(2)	GLP (1)	(2)
24	KE	112	74	74	14		14	
	AE	112	74	74	14		14	
28	KE	110/115	67/75	67/75	11x115	5x110	11x75	5x67
30	AE	115/120	74/75	74/75	7x115	10x120	7x74	10x75

## REGULATIONS

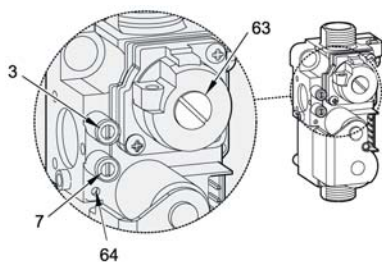
### Domestic hot water

To select maximum and minimum power for DHW, proceed as follow:

- Place central heating potentiometer on central position.
- Select maximum and minimum power with domestic hot water potentiometer, displacing it respectively for the right and for the left side.



1. Connect the manometer to the outlet gas pressure test point (3);
2. Place the domestic hot water temperature selection potentiometer to the right. The appliance works at its maximum power;



- 3 – Testing point for burner pressure
- 7 – Testing point for gas supply pressure
- 63 – Cap for maximum gas flow rate adjusting screw
- 64 – Adjusting screw for minimum gas flow rate

3. Adjust the maximum gas pressure on the corresponding screw of the gas valve (63), according to gas pressure tables;
4. Place the domestic hot water temperature selection potentiometer to the left. The appliance works at its minimum power;
5. Adjust the minimum gas pressure on the corresponding screw of the gas valve (64), according to the gas pressure tables;
6. Check the adjusted values, replacing the domestic hot water temperature selection potentiometer to right and to left again. Correct the values if necessary;

- Disconnect the appliance on the main switch, remove the gas manometer, screw the sealing screw of the outlet gas pressure test point and cover the setting screw for maximum gas pressure.

		Connection pressure (mbar)			Max burner pressure (mbar)			Min burner pressure (mbar)		
		NG	Butane	Propane	NG	Butane	Propane	NG	Butane	Propane
24	KE	20	30	37	15,9	24 - 27	32 - 35	1,8	3	4
	AE	20	30	37	16,2	24 - 27	32 - 35	0,8	2,4	3,4
28	KE	20	30	37	15,5	24 - 27	32 - 35	1,2	2,8	3,8
30	AE	20	30	37	15,5	24 - 27	32 - 35	1,2	2,8	3,8

## Central Heating

Enter in the service mode

To select maximum power for CH, proceed as follow:

- Place central heating potentiometer to the right, for maximum power. Adjust maximum power, if necessary, with the domestic hot water potentiometer.

To select minimum power for CH, proceed as follow:

- Place central heating potentiometer to the left, for minimum power. Adjust minimum power, if necessary, with the domestic hot water potentiometer.

- Connect the manometer to the outlet gas pressure test point;



- Place the central heating potentiometer on the right, the appliance works at its maximum power for central heating service;
- The LCD shows "t H" blinking;
- Place the domestic hot water temperature selection potentiometer completely to the left and then slowly rotate it to the right, until reach the desired pressure according to the gas pressure tables. If the desired value is over passed, repeat this procedure;
- Place the central heating potentiometer on the left, the appliance works at its minimum power for central heating service;
- The LCD shows "t L" blinking;
- Place the domestic hot water temperature selection potentiometer completely to the right and then slowly rotate it to the left, until reach the desired pressure according to the gas pressure tables. If the desired value is over passed, repeat this procedure;
- Check the adjusted values, turning the central heating potentiometer to the left and to the right again. Correct the values if necessary;
- Memorise the adjustments made, pressing the reset button for 2 seconds until LED and LCD blink;
- Disconnect the appliance on the main switch, remove the gas manometer and screw the sealing screw of the outlet gas pressure test point.

			Min		Max								
			8	10	12	14	16	18	20	22	24	26	29,6
24	AE	NG		2,3	3,6	5,1	6,8	8,8	11	13,5	16,2		
		Butane		4,8	6,8	9,3	12,1	15,3	18,8	22,8	24 - 27		
		Propane		6,4	9	12,1	15,6	19,6	24,1	29,1	32 - 35		
	KE	NG	2,2	3,2	4,4	5,9	7,5	9,4	11,5	13,9	15,9		
		Butane	3,7	5,3	7,4	9,7	12,4	15,5	19	22,8	24 - 27		
		Propane	4,9	7	9,6	12,6	16,1	20,1	24,5	29,4	32 - 35		
30	AE	NG		1,2	2	3	4,1	5,3	6,7	8,3	10	11,8	15,5
		Butane		2,8	4,2	5,8	7,7	9,9	12,3	14,9	17,8	21	24 - 27
		Propane		3,8	5,6	7,7	10,1	12,8	15,9	19,3	22,9	27	32 - 35
28	KE	NG		1,2	3,2	4,2	5,4	6,8	8,3	10	11,8	15,5	
		Butane		2,8	6	7,9	10	12,5	15,3	18,4	21,7	24-27	
		Propane		3,8	7,4	9,7	12,5	15,6	19	22,8	27	32-35	