

# ARCA

## caldaie

### GAS-FIRED WALL BOILERS

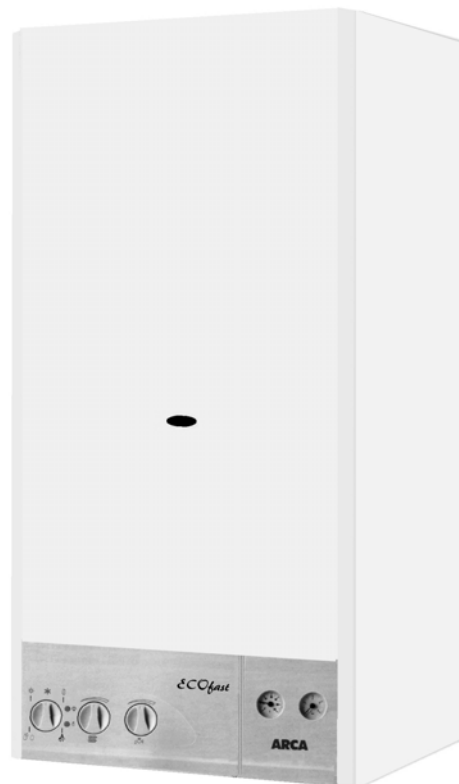
*INSTALLATION, UTILISATION, MAINTENANCE*

**ECOfast 25 N**

**ECOfast 25 F**

**ECOfast 29 F**

**ECOfast 32 F**



#### **IMPORTANT**

The boiler must be started up the first time and the guarantee validated by to qualified technician.

# IMPORTANT

THE INSTRUCTION MANUAL is an integral part of the product and absolutely must be delivered to the installer.

Read carefully the instructions in this manual because they contain important information on safe operation and maintenance. Keep this manual where it may be consulted at any time.

Installation must be carried out by professionally qualified person according to current regulations and complying with the manufacturer's instructions.

By "professionally qualified person" is meant to person possessing the necessary technical competence in the field of components and heating installations and the production of hot domestic water supply, in particular the assistance services authorized by ARCA Srl.

Defective installation can result in damage or injury to persons, animals or objects for which the manufacturer cannot be held responsible.

The manufacturer cannot be held responsible for any possible damage arising from inappropriate, incorrect or unreasonable usage.

After unpacking the boiler check the condition of the contents.

Before connecting the unit make sure that the dates supplied by ARCA are compatible with the installation to be carried out within the maximum permissible limits.

Before any maintenance or repair work on the unit cut off the electric power supply to the same.

In any houses of breakdown and/or malfunction of the unit, gives not attempt any repair or action on your own but call to qualified technical technician.

Any repair which may be needed must be carried out by an authorized repair service which will use manufacturer's spare parts only. Not-compliance with the provisions listed below could jeopardize the safe operation of the unit.

To guarantee the unit's efficiency and its proper working it is absolutely necessary to carry out regular maintenance on it in accordance with the instructions supplied by ARCA.

If the unit is sold or transferred to another user it is to be ensured that this manual goes with it so that the new owner or installer may consult it..

All units sold with options must be supplied with manufacturer's spare parts only.

This unit is to be used for the purpose for which it was designed only. Any other use must be considered inappropriate and dangerous.

Excluded are: all ARCA's contractual and extra-contractual liabilities for damage arising out of errors of installation and operation or from non-compliance with the instructions supplied by ARCA or with the regulations in force concerning the materials concerned.

Have a qualified professional check that the power supply available is adequate for the power required by the unit.

Do not use adapters or multiple socket blocks or extension leads to supply power to the boiler.

Operation of electrically powered units entails compliance with certain basic safety rules:

- a) Do not touch the unit with any part of the body which is wet or when not wearing footwear;
- b) Do not pull on the electric wiring;
- c) Children and unauthorized persons are forbidden to operate the boiler.

The power cable must not be replaced by the owner but by a qualified professional.

Ensure that the boiler drainage points are attached to a drainage system. If this is not done the safety valves may operate and flood the area around and the manufacturer cannot be held liable.

Ensure that the piping is not used to earth other electrical or telephone networks.

Check:

- a) that the connections and gas supply piping are water- and gas-tight;
- b) the amount of the gas flow with reference to the power required by the boiler;
- c) that the gas is of the type for which the boiler is designed;
- d) that the gas supply pressure is in accordance with the values entered on the information plaque;
- e) that the gas supply network is fitted with all control and safety devices required by current regulations.

# IMPORTANT -----2

## 1. TECHNICAL DATA -----5

1.1 Dimensions	5
1.2 Pressure Available to Unit : ECOfast 25 N, ECOfast 25 F	5
1.3 Pressure Available to Unit: ECOfast 29 F, ECOfast 32 F	5
1.4 Hydraulic Diagram	6
1.5 ECOfast 25 N: Components	7
1.6 ECOfast 25 F: Components	8
1.7 ECOfast 29 F: Components	9
1.8 ECOfast 32 F: Components	10
1.9 Technical features	11
1.10 ECOfast 25 N electrical diagram	12
1.11 ECOfast 25 F, ECOfast 29 F, ECOfast 32 F electrical diagram	13

## 2. INSTALLATION INSTRUCTIONS ----- 14

2.1 Exhaust fumes discharge: ECOfast 25 F, ECOfast 29 F, ECOfast 32 F	14
2.1.1 INTAKE/DISCHARGE connections	14
2.1.2 Different types of discharge	14
2.1.3 Connection dimensions: ECOfast 25 F	15
2.1.3.1 Discharge of fumes by twin $\varnothing$ 80 mm tubing	15
2.1.3.2 Discharge of fumes by concentric $\varnothing$ 60 x 100 mm tubing	15
2.1.4 Connection dimensions: ECOfast 29 F	16
2.1.4.1 Discharge of fumes by twin $\varnothing$ 80 mm tubing	16
2.1.4.2 Discharge of fumes by twin $\varnothing$ 60 mm tubing	16
2.1.4.3 Discharge of fumes by concentric $\varnothing$ 60 x 100 mm tubing	16
2.1.5 Connection dimensions: ECOfast 32 F	17
2.1.5.1 Discharge of fumes by twin $\varnothing$ 80 mm tubing	17
2.1.5.3 Discharge of fumes by concentric $\varnothing$ 60 x 100 mm tubing	17
2.2 Discharge of exhaust fumes: ECOfast 25 N	18
2.2.1 Connection to chimney	18
2.2.2 Basic equipment	18
2.3 Ventilation of environment	19
2.3.1 Forced draught boilers with microdraught vent ECOfast 25 F, ECOfast 29 F, ECOfast 32 F	19
2.3.2 Natural draught boilers connected to chimney ECOfast 25 N	20
2.4 Boiler installation	20
2.5 Attaching the boiler	21
2.6 Water supply	23
2.7 Gas supply	24
2.8 Electric power supply	24
2.9 Settings adjustment instructions (with <b>WHITE RODGERS mod.91B05S valve</b> )	25
2.9.1 Adjustments: maximum output	25
2.9.2 Adjustments: minimum output	25
2.10 Adjustments: maximum output (with <b>SIT mod.845 SIGMA valve</b> )	26
2.10.1 Adjustments: maximum output	26
2.10.2 Adjustments: minimum output	26

3

2.11.1 Settings: soft light sequence	27
2.11.2 Settings: heat output	27
2.11.3. Pressure injector	28
2.11.4 Conversion to use of other types of gas	30

### 3. MAINTENANCE INSTRUCTIONS ----- 31

3.1 Recommendations-----	31
3.2 Short “off” period-----	31
3.3 Prolonged “off” period-----	31
3.4 Draining the system-----	31
3.5 Unblocking the circulation pump-----	31

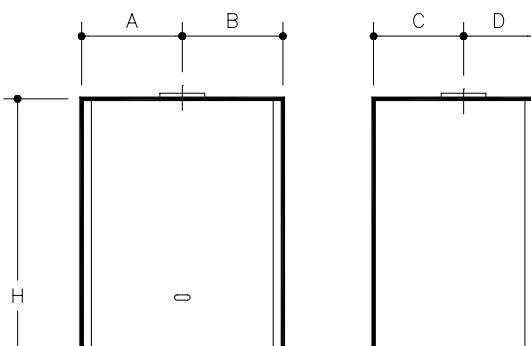
### 4. OPERATING INSTRUCTIONS ----- 32

4.1 Control panel: regulators and indicators-----	32
4.2 Hot water preheating-----	34
4.3 Flue cleaning-----	34
4.4 Heating mode operating OTC (outside temperature control)-----	34
4.4.1 Connecting the outside probe-----	35
4.4.2 Position of “K” factor for OTC-----	35
4.4.3 Disconnecting the outside probe-----	35
4.5 Remote control operation-----	35
4.5.1 Remote commands-----	36
4.6 Malfunction codes-----	36
4.7 Ignition-----	36
4.8 Summer operation-----	36
4.9 Winter operation-----	36
4.10 Short “off” period-----	38
4.11 Prolonged “off” period-----	38
4.12 Important reccomendations-----	38
4.13 Malfunction-----	38
4.14 WARRANTY CONDITIONS-----	39

4

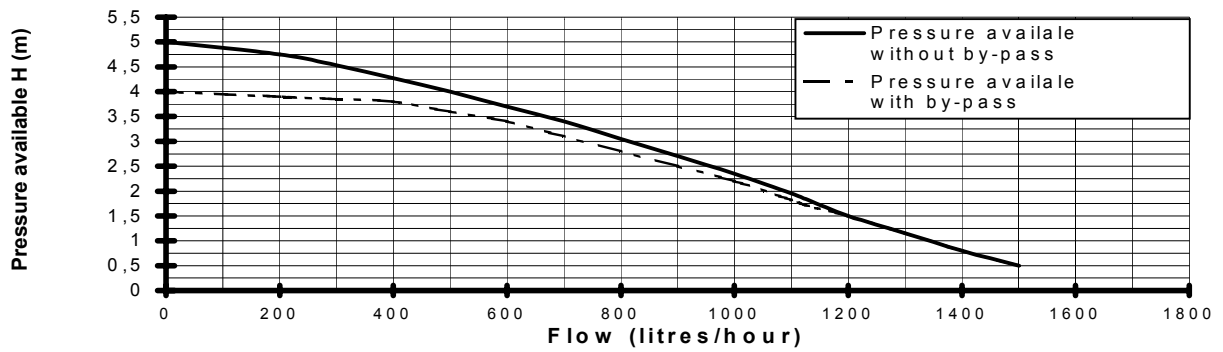
## 1 TECHNICAL DATA

### 1.1 DIMENSIONS

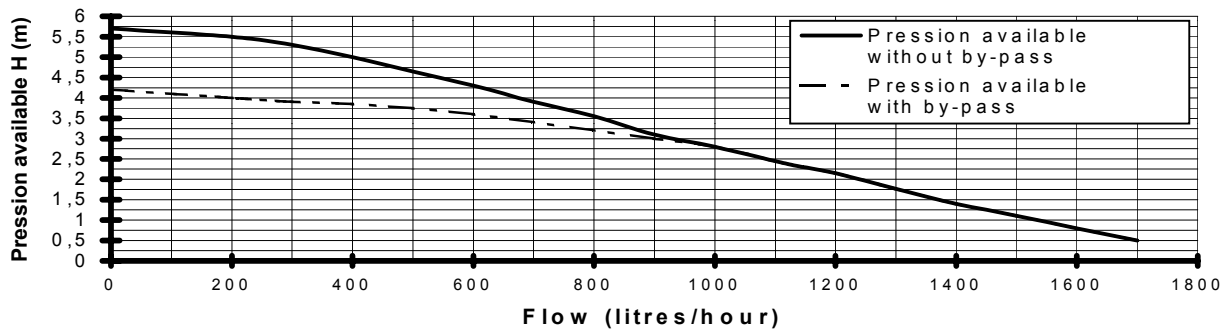


Boilers	L (mm)	H (mm)	P (mm)	A (mm)	B (mm)	C (mm)	D (mm)
ECOfast 25 N	450	880	360	225	225	220	140
ECOfast 25 F	450	880	360	225	225	187	173
ECOfast 29 F	450	880	360	225	225	222,5	137,5
ECOfast 32 F	500	880	360	250	250	222,5	137,5

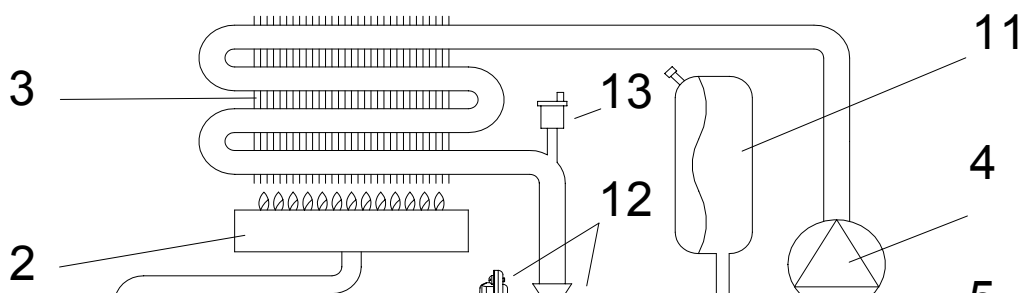
## 1.2 Pressure available to unit ECOfast 25 N, ECOfast 25 F



## 1.3 Pressure available to unit ECOfast 29 F, ECOfast 32 F



## 1.4 SYSTEM WATER DIAGRAM

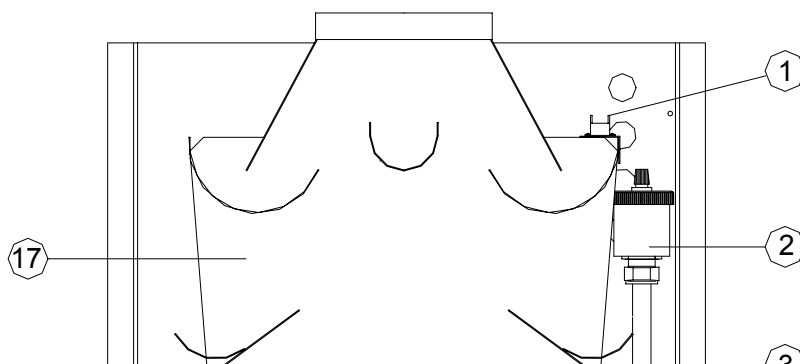


- 1) Gas on/off valve
- 2) Burner
- 3) Primary exchanger
- 4) Circulation pump
- 5) Flow switch
- 6) Circuit by-pass
- 7) Pressure gauge
- 8) 3-bar safety valve

- 9) Circuit drain valve
- 10) Heating refill cock
- 11) Expansion chamber
- 12) Three-way pressure-controlled valve
- 13) Automatic air bleed valve
- 14) Hot domestic water exchanger
- 15) Filter

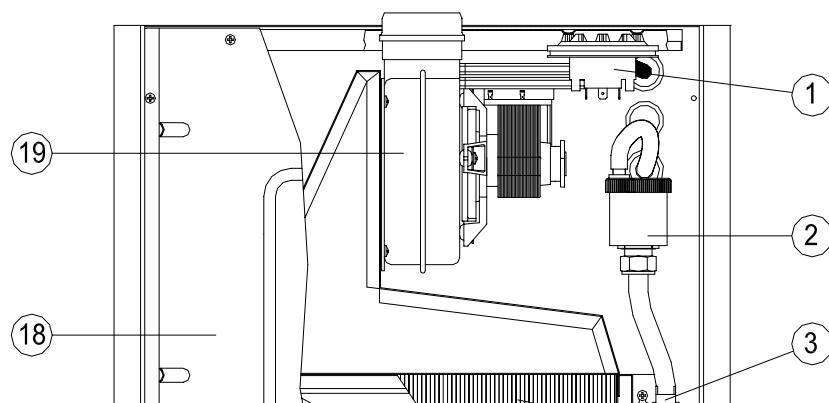
6

## 1.5 ECOfast 25 N : Components



- |  |                             |
|--|-----------------------------|
| 1) Exhaust fumes thermostat            | 11) Heating refill cock     |
| 2) Automatic air bleed                 | 12) 3-bar safety valve      |
| 3) Safety thermostat (105°C)           | 13) System water exchanger  |
| 4) Primary copper exchanger            | 14) Water valve             |
| 5) Electrode (ignition and ionization) | 15) Water temperature probe |
| 6) Burner                              | 16) Gas valve               |
| 7) Heating temperature probe           | 17) Anti-back blow flap     |
| 8) Circulation pump                    | 18) Preheater thermostat    |
| 9) Flow valve                          |                             |
| 10) Unit drain valve                   |                             |

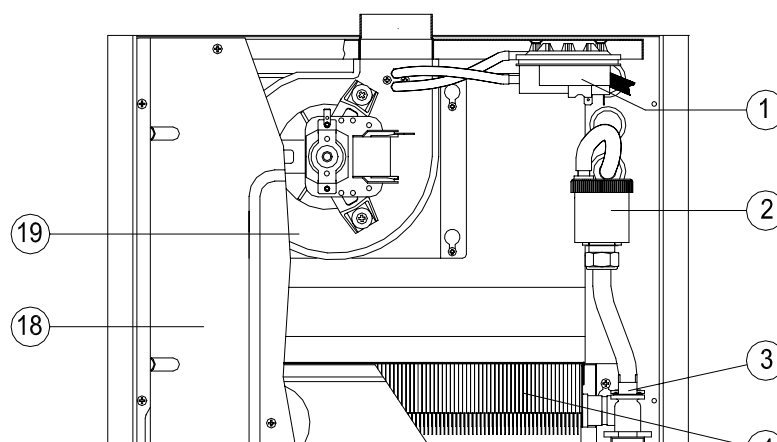
## 1.5 ECOfast 25 F : Components



- |  |                                    |
|--|------------------------------------|
| 1) Flue gas pressure switch            | 11) Heating refill cock            |
| 2) Automatic air bleed                 | 12) 3-bar safety valve             |
| 3) Safety thermostat (105°C)           | 13) System water exchanger         |
| 4) Primary copper exchanger            | 14) Water valve                    |
| 5) Electrode (ignition and ionization) | 15) Water temperature probe        |
| 6) Burner                              | 16) Gas valve                      |
| 7) Heating temperature probe           | 17) Combustion chamber observation |
| 8) Circulation pump                    | 18) Air-tight chamber              |
| 9) Flow valve                          | 19) Fan                            |
| 10) Unit drain valve window            | 20) Preheater thermostat           |

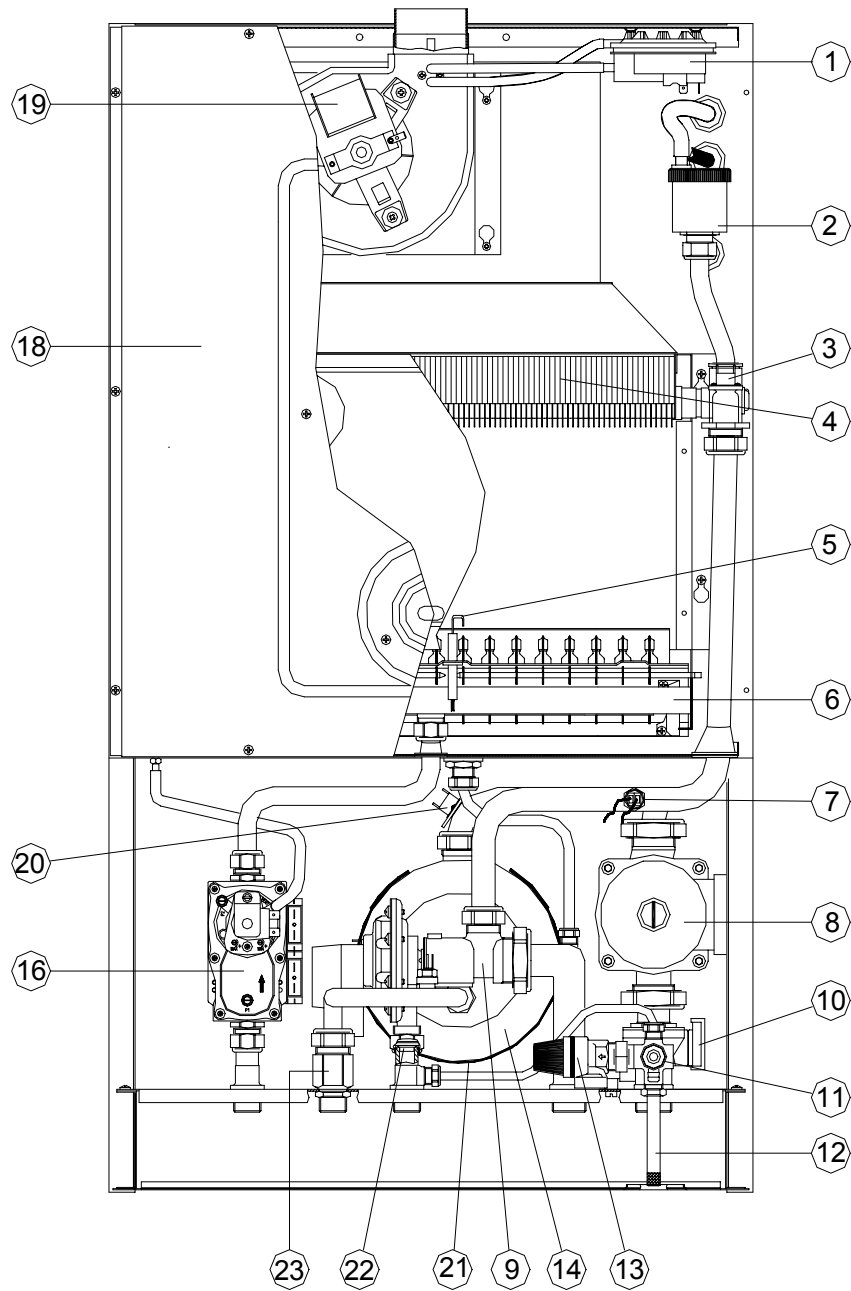
8

## 1.6 ECOfast 29 F : Components



- 1) Flue gas pressure switch
- 2) Automatic air bleed
- 3) Safety thermostat (105°C)
- 4) Primary copper exchanger
- 5) Electrode (ignition and ionization)
- 6) Burner
- 7) Heating temperature probe
- 8) Circulation pump
- 9) Flow valve
- 10) Unit drain valve window
- 11) Heating refill cock
- 12) 3-bar safety valve
- 13) System water exchanger
- 14) Water valve
- 15) Water temperature probe
- 16) Gas valve
- 17) Combustion chamber observation
- 18) Air-tight chamber
- 19) Fan
- 20) Preheater thermostat

## 1.8 ECOfast 32 F : Components



- |  |                                    |
|--|------------------------------------|
| 1) Flue gas pressure switch            | 11) Heating refill cock            |
| 2) Automatic air bleed                 | 12) 3-bar safety valve             |
| 3) Safety thermostat (105°C)           | 13) System water exchanger         |
| 4) Primary copper exchanger            | 14) Water valve                    |
| 5) Electrode (ignition and ionization) | 15) Water temperature probe        |
| 6) Burner                              | 16) Gas valve                      |
| 7) Heating temperature probe           | 17) Combustion chamber observation |
| 8) Circulation pump                    | 18) Air-tight chamber              |
| 9) Flow valve                          | 19) Fan                            |
| 10) Unit drain valve window            | 20) Preheater thermostat           |
|  | 21) Heating refill cock            |
|  | 22) 3-bar safety valve             |
|  | 23) System water exchanger         |

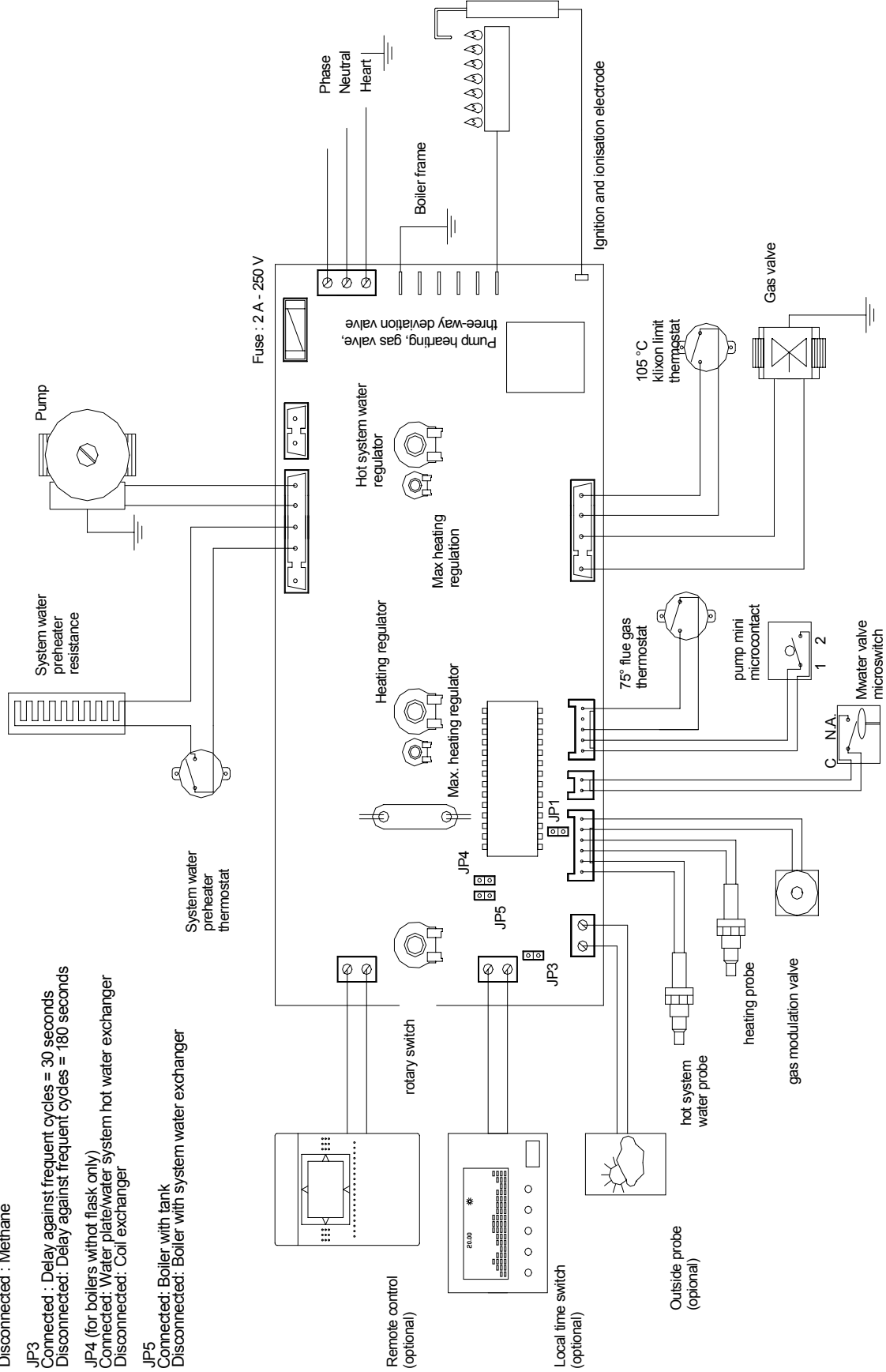
<b>1.9 TECHNICAL DATA</b>		<b>ECOfast 25 N</b>	<b>ECOfast 25 F</b>	<b>ECOfast 29 F</b>	<b>ECOfast 32 F</b>	
Type		B11bs	C12-C32-C42-C52	C12-C32-C42-C52	C12-C32-C42-C52	
Nominal heat input	KW	27	27	31,5	34,88	
Nominal heat input	Kcal/h	23220	23220	27090	30000	
Useful output	KW	24,7	25,3	29,3	32,5	
Useful output	Kcal/h	21200	21734	25194	27950	
Useful efficiency	%	92,3	93,6	93,0	93,2	
Minimum heat input	KW	10,5	10,5	12,4	12,8	
Minimum heat output	KW	9,4	9,6	11,3	14	
Useful efficiency at 30 % of Nominal heat input (Pn)	%	89,5	91,8	91,2	91,4	
<b>GAS flow at Pn</b>	methane G20 (2E+)	m <sup>3</sup> /h	2,855	2,855	3,331	3,688
	methane G25 (2ELL)	m <sup>3</sup> /h	3,320	3,320	3,874	4,290
	LPG G30 (3+)	kg/h	2,128	2,128	2,482	2,749
	LPG G31 (3P)	kg/h	2,096	2,096	2,445	2,708
<b>Pression GAZ du réseau</b>	methane G20 (2E+)	mbar	20	20	20	20
	methane G25 (2ELL)	mbar	25	25	25	25
	LPG G30 (3+)	mbar	28	28	28	28
	LPG G31 (3P)	mbar	37	37	37	37
Flue gas temperature	°C	115,3	126,7	131,4	121,2	
CO <sub>2</sub> (G20)	%	6	7,7	7,6	7,7	
Thermal loss in flue gas with burner ignited		6,8	6,1	6,5	5,8	
Thermal loss in flue gas with burner out		0,2	0,2	0,1	0,1	
Thermal loss within the envloope(ΔT=50 °C)		1,9	0,3	0,5	1,0	
Flue gas flow rate	Nm <sup>3</sup> /h	58,7	47,0	55,5	60,7	
<b>HEATING</b>						
Minimum set point	°C	35	35	35	35	
Maximum set point	°C	90	90	90	90	
Water volume in boiler	l	1,2	1,2	1,2	1,2	
Water volume in expansion chamber	l	7,5	7,5	7,5	7,5	
Expansion chamber pressure	bar	0,7	0,7	0,7	0,7	
Min. operating pressure	bar	0,4	0,4	0,4	0,4	
Max. operating pressure	bar	3	3	3	3	
Max. water volume in heating system	l	150	150	150	150	
Lift at a flow of Q=1000 l/h	mbar	330	330	330	330	
<b>DOMESTIC WATER</b>						
Min. set point	°C	30	30	30	30	
Max. set point	°C	60	60	60	60	
Specific flow Δt = 25 °C	l/min	14,1	14,5	16,8	18,6	
Specific flow Δt = 35 °C	l/min	10,1	10,3	12,0	13,3	
Specific flow Δt = 30 °C en 10'	l	117,8	120,7	140,0	155,3	
Min flow rate	l/min	2,5	2,5	2,5	2,5	
Max. pressure	bar	8	8	8	8	
Min. pressure	bar	0,3	0,3	0,3	0,3	
Water volume in expansion chamber	l	----	----	----	----	
Voltage	V/ Hz	230/50	230/50	230/50	230/50	
Electrical power supply	W	90	120	120	120	
<b>CONNECTIONS</b>						
Unit outlet/return	Inch	3/4"	3/4"	3/4"	3/4"	
System water inlet/outlet	Inch	1/2"	1/2"	1/2"	1/2"	
Gas	Inch	1/2"	1/2"	1/2"	1/2"	
Height	mm	880	880	880	880	
Depth	mm	360	360	360	360	
Lenght	mm	450	450	450	500	
<b>Flue gas ducts length</b>						
Natural draught Ø 125	mm	Minimum 0.5 m	----	----	----	
Coaxial Ø 60 x 100 mm	m	----	3	4	3	
Twin Ø 80 mm	m	----	16	30	30	
Twin Ø 60 mm	m	----	----	7	7	
Weight	Kg	43	43	43	45	
Protection	IP	44	44	44	44	
<b>Certification</b>		<b>0068 ★★</b>	<b>0068 ★★★</b>	<b>0068 ★★★★</b>	<b>0068 ★★★★★</b>	

# 1.10 WIRING DIAGRAM: ECOfast 25 N

**Wiring diagram for AM37 AR 01  
(Model N, with preheated system water)**

**Jumper position:**

- JP1  
Connected : GLP  
Disconnected : Methane
- JP3  
Connected : Delay against frequent cycles = 30 seconds  
Disconnected: Delay against frequent cycles = 180 seconds
- JP4 (for boilers without tank only)  
Connected: Water plate/water system hot water exchanger  
Disconnected: Coil exchanger
- JP5  
Connected: Boiler with tank  
Disconnected: Boiler with system water exchanger



# 1.11 WIRING DIAGRAM:

# ECOfast 25 F, ECOfast 29 F, ECOfast 32 F

## Wiring diagram for AM37 AR 01 (Model F, with preheated system water exchanger)

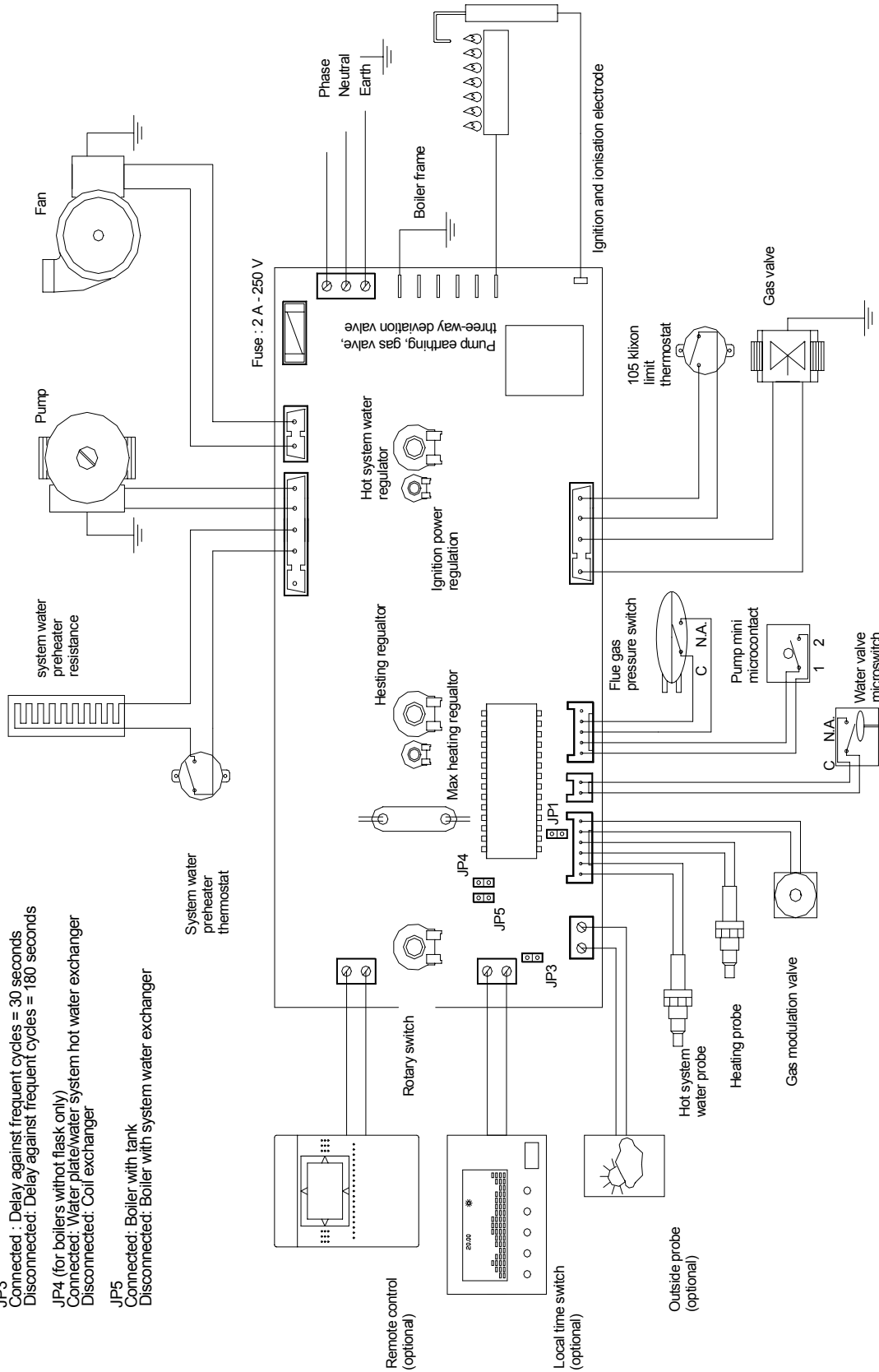
### Jumper position:

JP1  
Connected : GLP  
Disconnected : Methane

JP3  
Connected : Delay against frequent cycles = 30 seconds  
Disconnected: Delay against frequent cycles = 180 seconds

JP4 (for boilers without flask only)  
Connected: Water plate/water system hot water exchanger  
Disconnected: Coil exchanger

JP5  
Connected: Boiler with tank  
Disconnected: Boiler with system water exchanger



## 2. INSTALLATION INSTRUCTIONS

### 2.1 EXHAUST FUMES DISCHARGE:

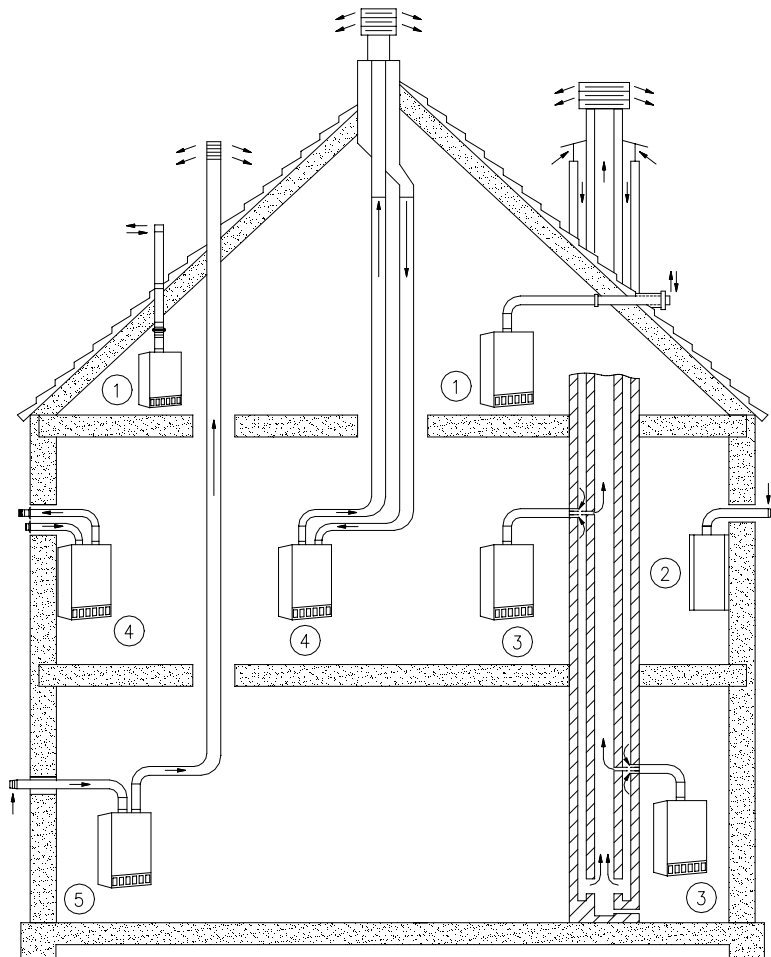
# ECOfast 25 F, ECOfast 29 F, ECOfast 32 F

## 2.1.1 INTAKE/DISCHARGE CONNECTIONS

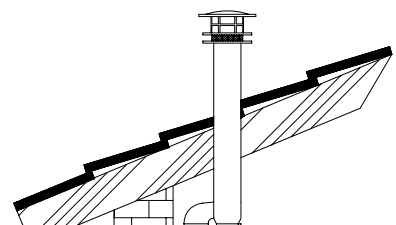
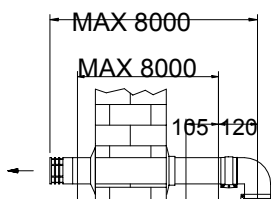
Boilers with a gas-tight combustion chamber do not require special specifications for their installation location. It is recommended that connections on intake/discharge be carefully checked to avoid any leakage of combustion gases. Use only manufacturer's accessories and flues.

## 2.1.2 DIFFERENT TYPES OF DISCHARGE

1. Concentric flues/roof outlet
2. Concentric flues/horizontal outlet through wall.
3. Concentric flues/connections to common concentric flues
4. Doubled flues with different circuits
5. Doubled flues: vertical roof outlet, intake through external wall.



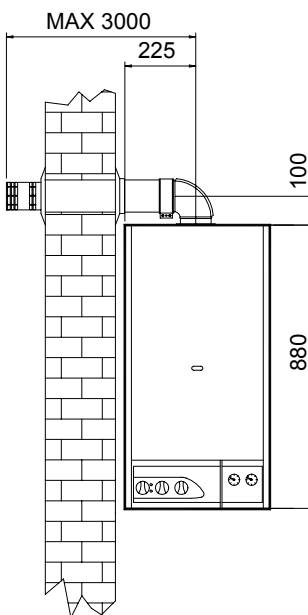
## 2.1.3 CONNECTION DIMENSIONS: ECOfast 25 F



### 2.1.3.1 DISCHARGE OF FUMES BY TWIN Ø 80 mm TUBING

The sum of the length of the exhaust flue plus the length of the intake flue should not exceed 16 m.

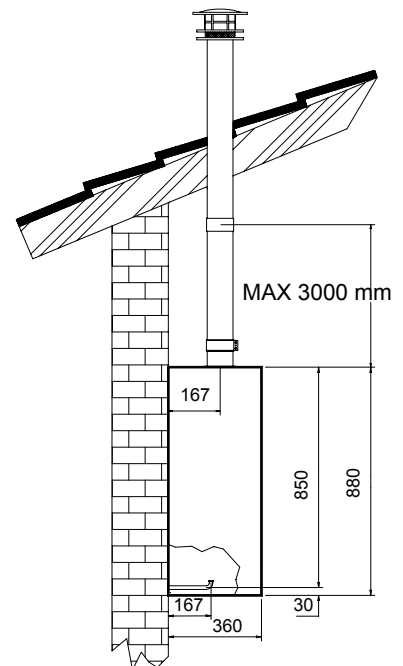
The maximum permissible length to be reduced by 1 m. for every bend incorporated.



### 2.1.3.2 DISCHARGE OF FUMES BY CONCENTRIC Ø 60 x 100 mm TUBING

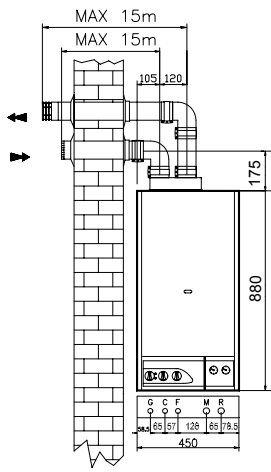
The length of the intake micro air vent for concentric flues may be between 0.5 m and 3 m.

Horizontal intake and discharge flues should be installed with a slight outwards inclination.



## 2.1.4 CONNECTION DIMENSIONS: ECOfast 29 F

### 2.1.4.1 DISCHARGE OF FUMES BY TWIN Ø 80 mm TUBING

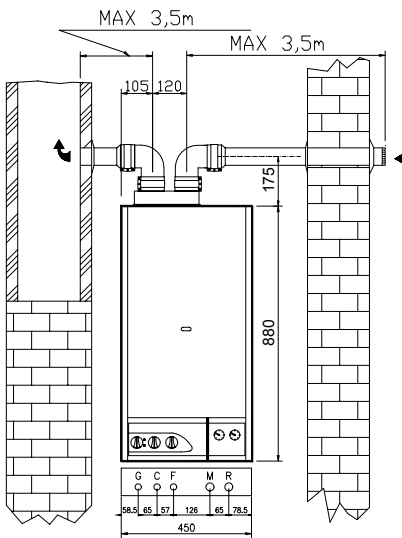
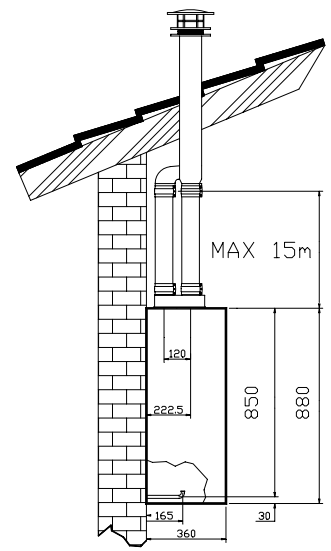


The sum of the length of the discharge flue with that of the intake flue must not exceed 30 metres.

The maximum possible length must be reduced by 1 metre for each bend added.

For a length of from 0 to 6 metres a  $\varnothing$  44 mm diaphragm must be fitted inside the spent gas conduit from the fan.

For a length of from 7 to 15 metres a  $\varnothing$  44 mm diaphragm inside must be fitted the spent gas conduit from the fan.

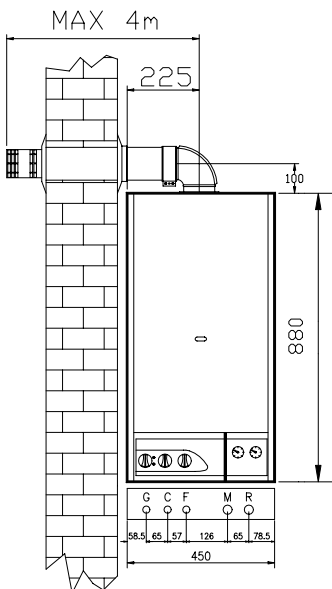
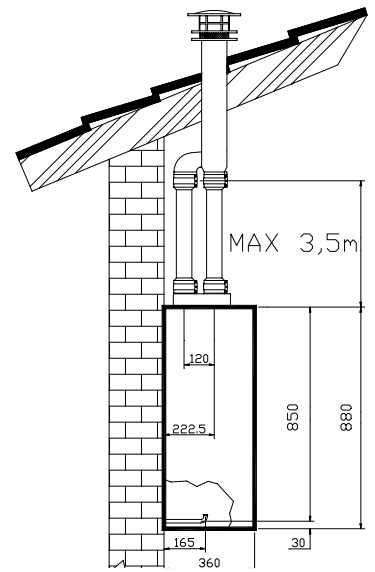


#### 2.1.4.2 DISCHARGE OF FUMES BY TWIN $\varnothing$ 60 mm TUBING

The sum of the length of the discharge flue with that of the intake flue must not exceed 7 metres.

The maximum possible length must be reduced by 1 metre for each bend added.

For a length of from 0 to 3 metres a  $\varnothing$  46 mm diaphragm must be fitted inside the spent gas conduit from the fan.



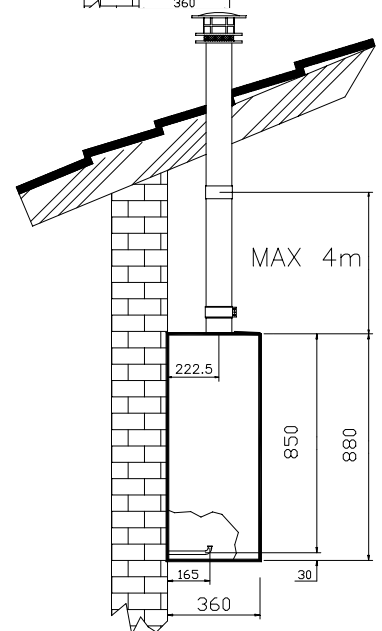
#### 2.1.4.3 DISCHARGE OF FUMES BY CONCENTRIC $\varnothing$ 60 x 100 mm TUBING

The length of the discharge flue must not exceed 30 metres.

The maximum possible length must be reduced by 1 metre for each bend added.

For a length of from 0 to 3 metres a  $\varnothing$  46 mm diaphragm must be fitted inside the spent gas conduit from the fan.

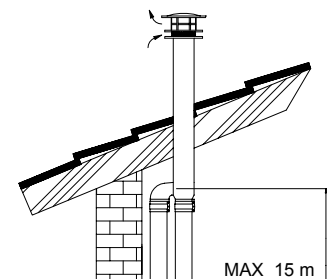
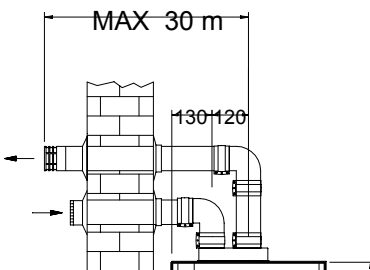
N.B. The intake and discharge flues must be installed with a slight outward slope.



16

### 2.1.5 CONNECTION DIMENSIONS: ECOfast 32 F

#### 2.1.5.1 DISCHARGE OF FUMES BY TWIN $\varnothing$ 80 mm TUBING



The sum of the length of the discharge flue with that of the intake flue must not exceed 30 meters.

The maximum possible length must be reduced by 1 metre for each bend added.

For a length of from 0 to 6 metres a  $\varnothing$  44 mm diaphragm must be fitted inside the spent gas conduit from the fan.

For a length of from 7 to 15 metres a  $\varnothing$  46 mm diaphragm inside must be fitted the spent gas conduit from the fan.

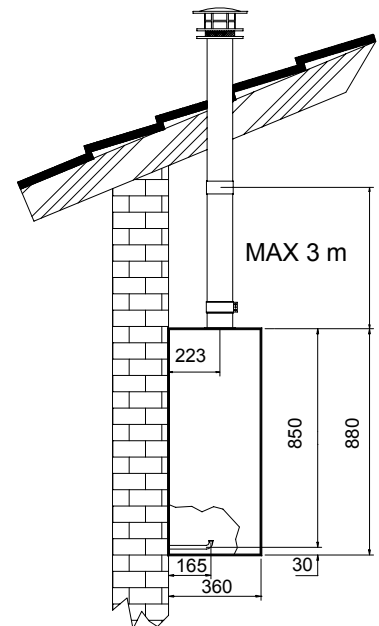
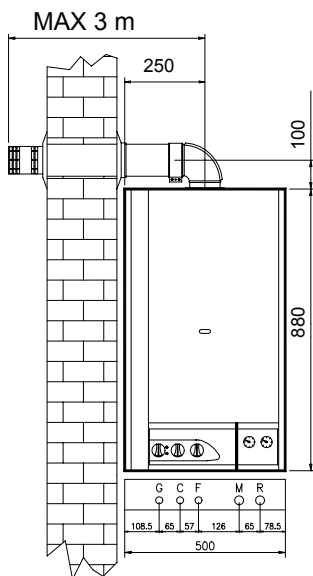
### 2.1.5.2 DISCHARGE OF FUMES BY CONCENTRIC $\varnothing$ 60 x 100 mm TUBING

The length of concentric flues can vary from 0.5 m to 3 m.

For a length of from 0 to 1 metre a  $\varnothing$  44 mm diaphragm must be fitted inside the spent gas conduit from the fan.

For a length of from 2 to 3 metres a  $\varnothing$  46 mm diaphragm must be fitted inside the spent gas conduit from the fan.

The intake and discharge flues must be installed with a slight outward slope.



## 2.2 DISCHARGE OF EXHAUST GASES: ECOfast 25 N

### 2.2.1 CONNECTION TO CHIMNEY

The chimney is of fundamental importance to the proper functioning of the boiler. It must therefore meet the EN 297 standards:

Be constructed of an impervious material resistant to the temperature of the gases and condensation produced;  
 Be of adequate mechanical strength and of low thermal conductivity;  
 Be as vertical as possible and have sufficient static pressure to ensure efficient and constant discharge of the gaseous products of combustion;  
 Have an internal diameter never less than that of the boiler outlet nozzle;  
 Protrude at least 0.50 m above the roof ridge and be no closer than 8 m to any obstacle;  
 A vertical flue with a minimum length of twice the diameter of the outlet nozzle must be fitted to the boiler outlet before connecting to the main chimney.

## 2.2.2 BASE EQUIPMENT

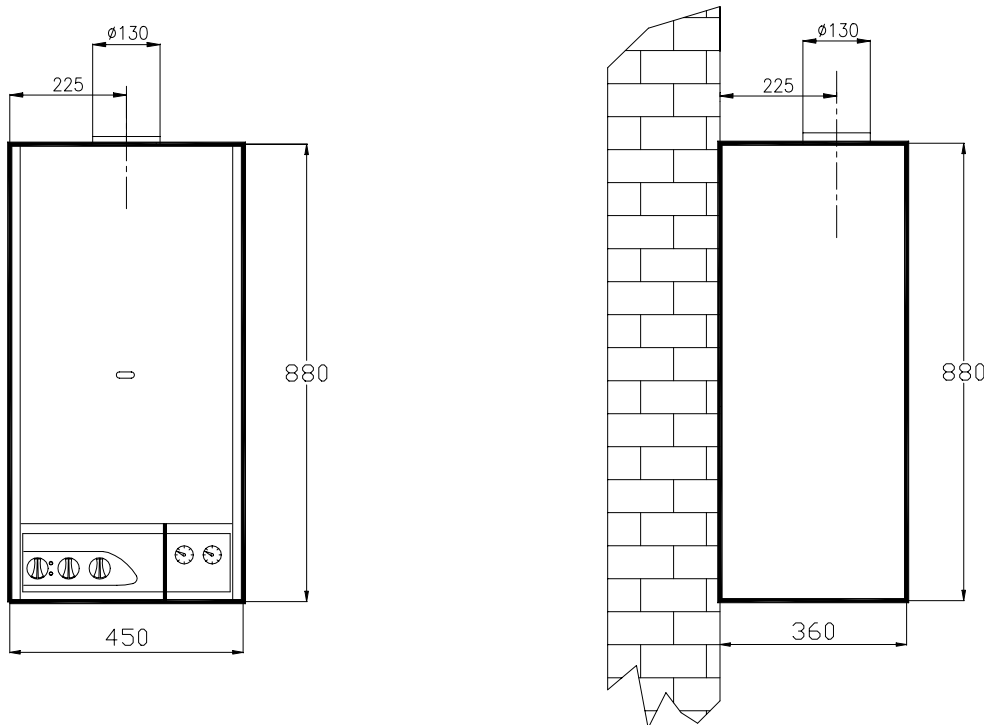
A safety device to prevent the blow-back of exhaust gasses into the room is fitted on the boiler.

If this device operates an interval of about 10 minutes must be allowed to elapse before rotating the manual reset knob (see fig. page 33).

It is strictly forbidden to shunt or remove this device.

In the case of repeated operation it is absolutely necessary to have the exhaust gas discharge flue checked by a qualified technician.

N.B. ARCA accepts no liability for damage arising from faulty installation or operation of the unit or non-compliance with the instructions supplied by ARCA or the current regulations governing the item in question.



18

## 2.3 VENTILATION OF ENVIRONMENT

**IMPORTANT: THE FLUE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN BS 5440:1**

### **2.3.1 Forced draught boilers with micro draught vent: ECOast 25 F, ECOfast 29 F, ECOfast 32 F**

An F/FR boiler is a unit in the combustion system (combustion air inlet, combustion chamber, exchanger, discharge of exhaust gasses). It is gas tight in respect of the location in which it is installed.

This unit does not require air from the location in which it is installed and so the latter does not need special ventilation.

As for air intake systems and exhaust fumes discharge, refer to the information given below.

Installation and maintenance of the boiler must be carried out by a qualified professional and in conformity with the regulations and technical practice in force.

The boiler **MUST** be installed so that the terminal is exposed to the external air. It is important that the position of terminal allows free passage of air across it at all the times.

If the terminal discharges into a pathway or passageway, check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.

In certain weather conditions, a terminal may emit a plume of steam. Positions where this would cause a nuisance should be avoided.

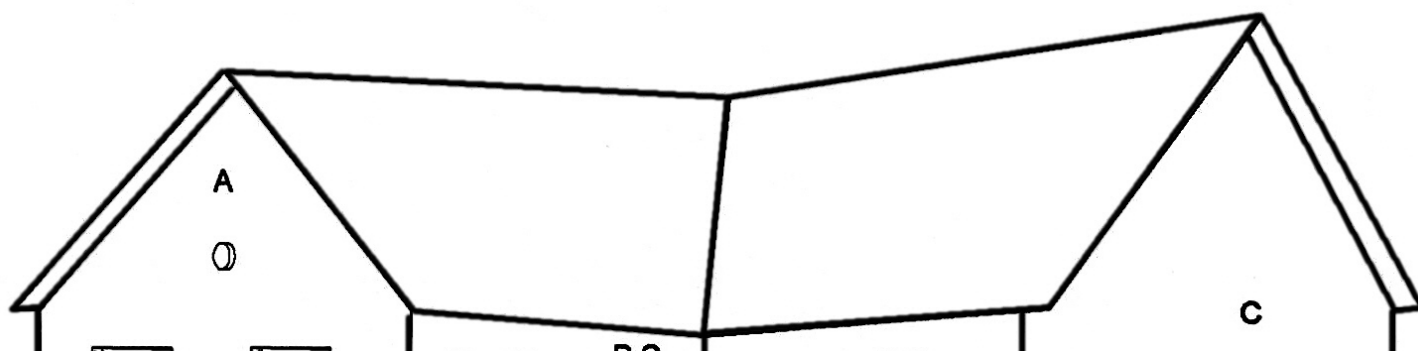
The flue terminal position must be in accordance with the current Building Regulations.

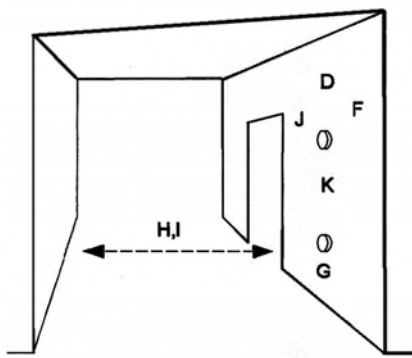
Where the lowest of the terminal is fitted less than 2 m (6,6 ft) above a balcony, above ground, or above a flat roof to which people have access, the terminal **MUST** be protected by a purpose designed guard.

Where the terminal is fitted in close proximity to plastic or painted eaves, care should be taken to protect these from potential staining or damage.

The air inlet/products outlet duct and the terminal of the boiler **MUST NOT** be closer than 25 mm (1 ft) to combustible material

## **TERMINAL POSITION**





A - Directly below an openable window, air vent or any other ventilation opening	300 mm (12 in)
B - Below guttering, drain pipes or soil pipes	75 mm (3 in)
C/D – Below eaves, balconies or carport roof	200 mm (8 in)
E - From vertical drain pipes or soil pipes	75 mm (3 in)
F - From internal or external corners	300 mm (12 in)
G - Above adjacent ground, roof or balcony level	300 mm (12 in)
H - From a surface facing the terminal	600 mm (24 in)
I - From a terminal facing the terminal	1200 mm (48 in)
J - From an opening in the carport	1200 mm (48 in)
K - Vertically from a terminal	1500 mm (68 in)
L - Horizontally from a terminal on the same wall	300 mm (12 in)
M - Adjacent to an opening	300 mm (12 in)

20

### 2.3.2 NATURAL DRAUGHT BOILER CONNECTED TO A CHIMNEY: ECOfast 25 N

Model N boilers have an open combustion chamber and are designed to be connected to an exhaust duct for the products of combustion leading to the outside; combustion air is introduced directly into the location where the boiler is installed.

Installation locations can have a direct air supply (with an air vent directly to the outside) or an indirect supply (with an air vent to an adjacent location) provided that the following conditions are met.

Direct air supply

The location must have an opening of 6 cm<sup>2</sup> per kW installed and in no case less than 100 cm<sup>2</sup>

The opening must be made directly in an outside wall and be situated as close to the ground as possible.

It must be capable of remaining unobstructed and protected by a grill which must not reduce the cross section usable for the passage of air.

An adequate air supply may be obtained by using several apertures the sum of whose cross sections is equivalent to that required.

If it is not possible have an opening close to the ground, its cross section must be increased by at least 50%.

If other units in the same location require an air supply in order to work the cross section must be increased to allow for this.

An open fireplace (hearth, saggar) must have its own air supply; if not, a type N unit cannot be installed in the same location.

### **Indirect air supply**

Where a direct air supply to the installation location it is possible to use an indirect supply, that is, to take in the air in an adjacent location through a suitable opening made in the lower part of the door. This solution is possible only if:

The adjacent location has an adequate direct air supply (see: direct air supply);

The adjacent location must not be a bedroom;

The adjacent location must not be a common part of the building or a fire-risk environment (for example, a fuel store, a garage etc.).

## **2.4 INSTALLING THE BOILER**

Before carrying out any operation a thorough cleaning of piping using an approved medium must be done in order to eliminate impurities such as filings, solder, oil and different kinds of grease which may be found.

These foreign bodies might possibly get into the boiler, which would be detrimental to its operation.

N.B. A solvent could possibly damage the system.

## **2.5 ATTACHING THE BOILER**

To install, proceed as follows: taking the boiler's dimensions into account (allowing a space of about 5 cm on each side to ensure access to it) place the connection template to the wall.

- Having bored two holes in the upper crossbar fix pegs and suspension hooks.

21

- The lower bar of the template enables you to position the support plate with isolation cocks its connections to the Outlet/Return piping for heating,, cold water, domestic hot water, gas and electricity supply.

- Having done this, the connection template can be removed and kept for further use.

- The Support plate with the cocks enables all connections to be made and leak tests to be carried out, without the boiler being in position.

- The previously used suspension hooks can be used to hang the boiler by the cross-piece mounted on the rear side of the back of the unit.

N.B.: For immediate connection, do not forget to remove the protective plastic stoppers from the boiler piping.



The fixed setting for this BY-PASS is 4 m CE.

Domestic water supply

The boiler is connected to the mains by connection F (cold water intake).

Check that the mains pressure at the boiler intake is not greater than the maximum service pressure given on the boiler data plate of 1 to 6 bar (if this is the case, arrange a pressure reduction upstream of the boiler).

The degree of hardness of the mains water supply determines the frequency of descaling the domestic hot water exchanger. According to the properties of the mains water, arrange for the possible installation of an appropriate water treatment system.

Filling the installation with water.

As soon as all water connections have been made, the installation can be filled with water.

Filling with water must be carried out slowly in the following steps:

- open the radiator bleed valves and the boiler automatic bleed;
- open the filler cocks in turn while checking the proper operation of the boiler's automatic bleed valve and that of any others fitted on the installation;
- close the radiator and boiler bleed valves as soon as water appears;
- check pressure rise up to 0.8/1 bar on the pressure gauge on the control panel;
- light up the boiler and let the installation heat up for a time while repeating air bleeding; after stopping the circulation pump let the installation cool down and settle at a pressure of 0.8/1 bar.

Tips to avoid vibration and noise in the installation.

- avoid using reduced bore piping;
- avoid using small radius elbow bends and reducing large sections;
- rinsing the installation with hot water is advisable in order to remove impurities in the piping and radiators (especially oil and grease which could damage the system).

Where the boiler is installed in a location could fall below 0° C it is advisable to fill the installation with antifreeze.

Use a glycol-based solution already diluted so as to avoid unchecked mixtures.

MONOPROPYLENE GLYCOL (%)	FREEZING POINT (°C)
6	0
10	-3
15	-5
20	-7
25	-10
30	-13
40	-21
50	-33

Ignition

Open the gas shut-off cock. Turn the selector [part of this section is obscured by a table and cannot be translated with any assurance of accuracy]

Winter operation

Turn the selector to the WINTER position, set the heating temperature setting knob to the desired position. The room thermostat (if fitted) will keep the ambient temperature at the desired level.

Summer operation

Turn the selector to the SUMMER position, set the hot water temperature setting knob to the desired position. The boiler come on solely to produce domestic hot water in this position.

## 2.7 GAS SUPPLY

We recommend carrying out a complete internal cleaning of all fuel supply pipes before installation to remove any residues which could adversely affect proper operation of the boiler.

Before starting up the boiler have someone qualified check the following:

Check the connections on the gas supply lines for leaks.

Check, with the boiler off, for gas leaks.

Check the amount of gas flow according to the output required by the boiler.

Check that the gas supplied is of the specification shown on the data plate on the boiler.

Check that the pressure of the gas supply agrees with the figures on the data plate.

Check the gas supply piping dimensions with regard to the flow required for operating the boiler.

N.B. To operate on GPL it is absolutely obligatory to install a pressure reduced.

## 2.8 ELECTRICAL SUPPLY

Safety in the electrical operation of the boiler can not be achieved unless the latter includes a properly working earthing point and the electrical connections are in accordance with Electrical Regulations NF C 15-100.

Power to the boiler is 230V - 50 Hz directly through a power socket or a connection box (any extension of a main cable, connection through a multi-adaptor etc. is forbidden).

A non-standard installation could give rise to injury to persons or domestic animals, for which ARCA can not be held liable.

Attaching an room thermostat is possible after removing the bridge on the thermostat cable terminal, carry out the connection of the thermostat (WARNING: the thermostat connection is connected to the mains electrical supply, so it is necessary to install types in non-conductive material, if the support is metallic, connect it to a properly-working earth).

The connection to the boiler must be protected by a fused (1A) bipolar cut-out.

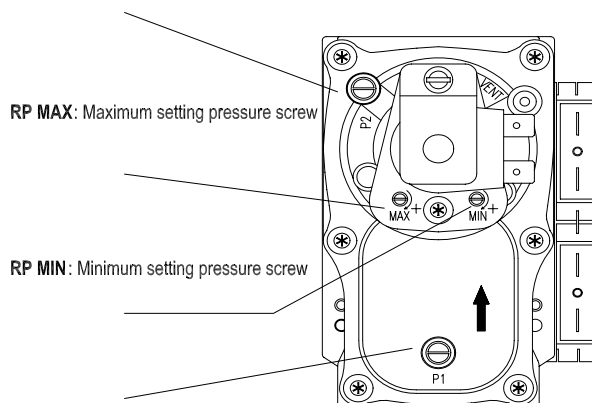
N.B. connect the phase and neutral correctly; incorrect connection cuts out the ignition system. To correct this it is only necessary to reposition neutral and phase in their correct positions.

N.B. Using the piping in the installation as earthing for electricity or telephones is absolutely to be avoided (the piping is NOT designed for this).

24

## 2.9 SETTINGS ADJUSTMENT INSTRUCTIONS (with White Rodgers mod. 91B05S Valve)

P OUT: Boiler pressure reading point



P IN : Upstream gas network pressure

Note: The screws of regulation RP min and RP Max respectively regulate minimum pressure and maximum pressure of the gas to the burner, increasing it if you rotate clockwise, decreasing it if you rotate in sense anti-clockwise.

### 2.9.1 ADJUSTMENTS: MAXIMUM OUTPUT

The boilers are already adjusted to preset values and are equipped to run on the type of gas shown on the data panel.

Check the maximum and minimum pressures carefully since the gas mains pressure may be different from the nominal reference pressure used for the unit settings in the factory.

To check and if necessary correct the settings proceed as follows:

- attach a gas pressure gauge to the pressure points “P OUT”;
- light the boiler in “WINTER “ position and take the maximum domestic flow rate;
- ensure that the adjustment modulation is powered;
- adjust maximum pressure by turning “RP max” screw with screwdriver; turning it clockwise increase the pressure, anti-clockwise reduce it.

*N.B. Never forget to close the pressure points after use and check for leaks.*

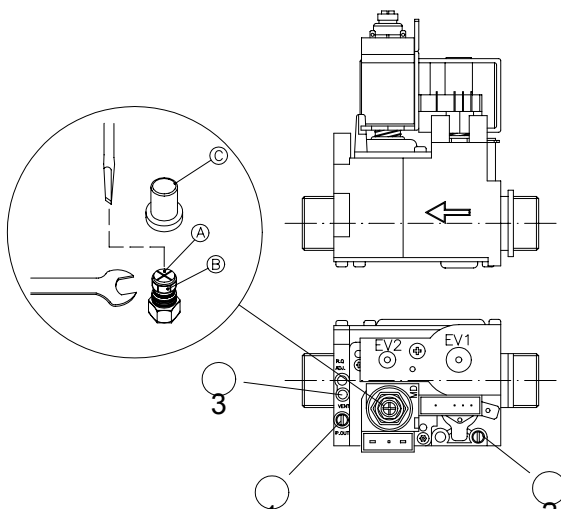
### 2.9.2 ADJUSTMENTS: MINIMUM OUTPUT

- Light the boiler in “WINTER “ position and don’t take any domestic flow rate;
- close the contact of possible thermostats environment;
- rotate clockwise (at the maximum position) the knob of regulation of the heating;
- extract the knob of regulation of the heating and rotate anti-clockwise (to the minimum position) the trimmer of regulation of the heating (Max Risc), placed to the left under the knob.
- adjust minimum pressure by turning “RP min” screw with screwdriver; turning it clockwise increase the pressure, anti-clockwise reduce it.
- rotate clockwise (to the maximum position) the trimmer of regulation of the heating, placed to the left under the knob of the heating.

*N.B. Never forget to close the pressure points after use and check for leaks.*

25

## 2.10 SETTINGS ADJUSTMENT INSTRUCTIONS (with SIGMA 845 SIT Valve)



1. Boiler pressure reading point
2. Diaphragm
3. Upstream gas network pressure

- A. Minimum pressure setting screw
- B. Maximum pressure setting nut
- C. Protective cap.

To check boiler pressure, insert the tubes of the pressure gauge in the pressure reading points on the gas valve (See illustration).

*N.B. to check that the gas supply pressure and flow are adequate to ensure correct operation of the boiler these checks must be done with the burner lighted.*

*N.B. Never forget to close the pressure points after use and check for leaks.*

### 2.10.1 ADJUSTMENTS: MAXIMUM OUTPUT

The boilers are already adjusted to preset values and are equipped to run on the type of gas shown on the data panel.

Check the maximum and minimum pressures carefully since the gas mains pressure may be different from the nominal reference pressure used for the unit settings in the factory. To check and if necessary correct the settings proceed as follows:

- attach a gas pressure gauge to the pressure points;
- light the boiler and take the maximum domestic flow rate;
- ensure that the adjustment modulation is powered;
- remove the protective cap "C";
- adjust maximum pressure by turning nut "B" with a 10 mm spanner; turning it clockwise increases the pressure, anti-clockwise reduces it.

### 2.10.2 ADJUSTMENTS: MINIMUM OUTPUT

- Light the boiler in "WINTER" position and don't take any domestic flow rate;
- close the contact of possible thermostats environment;
- rotate clockwise (at the maximum position) the knob of regulation of the heating;
- extract the knob of regulation of the heating and rotate anti-clockwise (to the minimum position) the trimmer of regulation of the heating (Max Risc), placed to the left under the knob.
- having tightened nut "B" set the minimum pressure by unscrewing screw "A" gradually with a 4 mm flat-bladed screwdriver ;
- rotate clockwise (to the maximum position) the trimmer of regulation of the heating (Max Risc), placed to the left under the knob and check that the readings agree with the figures given.

*N.B. Never forget to close the pressure points after use and check for leaks.*

26

### 2.11.1 SETTINGS: SOFT LIGHT SEQUENCE

The boiler is preset to the following values:

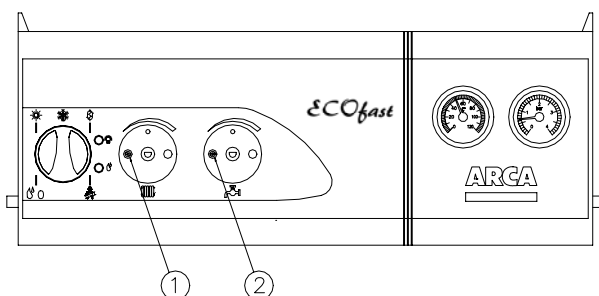
G.N. = 2.9 mbar

GPL = 7.8 mbar

Where there may be problems related to ignition pressure (explosions or difficulty in starting from cold),

adjust the ignition stages pressure by reducing it if there are explosions and increasing it if there are cold-start difficulties.

- open the domestic hot water to full flow and switch off the boiler by turning the selector switch to 0;
- remove button n° 2 from the control panel and find the potentiometer (2) located below the hole to the right of the button (see illustration):



1) Heating output adjustment potentiometer

2) Soft light Ignition sequence adjustment potentiometer

- turn the potentiometer (2) anti-clockwise with a 2 mm flat-bladed screwdriver to reduce pressure and clockwise to increase it.

**NOTE**

The time required for adjusting the ignition sequence is 5 seconds, the pressure will increase or decrease after that according to energy demands. To re-initialize the setting time switch the boiler off and then relight it.

To prolong the useful time to regulate the slow lighting provide to reverse the phase with the neuter on the cable of the boiler. In this way it is inhibited the ionization and the boiler remains in soft lighting for the whole safety time (10 sec.).

After having made the regulation correctly restore the electric connection.

**2.11.2 SETTINGS: HEATING OUTPUT.**

The maximum heating output is to be set according to the requirements of the system (set out in the plans).

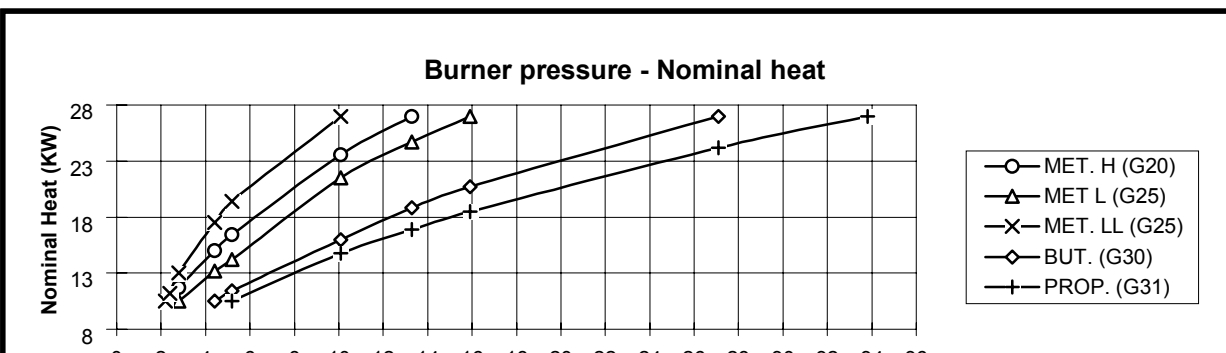
Figures for the gas pressures corresponding to different levels of output are given in the table on page 28 "PRESSURE INJECTORS TABLE" . To adjust the burner gas pressure proceed as follows:

- turn the selector to the WINTER position;
- rotate the heating control knob to the maximum (clockwise);
- set the environment thermostat to a temperature above that of the room where the thermostat is installed;
- throw out heating control knob and locate the potentiometer situated below the knob in the hole to the right;
- turn the potentiometer anti-clockwise with a 2 mm flat-bladed screwdriver to reduce pressure and clockwise to increase it.

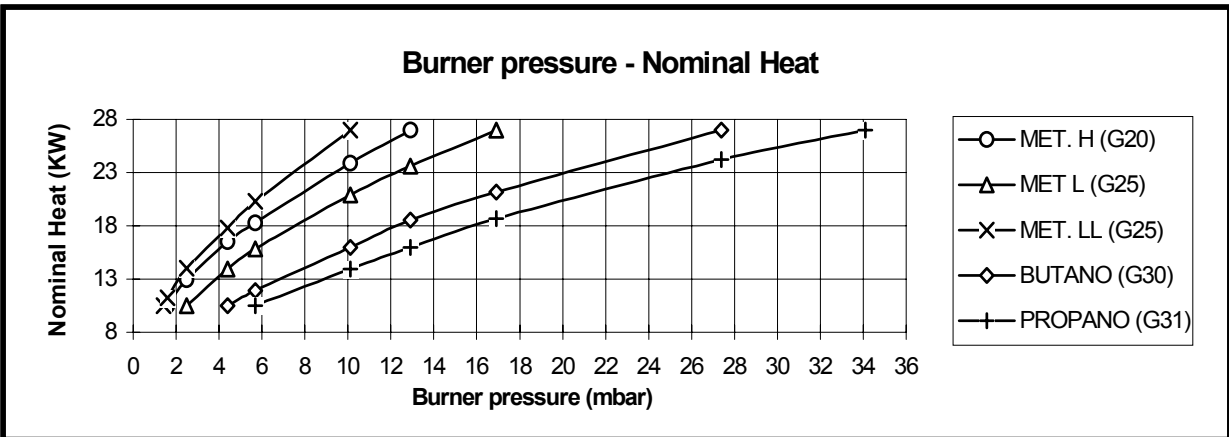
N.B. Wait about 10 secs to observe that the heating pressure has stabilized after the ignition sequence phase.

**2.11.3 PRESSURE INJECTORS TABLE**

ECOfast 25 N			Injectors		Diaphragme	Burner pressure	
TYPE of GAS	P.C.I	Mains pressure	Qtyé	Diameter	Diameter	Q.min. = 10,5 kW	Q.max = 27 kW
	MJ/m <sup>3</sup>	mbar	N°	mm	mm	mbar	mbar
Methane G20 (2H+)	34,02	20	13	1,20	5,9	2,4	13,3
Methane G25 (2H+)	29,25	25	13	1,20	5,9	2,8	15,9
Methane G25 (2LL)	29,25	20	13	1,40	-----	2,2	10,1
Butane G30	116,09	28/30	13	0,75	-----	4,4	27,1
Propane G31	88	37	13	0,75	-----	5,2	33,8

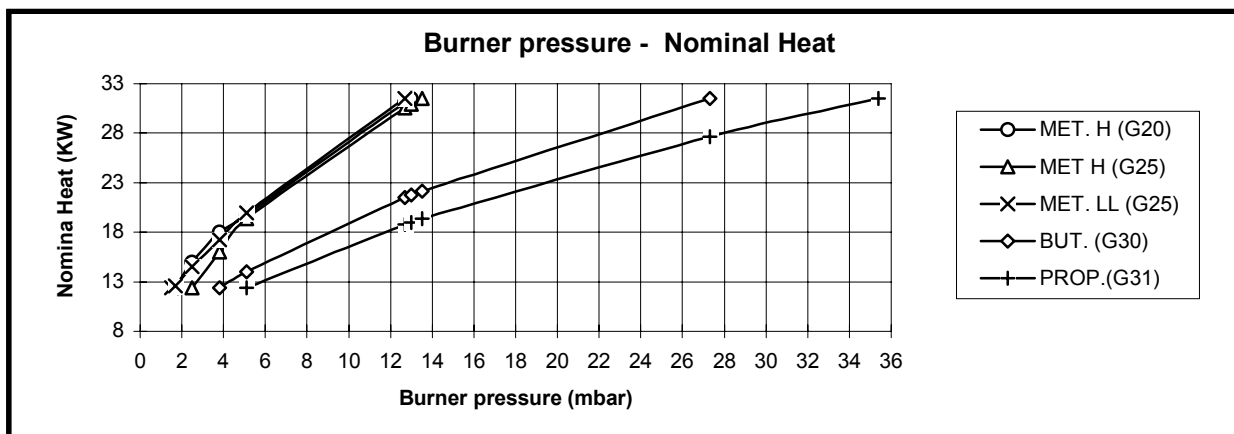


ECOfast 25 F			Injectors		Diaphragme	Burner pressure	
TYPE of GAS	P.C.I	Mains pressure	Qty	Diameter	Diameter	Q.min. = 10,5 kW	Q.max = 27 kW
	MJ/m <sup>3</sup>	mbar	N°	mm	mm	mbar	mbar
Methane G20 (2H+)	34,02	20	13	1,20	5,9	1,6	12,9
Methane G25 (2H+)	29,25	25	13	1,20	5,9	2,5	16,9
Methane G25 (2LL)	29,25	20	13	1,40	-----	1,4	10,1
Butane G30	116,09	28/30	13	0,75	-----	4,4	27,4
Propane G31	88	37	13	0,75	-----	5,7	34,1

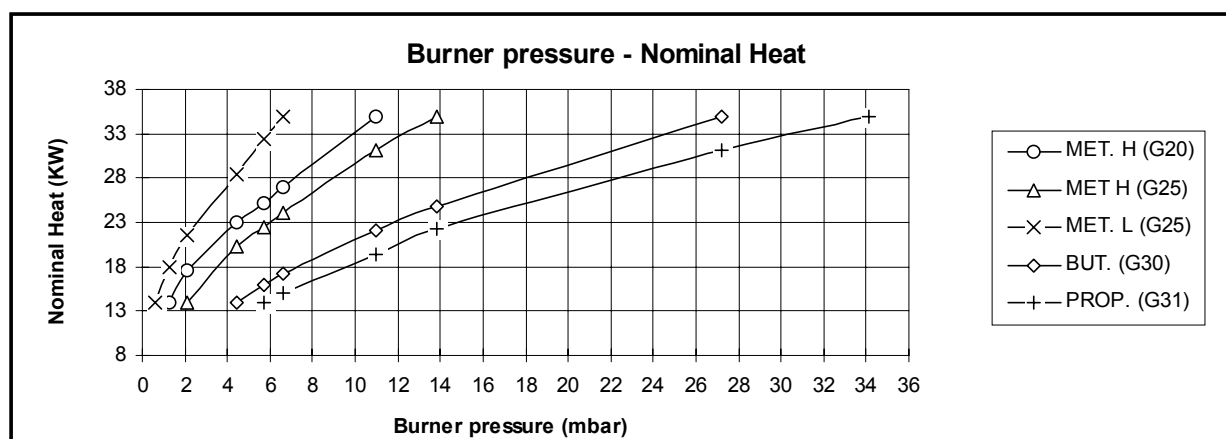


28

ECOfast 29 F			Injectors		Diaphragme	Burner pressure	
TYPE of GAS	P.C.I	Mains pressure	Qty	Diameter	Diameter	Q.min. = 12,4 kW	Q.max = 31,5 kW
	MJ/m <sup>3</sup>	mbar	N°	mm	mm	mbar	mbar
Methane G20 (2H+)	34,02	20	13	1,30	5,90	1,5	12,7
Methane G25 (2H+)	29,25	25	13	1,40	5,90	2,5	13,5
Methane G25 (2LL)	29,25	20	13	1,40	-	1,7	13,5
Butane G30	116,09	28/30	13	0,8	-	3,8	27,3
Propane G31	88	37	13	0,8	-	5,1	35,4



ECOfast 32 F			Injectors		Diaphragme	Burner pressure	
TYPE of GAS	P.C.I	Mains pressure	Qtyé	Diameter	Diameter	Q.min. = 14 kW	Q.max = 34,kW
	MJ/m <sup>3</sup>	mbar	N°	mm	mm	mbar	mbar
Methane G20 (2H+)	34,02	20	18	1,20	6,5	1,3	11
Methane G25 (2H+)	29,25	25	18	1,20	6,5	2,1	13,8
Methane G25 (2LL)	29,25	20	18	1,45	-----	0,6	6,6
Butane G30	116,09	28/30	18	0,72	-----	4,4	27,2
Propane G31	88	37	18	0,72	-----	5,7	34,1



## 2.11.4 MODIFICATION FOR USE WITH OTHER TYPES OF GAS

The boiler is equipped to run on 2 types of natural gas: methane gas (GN/H&L) and liquid gas (GPL)

*Changing the boiler from natural to liquid gas.*

- Change the burner injectors, using a 7 mm spanner;
- Move the bridge JP1 on the modulator plate to the GPL position (see electrical diagram);
- Change the minimum and maximum pressure settings according to the instructions given in the preceding paragraphs;
- For injector diameters and burner gas pressure - see the above table.
- Seal the setting controls with varnish.

*Changing from GPL to natural gas:*

- Change the burner injectors, using a 7 mm spanner;
- Move the bridge JP1 on the modulator plate to the METHANE position (see electrical diagram);
- Change the minimum and maximum pressure settings according to the instructions given in the preceding paragraphs;
- For injector diameters and burner gas pressure - see the above table.
- Seal the setting controls with lacquer.

## **3. MAINTENANCE**

### **3.1 RECOMMENDATIONS**

All installation, maintenance and parts change operations are to be carried out by a professionally qualified person according to best current practice in the field.

Further more, boiler maintenance is to be carried out according to the conditions laid down in current regulations at least once per year and in particular by an ARCA Approved Technical Assistance Centre.

Before each Winter season the unit must be checked by an authorized Technical Assistance Centre in order always to have an installation in perfect working order.

In particular, it is necessary to carry out the following operations:

- check, and if necessary, clean the exchanger;
- check, and if necessary, clean the burner;
- check, and if necessary, reset water system pressure;
- check that the expansion chamber is in working order;
- check that the regulators and safety devices are in good working order;
- check the ignition and ionisation electrodes for cleanliness and condition;
- check the circulation pump for proper operation;
- check the different systems (gas, water, drainage and fumes) for leaks;
- check gas pressure at the burner;
- check the combustion rate;
- check the exhaust gases for impurities (CO, CO<sub>2</sub>, NO<sub>x</sub>);
- where a component of the boiler has to be replaced it is essential that genuine ARCA spares are used.

**ATTENTION.** The unit is fitted with safety thermostat to prevent the blow-back of exhaust gases into the surroundings. This device must not be taken out of service. Exhaust gases in a given location can cause severe poisoning which is a mortal danger.

ATTENTION After any work done on the boiler's gas system it is IMPERATIVE to check the gas-tightness of the various connections and joints to be certain that there is no leakage of gas.

### 3.2 SHORT "OFF" PERIOD

A short "off" period can be got by one of the following:

- operation of the room thermostat or the time switch.
- operation of the heating regulation control on the control panel.
- operation of the On/Off control on the control panel.

### 3.3 PROLONGED "OFF" PERIOD

When the boiler is switched off for a prolonged period, cut off the electricity supply and close the gas entry cock.

### 3.4 DRAINING THE SYSTEM

When draining the system is required, proceed as follows:

- attach a flexible hose to the outlet cock.
- connect the other end to drain vent.
- open the cock by turning the knurled ring anti-clockwise.
- close the cock by turning the ring clockwise.

### 3.5 UNBLOCKING THE CIRCULATION PUMP

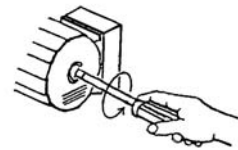
When the boiler is new or after a long period of idleness, check that the pump is not stuck before starting up.

This problem can be dealt with as follows:

put a flat-blade screwdriver in the slot provided for this purpose under the protective screw in the centre of the pump.

turn the pump mechanism manually clockwise.

having done this replace the protective screw and check for leaks.



31

## 4. OPERATING INSTRUCTIONS

### 4.1 CONTROL PANEL: REGULATORS AND INDICATORS

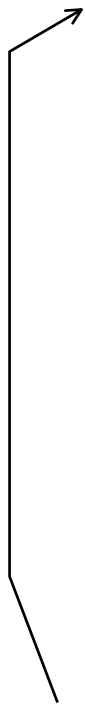


**Green power light:**  
shows that the boiler is  
powered

**Thermometer:**  
The thermometer on the  
control panel allows  
checking the heating  
circuit operating  
temperature previously  
selected on the selector  
knob.

**Manometer:**  
Displays visually water pressure in the  
heating circuit. This pressure must not be less  
than 1,5 bar (cold). If pressure is below 1,5  
bar, it is necessary to reset the required value  
by manipulating the refiller unit with the boiler  
disconnecter. This operation must be carried  
out when the boiler is cold.





**Rotary switch**

**Safety shut-down indicator:**  
This light is to show operation of the safety shut-down device after an interruption of the gas supply or an inversion between Phase and Neutral. To reset this after rectification, turn the selector to "Reset".

**Heating temperature regulator**  
The temperature of the temperature circuit can be selected by this knob : turning anti-clockwise reduces the temperature to minimum, 45°C; turning clockwise increases the temperature to maximum, 80 °C.

**Domestic hot water regulation:**  
This knob is to set the domestic water operating temperature : turning anti-clockwise gives the lowest temperature, 35°C; turning clockwise, gives the highest temperature, 60 °C.

**Summer**

With the switch in this position, the boiler produces hot domestic water only.

**Winter**

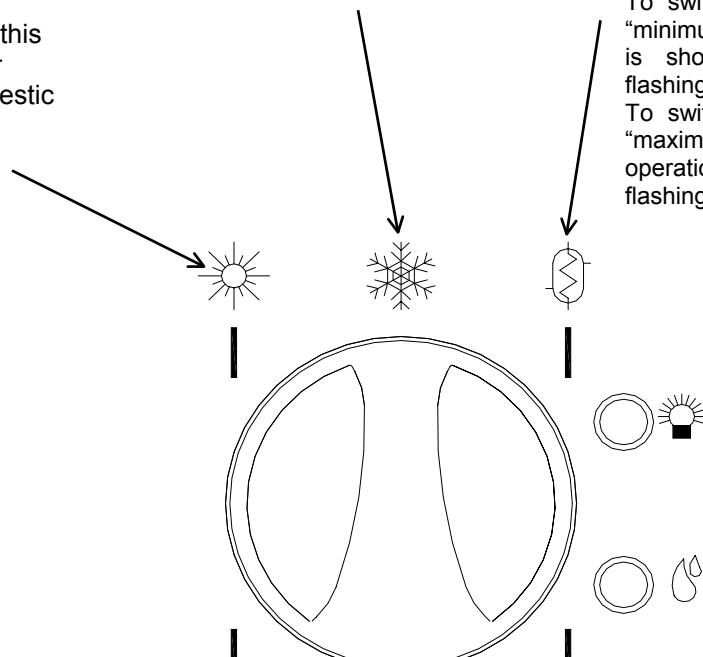
With the switch in this position the boiler can deliver heating as well as hot domestic water.

**Domestic hot water preheating:**

Set the selector switch to PREHEATING.

To switch on: hold the selector at "minimum" for 10 seconds, operation is shown by the GREEN LED flashing rapidly.

To switch off: hold the selector at "maximum" for 10 seconds, operation is shown by the RED LED flashing rapidly.



### RESET

By turning to the "reset" position, the boiler can be restarted after the safety cut out has operated.

### OFF

The boiler is off with the switch in this position.

### FLUE CLEANING MODE

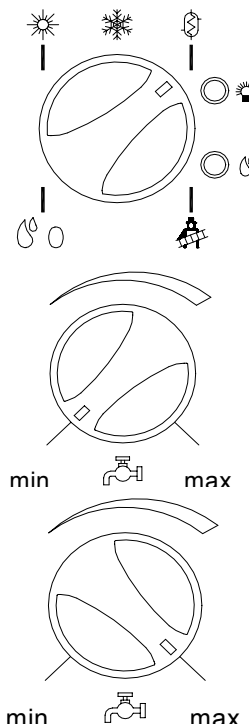
With the switch in this position the boiler lights up as for heating and continues to run at maximum output for 15 minutes until it reaches the outlet temperature of 85 °C, at which it shuts down. Relighting takes place when the transmitted temperature drop below 77°C. A simultaneous demand for hot water is met while this mode is engaged.

## 4.2 HOT WATER PREHEATING

Set the selector switch to PREHEATING.

- To switch on: hold the water selector at "minimum" for 10 seconds, operation is shown by the GREEN LED flashing rapidly.

- To switch off: hold the water selector at "maximum" for 10 seconds, operation is shown by the RED LED flashing rapidly.



## 4.3 FLUE CLEANING MODE

With the selector switch in "flue cleaning" position the boiler lights up in the heating mode and operates at full output for 15 minutes until the maximum temperature of 85°C is reached, on which it shuts down. Ignition occurs again as soon as the outlet temperature drops below 77°C. A simultaneous demand for hot water is met in the flue cleaning mode also.

## 4.4 HEATING MODE OPERATION WITH OTC

## (Outside Temperature Control)

Operation is similar to "normal", with the difference that the outlet temperature is automatically cut off by comparison with the outside temperature, read by the outside probe, and the K factor stored in memory. The regulation of the ambient temperature environment can be made by using the alone compensation of the heating temperature with the external temperature or in combination with the remote control. In the case of breakdown to the external probe the regulation of the heating could be made through the knob of heating.

### 4.4 FONCTIONNEMENT EN MODE CHAUFFAGE AVEC OTC, "outside temperatures control"

Le fonctionnement est identique au mode chauffage manuel, avec la différence que la température de départ est automatiquement déterminée sur la base de la température externe, relevée par la sonde extérieure, en relation avec le facteur "K" mémorisé.

La régulation de la température ambiante peut se faire en agissant simplement sur la compensation de la température de départ avec la température extérieure ou en combinaison avec la commande déportée. Dans le cas d'une défectuosité de la sonde extérieure la régulation de la température de départ est effectuée par le bouton chauffage.

#### 4.4.1 CONNECTING THE OUTSIDE PROBE

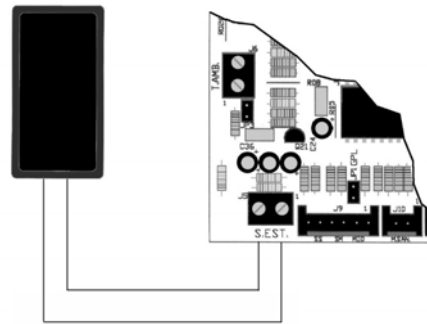
Switch off 230V AC power.

Join up the two outside probe wires to the circuit board, as illustrated.

Restore electrical power; if the connection has been correctly made the system senses the outside probe and shows this by rapid flashing of the two LEDs.

From that point the OTC temperature regulation mode is active; this is based on the position of factor "K"; see the following section.

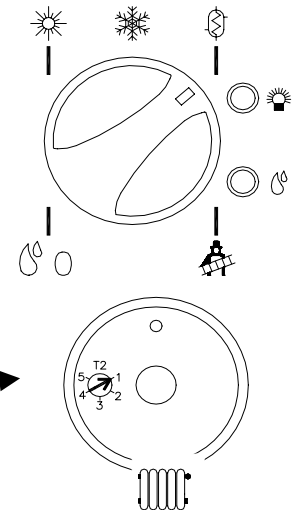
Any malfunction of the outside probe will be indicated by the green LED flashing.



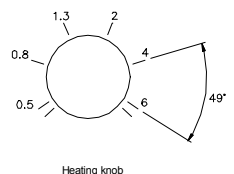
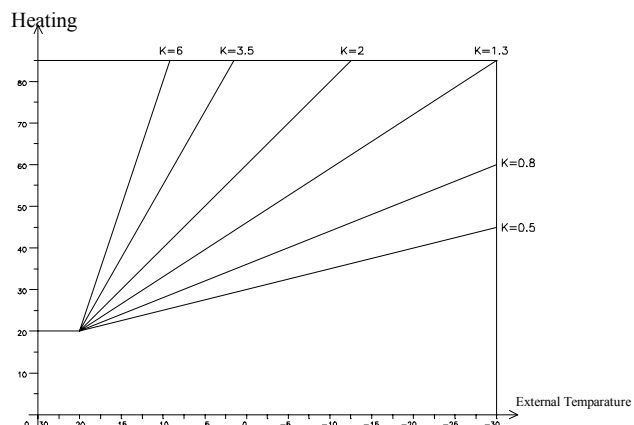
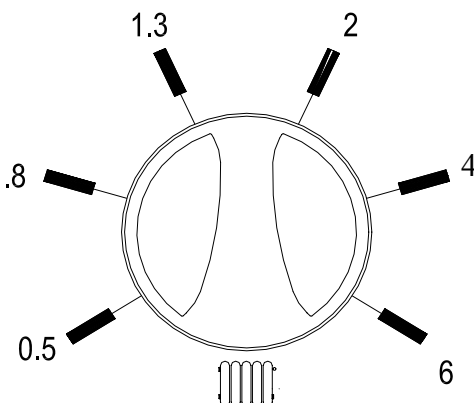
34

#### 4.4.2 POSITION of "K" factor FOR OTC

Set the selector to PREHEATING mode.



Set heating output trimmer to minimum;  
Remove the heating control knob;  
Turn the trimmer under the knob anti-clockwise;  
Replace the control knob on its spindle  
Using the required curve as reference set the heating control knob by positioning it according to the following graph as illustrated:



At this point the boiler makes an entry to memory, marked by rapid alternate flashing of the two LEDs. Place the mode selectors to the WINTER position. Set the heating output trimmer to the figure required by the installation.

### 4.4.3 DISCONNECTING THE OUTSIDE PROBE

Switch off power to the boiler.  
 Remove the probe wires from the circuit board.  
 Set the mode selector to WATER PREHEATING.  
 Check that the heating output trimmer is not set to minimum.  
 Set the heating selector knob to minimum.  
 Restore power to the boiler.

In this way the system bypasses the outside probe and shows this by rapid flashing of the two LEDs.

## 4.5 REMOTE CONTROL OPERATION

The circuit board has been fitted with a Graesslin time switch mod. Celebre 200. The remote control is connected directly to the circuit board side having disconnected power from the boiler.

In the case of communication failure or disconnection of the remote control, this continues for 30 seconds with the instructions programmed on the remote control. If after this period communication has not been re-established begins to operate again according to the manual settings.

35

### 4.5.1 REMOTE COMMANDS

Remote commands are the following:

hot water

heating

outlet position set, calculated by the remote control.

The function of the rotary selector switch "0, Summer, Winter" is also active under remote control (for example, with "Summer" selected and the remote control asks for heating, the boiler ignores all requests for heating and operates in the "hot water" mode only).

## 4.6 MALFUNCTION CODES

The card transmits a malfunction signal to the remote control by an identifying code. The LEDs on the circuit board show the malfunctions in the same way as for operation without remote control.

The malfunction codes shown by the terminal are the following:

Malfunction n° on the remote control	DESCRIPTION	RED LED	GREEN LED
2.01	GAS BLOCKAGE	ON	ON
4.02	FLOW SWITCH (PUMP) GAS VALVE MODULATION WINDING OFF	ALTERNATING FLASHING	ALTERNATING FLASHING
2.06	OVERHEATING	FLASHING	ON
00.04	HEATING PROBE MALFUNCTION	OFF	FLASHING
00.05	HOT WATER PROBE MALFUNCTION	OFF	FLASHING
00.07	OUTSIDE PROBE MALFUNCTION	OFF	FLASHING

16:08	INSUFFICIENT AIR OR LIMIT THERMOSTAT OPERATING	FLASHING	FLASHING
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## 4.7 IGNITION

Open the gas inlet cock. Turn the selector switch (see illustration on page 33) to SUMMER or WINTER.: the boiler will light up automatically (the “power on” indicator light will light up on the control panel).

If the boiler does not light up the red safety cut-off light will come on (see illustration page 33).

To re-activate, the selector must be turned to the reset position (see illustration page 33).

## 4.8 SUMMER OPERATION

Turn the selector switch to the SUMMER position (see illustration page 33) and set the settings knob for water temperature at the desired temperature. In this case the will produce domestic hot water only.

## 4.9 WINTER OPERATION

Turn the selector switch to the WINTER position (see illustration page 33) and set the heating settings knob at the desired temperature. If you have a room thermostat, this will maintain the room temperature at the desired level.

N.B. If there is a room thermostat, check for correct positioning and setting to the desired target temperature.

36

If the boiler temperature is controlled by an outside probe, the setting knob on the control panel is deactivated.

## 4.10 TEMPORARY SWITCHING OFF

Temporary switching off can be effected by the following :

- operation of room thermostat or time switch;
- operation of heating setting selector knob on control panel;
- operation of ON/OFF switch on the control panel.

## 4.11 LONG TERM SWITCHING OFF

When the boiler must stay off for a long period, switch off the electrical power and close the gas inlet cock.

## 4.12 IMPORTANT RECOMMENDATIONS

Plan for cleaning the boiler and checking the settings and safety devices at least once a year.

When the boiler is out of service for a long period free the circulation pump rotor spindle after removing the protective screw situated in the centre of the electric motor before switching on the power (see illustration page 31).

Never interfere with the gas valve settings. This operation is for a professional, qualified technician only.

If you must take corrective action yourself, after the burner safety cut-off has operated as shown by the red light (see illustration page 32) on the control panel, turn the selector switch to the Reset position (see illustration page 32). If the problem recurs frequently contact an approved ARCA Technical Assistance Centre.

## 4.13 MALFUNCTIONS

### 1 *The main boiler flame does not light up*

#### Causes

- A) The boiler water temperature is above that called for by the thermostat.
- B) The gas cock is closed.
- C) The ON/OFF switch is not set correctly.
- D) No flame detection
- E) No spark at the ignitors.
- F) Airlock in the gas piping.
- G) The safety thermostat has cut out.
- H) No pressure in the water circuit.

#### Remedial measures.

- A) Select a higher temperature at the thermostat.
- B) Open the gas cock.
- C) Set the knob to ON.
- D) Call technician.
- E) Call a technician.
- F) Adjust the ignition.
- G) Call a technician.
- H) Open the refill cock and restore pressure to the water system.

### 2. *Noisy start-up*

#### Causes

- A) Incorrect flame.
- B) Insufficient gas flow.
- C) Ignitors badly positioned.

#### Remedial action.

- A) Call a technician.
- B) Call a technician.
- C) Call a technician.

### 3 *Smell of gas.*

#### Causes

A) Gas leak in gas piping (inside or outside the boiler).

#### Remedial action

A) Switch off the main supply cock and call a technician.

4 *The boiler produces condensation.*

#### Causes

A) The boiler is operating at too low a temperature.

#### Remedial action

A) Select a higher boiler temperature.

5 *Radiators cold in Winter.*

#### Causes

A) The Summer/Winter selector is set to Summer

B) The room thermostat is defective or set to too low a temperature.

C) Circuit and/or radiators are shut off.

D) The three-way valve is not working.

#### Remedial action

A) Set selector to Winter.

B) Replace room thermostat or select a higher temperature.

C) Open circuit or radiator valves as required.

D) Call a technician

6 *Low hot water temperature.*

#### Causes

A) The hot water thermostat is set too low.

B) Too much hot water is being drawn off.

C) Gas burner setting is incorrect.

#### Remedial action

A) Increase thermostat setting.

B) Partially close the hot water cock.

C) Call a technician.

38

## **4.14 WARRANTY CONDITIONS**

1. The unit is under warranty for a period of 12 months from the first lighting up with a maximum limit of 18 months from the date of manufacture which appears on the warranty card.

Nobody is authorized to alter these conditions or issue any other verbal or written warranty without the approval of ARCA S.r.l.

This warranty is extended to: 2 years on condition that commissioning is carried out by a Technical Assistance Centre approved by ARCA S.r.l.

2. The warranty covers all parts and components of the boiler and covers also repair or free replacement of certain items displaying manufacturing faults. Attendance of service personnel will be paid for by the party requesting them who shall have to pay any labour and/or travel charges due.

3. Repair or replacement of any component during the course of the warranty shall not result in its prolongation.

4 The warranty does not cover components damaged by:

transport, lack of and/or incorrect maintenance, non-standard installation, chimney malfunction, malfunction of water or gas mains, poor quality fuel, inability to operate, wear and tear caused by unauthorized personnel any cause not directly imputable to ARCA S.r.l.

Damage not imputable to human intervention, such as: fire, frost, flood, limescale or corrosion by chlorinated water.

5 The warranty is valid on condition that:

a) the first lighting up and hence commissioning of the boiler are carried out by technical personnel authorized by ARCA.

b) the part of the certificate of warranty to duly filled in and signed has been sent to ARCA S.r.l. within 15 days of the date of commissioning.

c) the unit is installed on Irish territory according to the DTU regulations in force and the directions given in the Instruction Manual.

d) the unit is subject to maintenance by a person authorized by ARCA according to the recommendations in the Instruction Manual.

6. The warranty is considered terminated in the case of:

a) damage caused by a technician not authorized by ARCA S.r.l.;

b) installation not complying with current regulations or the directions given in the Instruction Manual

c) inefficient chimneys:

d) electrical or water supply not complying with regulations in force or the specifications given in the Instruction Manual;

e) use for a purpose other than that indicated in the Instruction Manual or any purpose different from that for which the boiler was designed;

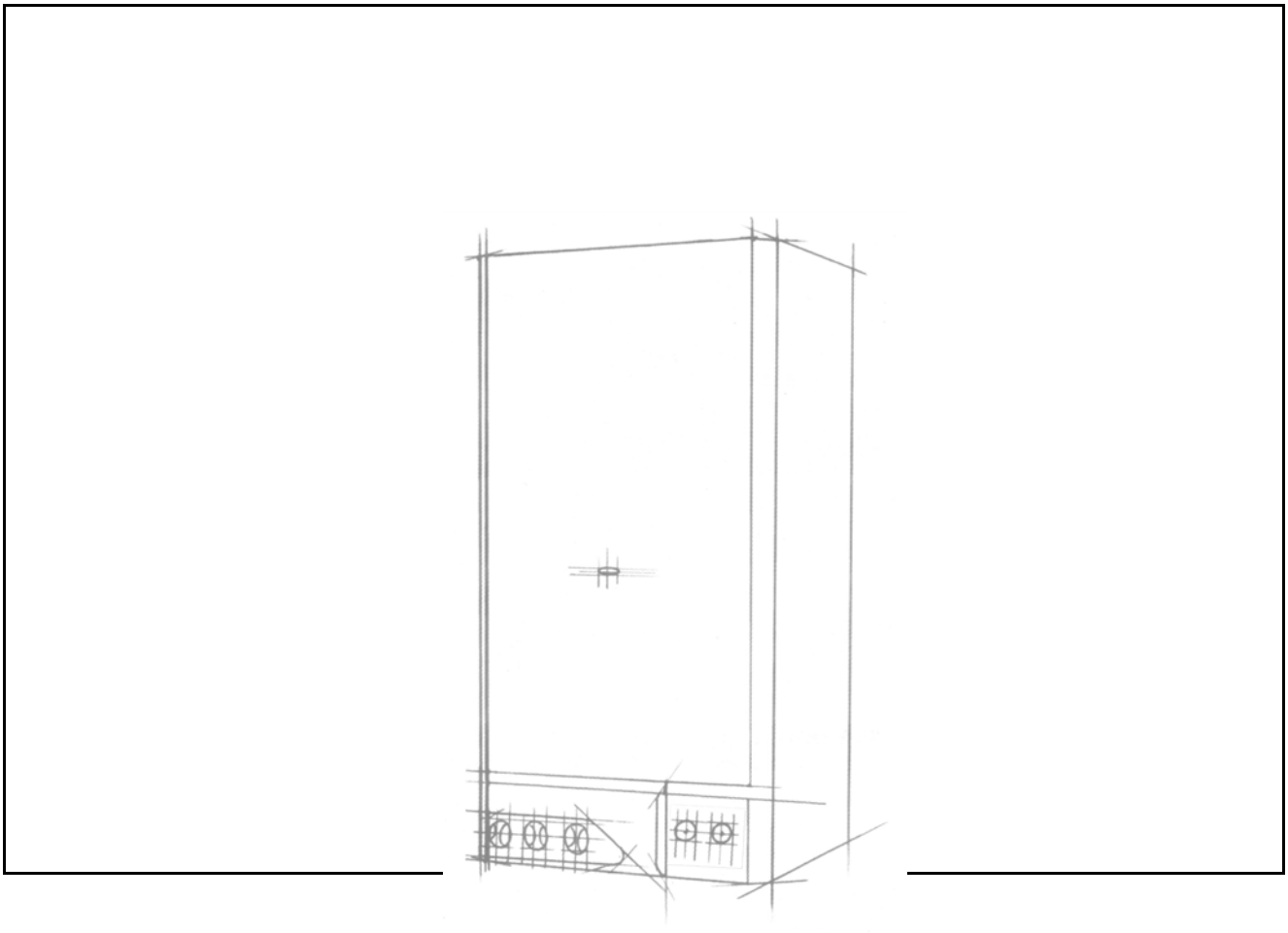
f) failure of the user to present the duly filled out and validated copy of this certificate.

7. ARCA S.r.l. is liable in accordance with the law for damage to persons, animals or property caused by faulty construction of its units, taking into account the conditions laid out in paragraphs 5 and 6. In all cases this warranty will be applied without indemnity of any sort for labour costs rising from dismantling, reassembly, shutting down, transport or acceptance costs.

8. The satisfactory operation certificate is in respect of the boiler only.

No liability for problems caused by installation not in compliance with current regulations or the directions given in the Instruction Manual can attach to ARCA S.r.l.'s Technical Assistance Centre.

9. In case of dispute the Commercial Court of Mantova (ITALY) shall have jurisdiction whatever the place, cause or type of litigation.





ECOfast 25 N	- PIN code :	0068AT020
ECOfast 25 F	- PIN code :	0068AT019
ECOfast 29 F	- PIN code :	0068AT026
ECOfast 32 F	- PIN code :	0068AT021

**ARCA**  
**caldaie**



Sede legale: Via I° Maggio, 16  
46030 S. Giorgio (Mantova)  
(0376) 372206 Fax (0376) 374646



Produzione: Via S. Giovanni XXIII, 105  
26865 S. Rocco al Porto (LODI)  
(0377) 569677  
(0377) 569456