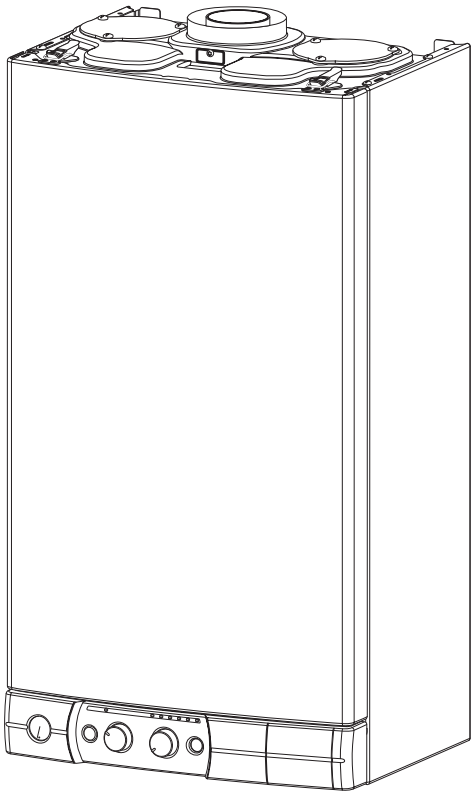
MX2 FF

COMBINATION BOILER

Heating and Instantaneous Domestic Hot Water

Fanned Flue system

Installation and Operating instructions



Manufactures N°	Model Type	Gas Council N°
200906827037.31	MX2 24 Nat	47 - 980 - 28
200906828037.31	MX2 30 Nat	47 - 980 - 29

GB

C&M
CHAFFOTEAUX & MAURY

These instructions are suitable for the NC boilers :

Do not forget the Logbook!

Chaffoteaux & Maury supports Benchmark, the heating industry code to ensure the correct installation, commissioning and servicing of domestic central heating systems.

To The Householder

Make sure you have a completed Logbook for your boiler. This provides a record of the commissioning of your boiler.

It contains important information about your particular installation that may be required by service engineers. The logbook will also provide contact details for the installer should you need guidance in the use of this appliance or if there are any problems.

As with your car, your boiler will work more reliably and efficiently if regularly serviced. We recommend an annual service check. The service history of the appliance will be recorded on the logbook.

In the unlikely event of any problems with your boiler or system you should first contact your installer. If your installer cannot resolve the problem he should telephone our national service helpline.

A charge may be made if Chaffoteaux & Maury Service is called out to resolve a non-product related fault.

Your statutory rights are not affected.

TO CONTACT C&M SERVICE, PLEASE CALL THE NATIONAL WARRANTY HELPLINE ON:

0 870 243 0224

To The Installer

As part of the commissioning of this appliance it is vital that the Logbook is completed and given to the Householder. Please ensure that your customer is aware of the importance of keeping the Logbook safe as a record of the installation and the appliance service history.

Please ensure that your customer is aware of the correct operation of the system, boiler and controls.

CUSTOMER CARE

Chaffoteaux & Maury Ltd., as a leading manufacturer of domestic and commercial water heating appliances is committed to providing high quality products and a high quality after sales service. If it is necessary to contact an engineer, then telephone the national warranty helpline 0870 243 0224.

Advice on installation or servicing can also be obtained by contacting the Chaffoteaux Customer Services Department at

Telford.

CUSTOMER SERVICES DEPARTMENT

Tel: 01952 222288

Fax: 01952 260915

GUARANTEE

The manufacturer's guarantee is for 12 months from the date of purchase. The guarantee is invalidated if the appliance is not installed in accordance with the recommendations made herein or in a manner not approved by the manufacturer. To assist us in providing you with an efficient after sales service, please return the guarantee registration card enclosed with the boiler without delay.

STATUTORY REQUIREMENTS

The installation of this appliance must be carried out by a CORGI Registered person or other competent person and in accordance with the requirements of the Gas Safety (Installation and Use) Regulations.

In addition, the installation must also comply with the current bylaws of Local Water Undertakings, Building Regulations, IEE Wiring Regulations, Local Authority Building Standards (Scotland) Regulations and the Safety Document 635 The Electricity at work Regulation. The appliance named below does not contain any asbestos or asbestos products, or mercury derivatives. Additional CFC's have not been used in this product.

The appliance does not contain any potential hazard in relation to the COSHH regulations.

It should also be carried out in accordance with current editions of the following British Standards Codes of practice: BS 6891, BS 5440 parts 1 and 2, BS 5449 part 1, BS 7593, BS 6798, BS 5546, BS 4814, BS 7074 part 1 and 2, BS 7671 and BG DM2.

If there is a possibility of the incoming mains water pressure exceeding 10 bar then a suitable pressure limiting valve must be fitted where pressures exceed 6 bars a pressure limiting is preferred.

Precautions: During servicing, keep the dust generation to a minimum and avoid inhaling any dust and contact with the skin and eyes. Normal handling and use will not present any discomfort, although some people with a history of skin complaints may be susceptible to irritation. When disposing of the ceramic lining, ensure that it is securely wrapped and wash hands after contact.

Contents

USER'S INSTRUCTIONS

This instruction booklet is especially designed for appliances installed in United Kingdoms

INTRODUCTION

The **MX2** is a fully automatic, wall mounted, low water content combination boiler. It is a room sealed, fan assisted, balanced flued appliance providing central heating and mains pressure domestic hot water on demand. It has electronic ignition and is suitable for all modern electrical control systems. The boiler is designed for sealed systems only and a circulating pump, expansion vessel together with a pressure gauge and safety valve are included within the boiler.
The standard horizontal flue kit is suitable for lengths 300 mm minimum to 850 mm maximum and includes an elbow adapter that can be rotated through 360 ° . The horizontal flue can extend up to 4 metres using 1 metre flue extension kits. 45 ° and 90° flue bends are also available as accessories.

1 Description

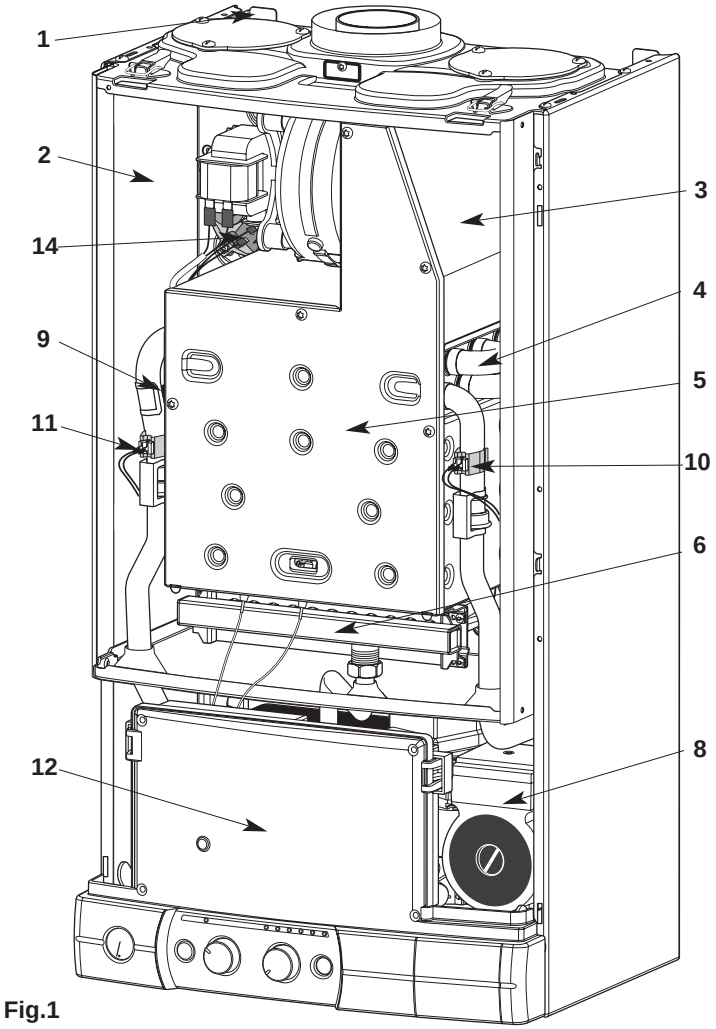


Fig.1

1.- Steel chassis complete with expansion vessel
2.- Sealed chamber
3.- Flue hood with fan
4.- Main heat exchanger
5.- Combustion chamber
6.- Multi- gas burner assembly comprising ignition and ionisation electrodes
7.- Gas valve assembly
8.- Pump with automatic air separator and automatic vent
9.- Overheat safety cutout
10 - Main exchanger inlet thermistor
11.- Main exchanger outlet thermistor
12.- Electrical box
13.- Hot water flow sensor
14.- Air pressure switch
15.- Ignitor
16.- Central heating pressure relief valve
17.- Three way valve
18.- Secondary heat exchanger
19. - Pressure gauge
20. - On/off push button and power on indicator light
21.- Sanitary temperature setting and sanitary start button
22.- Heating temperature setting and heating start button
23.- Heating temperature indicator and operating faults indicator
24.- Orange indicator - Burner ON
25.- Reset push button and red indicator locking light

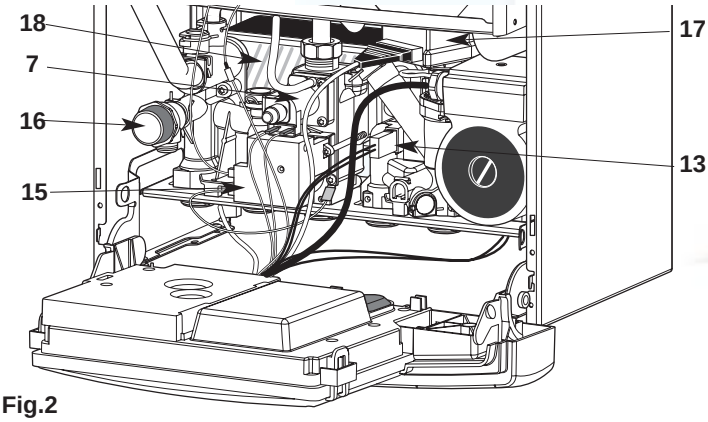


Fig.2

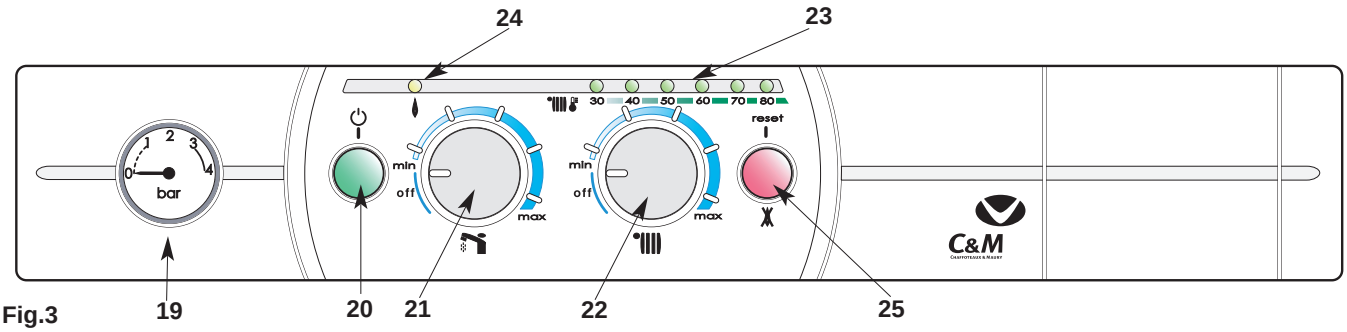


Fig.3

2 Dimensions

All dimensions in mm

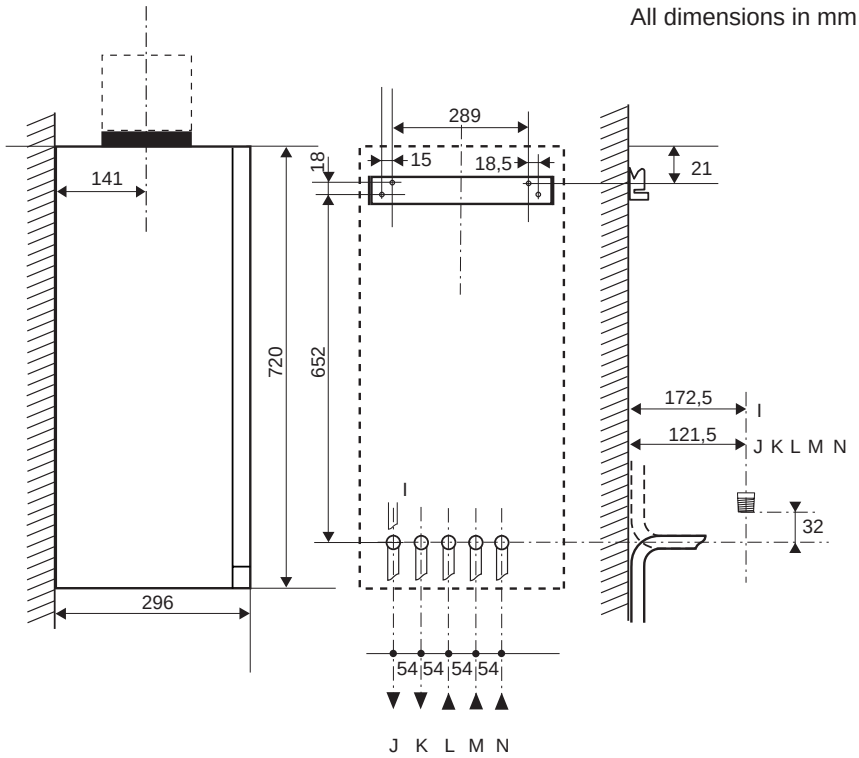
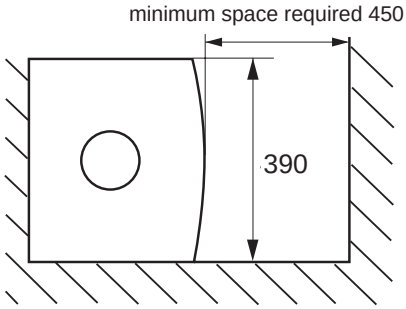


Fig. 4

I	Safety valve C/H and condensate
J	Heating flow
K	D.H.W. flow
L	Gas supply
M	Cold water inlet
N	Heating return

With packaging :
24 kW : 32 kg
30 kW : 33 kg



3 Hydraulic data

Pump head available

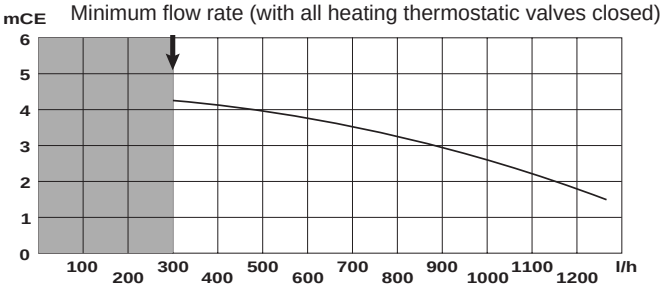


Fig. 5

Pump head chart available at the outlet of the boiler

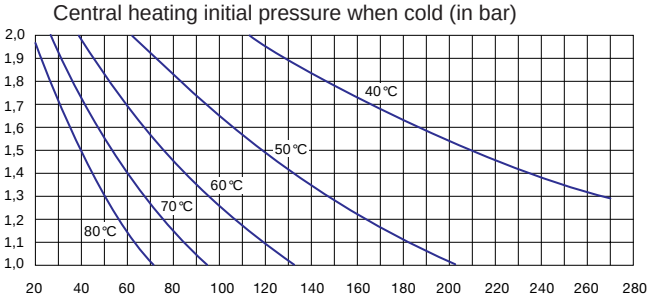


Diagramme de contenance en eau.

Fig. 6

System capacity chart

The water heater is fitted with an automatic by-pass as standard.

The graph (fig. 5) shows the developmentof the pressure available in relation to flow (on exit from the boiler).

To ensure correct operation, the minimum flow of the appliance must be 300 l/h. (Thermostatic taps closed).

Capacity of the installation.

The water heater is fitted with a pressurised expansion vessel.

Maximum. volume of expansion vessel: 6 litres.

Pressure: 1 bar.

The volume of the expansion vessel in a pressurised appliance varies according to:

- the average operating temperature in °C

- the static height, which is the difference in metres between the highest point of the appliance and the expansion vessel axis).

The minimum cold filling pressure of the appliance is 1 bar (recommended pressure between 1.2 and 1.7 bar).

The pressure of the expansion vessel should always be greater than the static height (in metres) divided by 10.

4 Installation requirements

Location

The boiler can be installed on any suitable internal wall. Provision must be made to allow the correct routing of the flue and siting of the terminal to allow the safe and efficient removal of the flue products. A compartment or cupboard may be used provided that it has been purpose-built or modified for the purpose. It is not necessary to provide permanent ventilation for cooling purposes. Detailed recommendations are given in BS 5440 pt 2. If it is proposed that it is installed in a timber framed building then reference must be made to British Gas Document DM2, or advice sought from CORGI.
Avoid to install the boiler where the air inlet can be polluted by chemical products such as chlorine (swimming pool aera), or ammonia (hair dresser), or alcalin products (launderette)

Flue

Detailed information on flue assembly is contained in the appropriate starter pack.
The boiler must be installed so that the flue terminal is exposed to the free passage of external air at all times. It must not be allowed to discharge into another room or space such as an outhouse or closed lean-to. The minimum acceptable clearances are shown below:

- A Directly below an opening, window, etc	300 mm
- B Above an opening, window, etc	300 mm
- C Horizontally to an opening, window, etc	300 mm
- D Below gutters, soils pipes or drain pipes	75 mm
- E Below eaves	200 mm
- F Below balconies or car port roof	200 mm
- G From a vertical drain pipe or soil pipe	150 mm
- H From an internal or external corner	300 mm
- I Above ground roof or balcony level	300 mm
- J From a surface facing the terminal	600 mm
- K From a terminal facing the terminal	1200 mm
- L From an opening in the car port into the dwelling	1200 mm
- M Vertically from a terminal on the same wall	1500 mm
- N Horizontally from a terminal on the same wall	300 mm

- Q Fixed by Ubbink Rolux 4 GM flue terminal

It may be necessary to protect the terminal with a guard. Reference should be made to the Building Regulations for guidance. Suitable guards may be obtained from the following manufacturer:

Quinnel Barret & Quinnel Wireworks
Old Kent Road
London SE15 1NL
Tel: 0171 639 1357

Ventilation

The room in which the boiler is installed does not require specific ventilation. **If it is installed in a cupboard or compartment permanent ventilation is not required for cooling purposes.**

Gas Supply

The gas installation and soundness testing must be in accordance with the requirements of BS 6891.The boiler requires a 22 mm supply. Ensure that the pipe size is adequate for demand including other gas appliances on the same supply.

Electrical Supply

The appliance requires an earthed 230V - 50 Hz supply and must be in accordance with current I.E.E. It must also be possible to be able to completely isolate the appliance electrically. Connection should be via a 3 amp fused double-pole isolating switch with contact separation of at least 3 mm on both poles. Alternatively, a fused 3 Amp. 3 pin plug and unswitched socket may be used, provided it is not used in a room containing a bath or shower. It should only supply the appliance.

The boiler is suitable for sealed systems only. The maximum working pressure for the appliance is 10 bar. All fittings and pipework connected to the appliance should be of the same standard. If there is a possibility of the incoming mains pressure exceeding 10 bar, particularly at night, then a suitable pressure limiting valve must be fitted.
The boiler is designed to provide hot water on demand to multiple outlets within the property. If there is a requirement for greater demands, for example if the property has several bathrooms and cloakrooms, a vented or unvented hot water storage system may be used.

Showers

Any shower valves used with the appliance should be of a thermostatic or pressure balanced type. Refer to the shower manufacturer for performance guidance and suitability.

Flushing and Water Treatment

The performance of the appliance could be impaired by system debris or the effects of corrosion. The system must be flushed thoroughly to remove metal filings, solder, machining oils and other fluxes and greases before connecting the boiler. If it is an existing system, an appropriate flushing and descaling agent should be used. Refer to BS 7593 (1992) for guidance. For more information on the use of corrosion inhibitors, flushing and descaling agents, advice can be sought from the manufacturers of water treatment products such as:

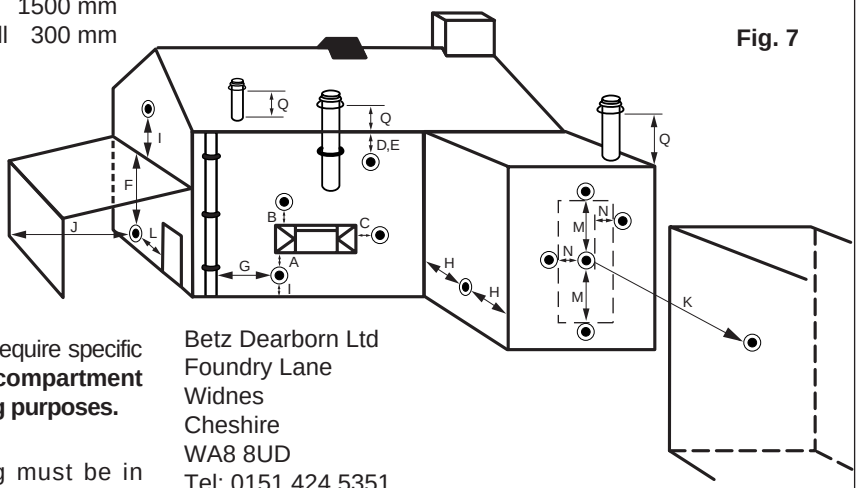


Fig. 7

Betz Dearborn Ltd
Foundry Lane
Widnes
Cheshire
WA8 8UD
Tel: 0151 424 5351
Fernox Manufacturing
Britannica Works
Clavering
Essex
CB11 4QZ
Tel: 01799 550811

System Controls

The boiler is electrically controlled and is suitable for most modern electronic time and temperature controls. The addition of such external controls can be beneficial to the efficient operation of the system. The boiler connections for external controls are 24V and so only controls of 24V or that have voltage free contacts should be used.

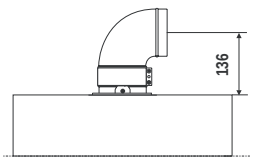
5 Connecting gas intake and exhaust ducts

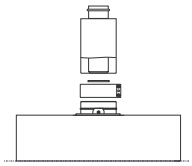
The boiler should only be installed with a fresh air inlet and smoke outlet device supplied by the boiler manufacturer.
These kits are supplied separately to the appliance in order to respond to different installation solutions. For more information with regard to the inlet/outlet accessories consult the accessory catalogue and the installation instructions contained in the kits.
The boiler is predisposed for the connection to a twin flow concentric gas intake and exhaust duct system

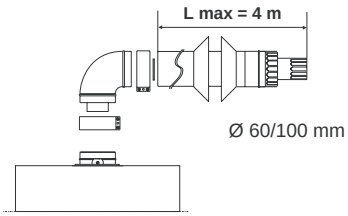
Warning
The exhaust gas ducts should not be in contact with or close to inflammable material and should not pass through building structures or walls made of inflammable material.
When replacing an old appliance, the gas intake and exhaust duct system will also have to be changed.

Important
Ensure that the gas intake and exhaust passages are not blocked.
Ensure that the exhaust gas ducts do not have leaks

5.1 TYPE OF COAXIAL OUTLET (C12, C32, C42) xx





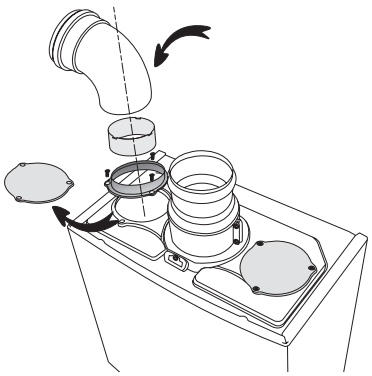


Concentric outlet 60/100	Restrictor ø 88,5	Without restrictor	Max.length
24 kW	L min. = 0,3 m L max. = 1 m	L min. = 1 m L max. = 4 m	4 m /
30 kW	L min. = 0,3 m L max. = 1 m	L min. = 1 m L max. = 4 m	4 m /

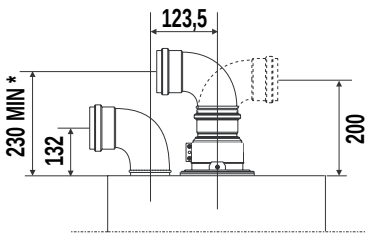
L = total length of gas intake and exhaust ducts.

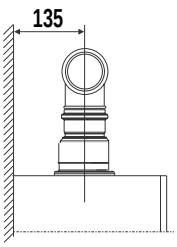
5.2 TYPE OF TWIN FLOW CONCENTRIC EXHAUST DUCT (C12, C32, C42, C52, C82) xy

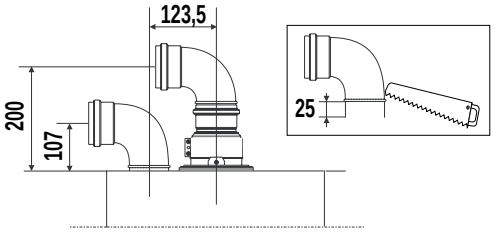
There is also the possibility of using an exhaust gas duct with separate tubes by using an adaptor on the outlet header and by inserting the tube in the air intake envisaged for this purpose.
In order to use the air intake, you should:
1) Take the air intake cover off
2) Assemble the flange on the header supplied with the boiler
3) Assemble the membrane, if necessary, on the tube or the elbow
4) Insert the header on the tube or the elbow up until the lower stop (you do not have to use the washer).
5) Insert the elbow/header in the boiler air intake hole and fasten it with screws



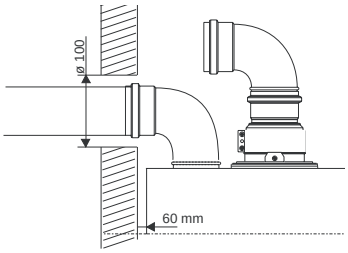
If the two elbows or in the same lateral direction and if you need to reduce the required space, the minimum 230 mm measurement can be reduced by carefully cutting the elbow below the air inlet by 25 mm

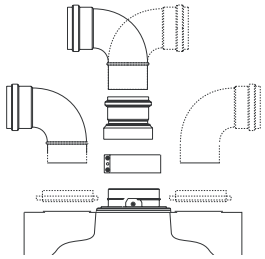






In the special case where the connection is with separate tubes and with the boiler installed at a minimum distance of 6 cm from the wall, make a ø 10 cm hole, thus enabling better assembly between the fresh air elbow and the tube outside the wall (see diagram).





Twin flow outlet 24 kW	Restrictor ø 41	Restrictor ø 46	Restrictor ø 51	Without restrictor
C12, C32, C42 80/80	L min. > 0 m L max. = 2,5 m	L min. > 2,5 m L max. = 12 m	L min. > 12 m L max. = 19 m	L max. > 19 m L max. = 24 m
C52, C82 80/80 Air intake lenght 1 m.	L min. > 0 m L max. = 10 m	L min. > 10 m L max. = 29 m	L max. > 29 m L max. = 35 m	L max. > 35 m L max. = 45 m

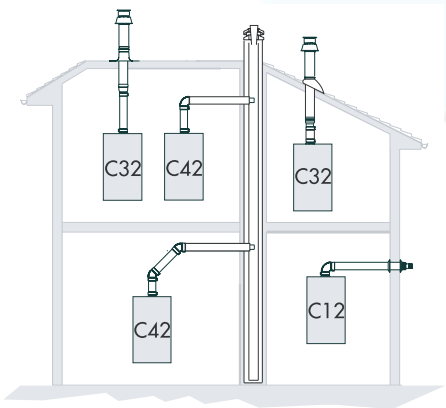
L = total length of gas intake and exhaust ducts.
If the exhaust gas duct length is longer than 5,5 m, you will need a condensate sump

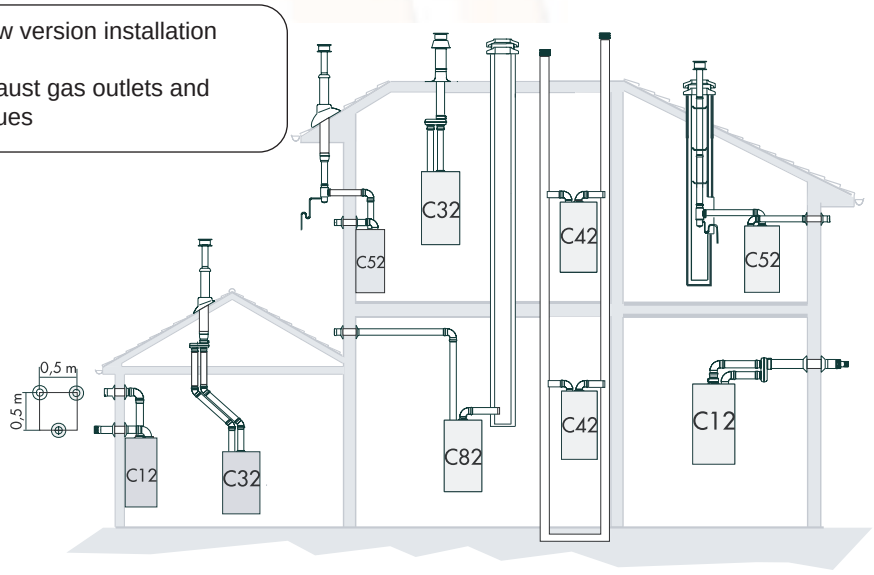
Twin flow outlet 30 kW	Restrictor ø 44	Restrictor ø 50	Without restrictor
C12, C32, C42 80/80	L min. > 0 m L max. = 3 m	L min. > 3 m L max. = 12 m	L min. > 12 m L max. = 30 m
C52, C82 80/80 Air intake lenght 1 m.	L min. > 0 m L max. = 11,5 m	L min. > 11,5 m L max. = 30 m	L max. > 30 m L max. = 60 m

L = total length of gas intake and exhaust ducts.
If the exhaust gas duct length is longer than 7,5 m, you will need a condensate sump

The maximum development value L, mentioned in the table includes the exhaust gas/fresh air terminal and for the coaxial system also takes into account an elbow. The C52 outlets should respect the following instructions:
1- Keep the same ø 80 mm for the gas intakes and exhaust gas ducts.
2- If you need to insert elbows in the gas intake and exhaust gas ducts, you should consider for each one the equivalent length to be included in the calculation of developed length.
3- The exhaust gas duct should jut above the roof by at least 0.5 m.
4- The intake and exhaust gas ducts in C52 cannot be installed on opposite walls of the building

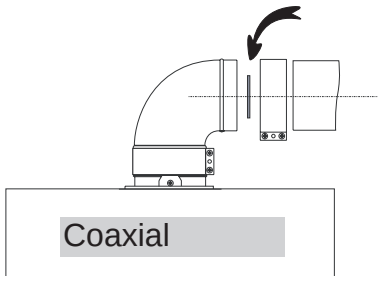
Diagram illustrating some coaxial and twin flow version installation examples
For more detailed information concerning exhaust gas outlets and fresh air inlets, consult our accessory catalogues

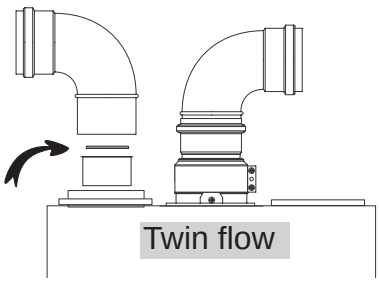




5.3 LAYING OF RESTRICTOR

Warning
If the selected exhaust gas duct is planned to be fitted with a membrane as indicated in the corresponding tables, then the installation of the membrane is compulsory





6 Installing the boiler

- place the paper template in the selected position on the wall
- fit the hanging bracket
- bring the water pipes and the electrical connection to the locations shown on the fitting template
- unscrew the two clamp locking bolts **A**, which secure the front panel (fig. 7)
- remove the front panel
- offer the water heater up to its bracket and allow it to drop into position while pressing on it (fig. 8)
- fit the connectors and taps (fig. 9)
- connect the water and gas pipes with the various seals (rubber seal on the gas pipe)

The safety valve drain port **16** must be connected to a waste water pipe.

Fit an evacuation device according to the type of connection chosen, referring to the installation handbook supplied with the kit

Cleaning the appliance

Once the water has been connected, it is essential to clean the appliance with an appropriate product (dispersing agent) to remove filings, solder, and various factory oils and greases.

The use of any solvent or aromatic agent (petrol, oil etc.) is forbidden.

It is advisable to treat the heating appliance completely in order to maintain a pH value of between 9 and 9.5.

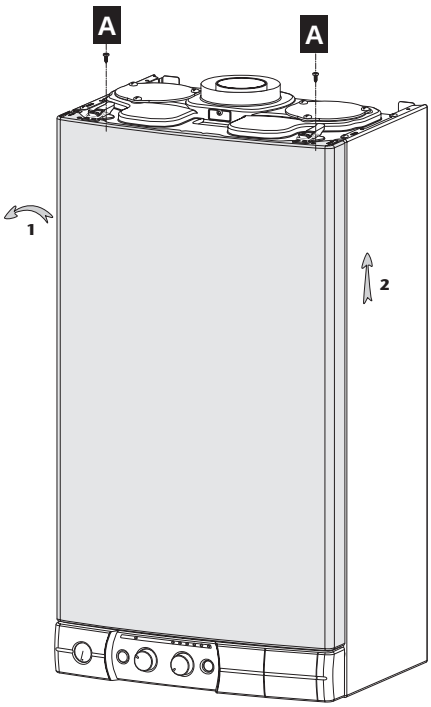


Fig. 7

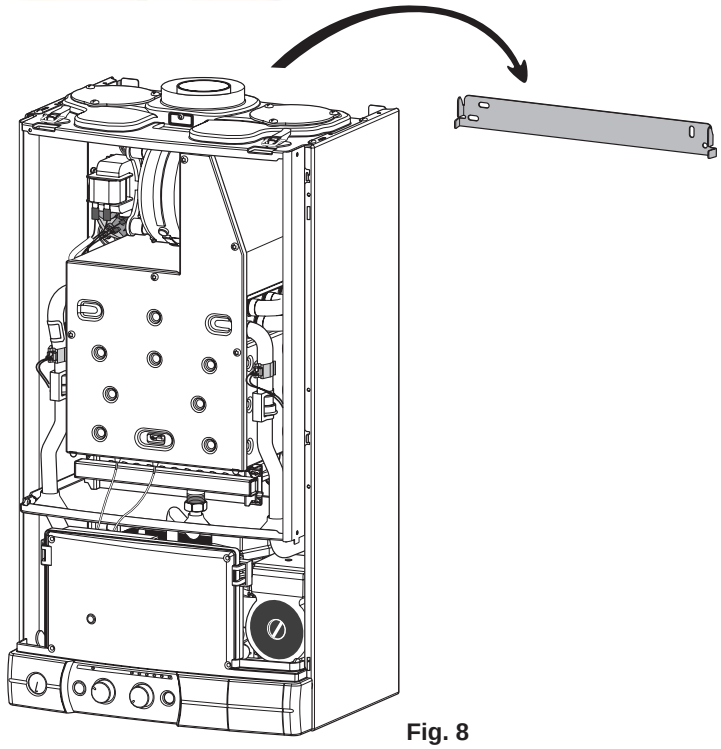


Fig. 8

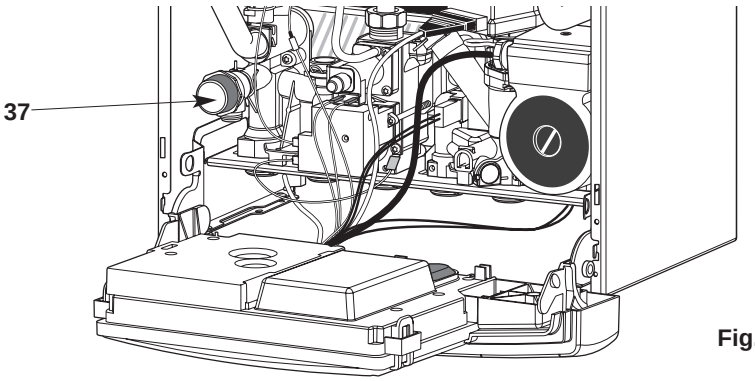


Fig. 9

7 Electrical connections

Recommendation:
- to comply with regulations, a device that disconnects all poles with a contact opening gap of at least 3 mm must be fitted when permanently installing the water heater
- the water heater must be connected to a fixed boiler with the lead supplied

Location of connections:
- the 230 V supply lead and room thermostat inputs must be fitted on the wall at the height specified on the fitting template
  - the water heater is supplied with 230 V by a twin and earth lead supplied with the appliance
  - room thermostat : - allow at least 50 cm of spare room thermostat lead for the wall input

Access to the water heater room thermostat connection:
- the room thermostat is connected behind the water heater control unit

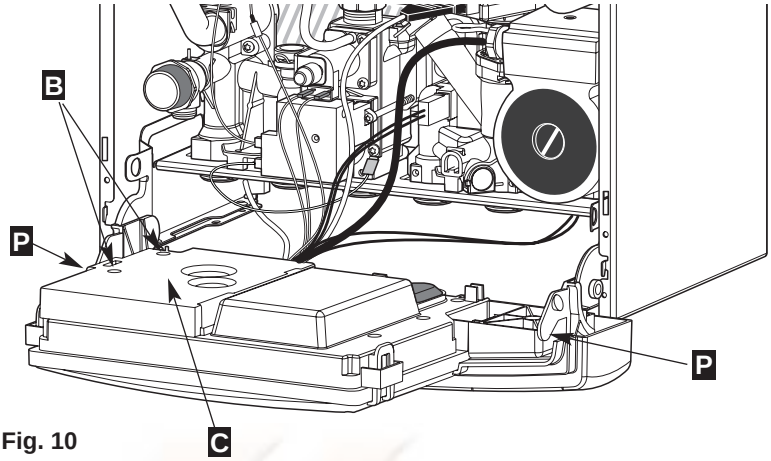


Fig. 10

230 V and earth connection via the lead provided at J1.

Important : If the supply cord is damaged, it must be replaced by the manufacturer or is service agent or similarly person in order to avoid a hazard.

Room thermostat connection

Before it leaves the factory, the water heater is set to operate without a room thermostat: a shunt S is placed on connector **D**.

The room thermostat connection is made on this connector

- lower the electronic control unit by releasing the side locking pins **P**, to gain access to the reverse side
- remove screws **B** and remove cover **C** (fig. 10)

The room thermostat connection can then be accessed.

- remove connector **D**
- connect the thermostat in place of shunt **S**
- reconnect connector **D**

Connector **J12** represented (fig. 11), is provided for connecting an optional programmer (see the relevant notice if necessary).

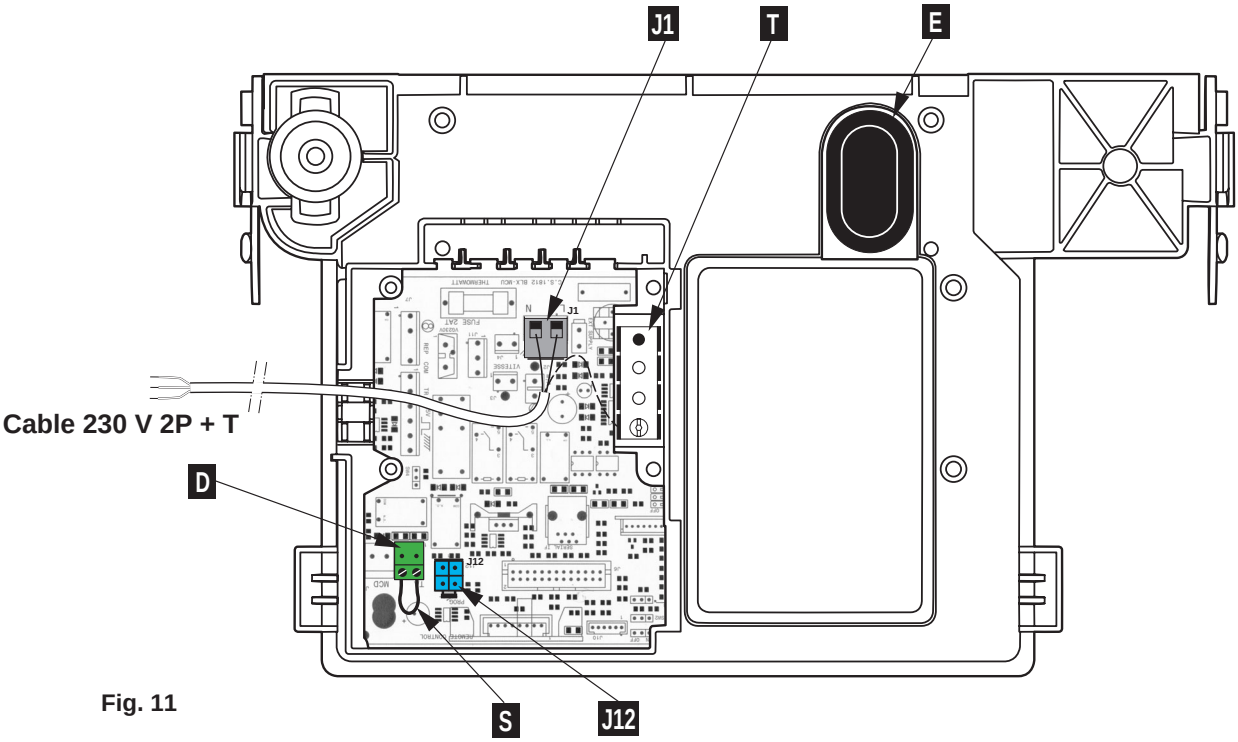


Fig. 11

8 Operating

PRESSURISING (fig. 12)

Hot water circuit:

- open the cold water tap **34**
- drain the appliance by opening the various hot water taps

Central Heating :

- Open flow and return valves on the boiler **31** and **35**
- Open the automatic air vent
- Open filling taps **36** and **37**, and vent radiators.
- Set system pressure, close filling taps **36**, **37** and remove filling loop **38**.
- Check for leaks.
- Manually check pump is free to turn

Gas circuit

- open the gas tap **33**
- flush the gas circuit
- check the sealing on the whole gas circuit

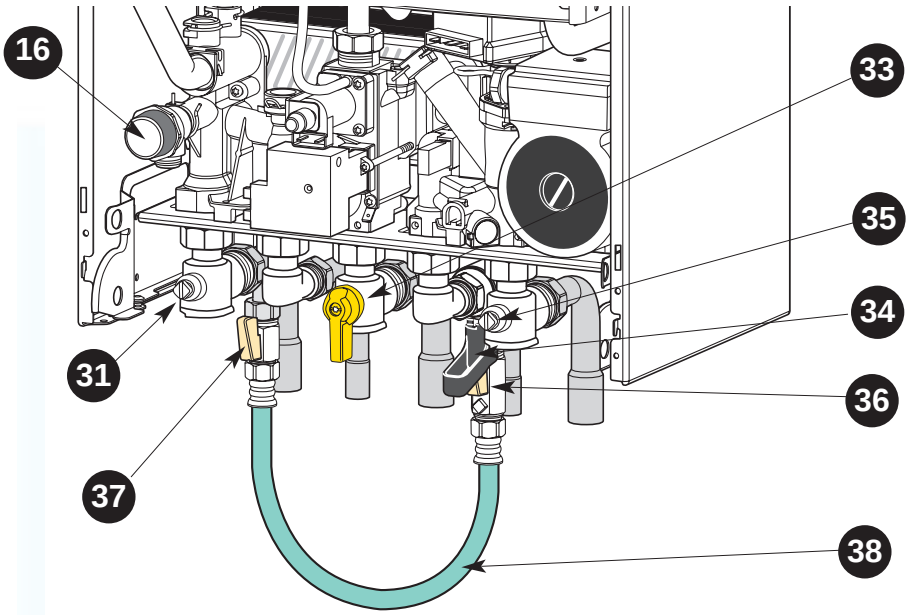


Fig. 12

SETTINGS

The water heater is supplied with all the setting buttons **OFF** (fig. 13) and the potentiometers turned fully anti-clockwise. It is possible to adjust these settings if required.
In this case, it is necessary to open the electronic control unit.
Switch the water heater power on, remove the casing and open the control unit by pressing the two push buttons **P** (fig. 10). The setting buttons are on the circuit board behind the blanking cover **E**.(fig. 11)

- **A1** allows the Heating Anti-cycle Timing to be set to 30 seconds or 3 minutes
  HAT: period during which restarting the burner is prohibited during a heating regulation phase
- **A2** allows the heating pump to be run at high or low speed
- **A3** to fix the heating temperature setting to 40 °C whatever the heating temperature adjustment button position **22** (fig. 3)
- **A4** enables operation either in modulating heating mode, or on/off mode

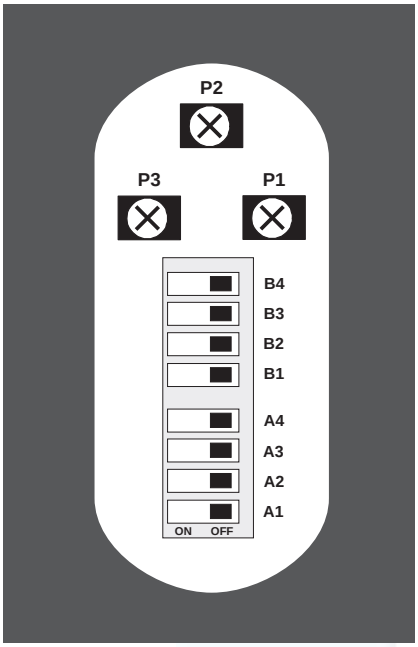
- **B1** reserved
- **B2** reserved
- **B3** allows the hot water flowmeter timing to be adjusted to 0 or 1.5 seconds
- **B4** enables operation in conjunction with a CELECTIC, in this case, switch off the flow limiter.
  setting **ON**: the hot water setting is fixed at 65°C whatever the position of the domestic hot water temperature setting button **21**.(fig. 3)

Note: after a power cut-out or board reset, the HAT is cancelled for 3 minutes.

- **P1**: potentiometer to limit heating output within the setting limit made on P2 (see table on page 13)
- **P2**: potentiometer enabling ignition output factory set (12,7 kW - 24 FF, 16 kW - 30 FF)
- **P3**: reserved

Once adjustments have been made, replace blanking cover **E**, close the control unit cover and refit the casing.

8 Operating (continued)



Factory setting

ON	OFF
Célectic	
Domestic flowmeter time 1.5 sec	Domestic flowmeter time 0 sec.
AON operation	Modulating operation
Heating setting 40 °C	Variable heating setting between 35 to 85 °C
Low-speed pump	High-speed pump
Anti-cycle 30 secs	Anti-cycle 3 min

Fig. 13

Burner gas output setting

The values shown in the tables below are given for information purposes for a nominal gas distribution pressure, to allow any adjustments to the water heater heating output according to the requirements of the appliance.
They cannot be used to calculate the precise regulated output of the water heater.

MX2 24 FF

Gas :	**G20**	**PROPANE**	**BUTANE**
P. utile (kW)	Inlet Pressure (mm CE)	Inlet Pressure (mm CE)	Inlet Pressure (mm CE)
10	18	67	47
12,7	33	111	81
16	53	172	129
20	82	258	195
24	114	352	268

MX2 30 FF

Gas :	**G20**	**PROPANE**	**BUTANE**
P. utile (kW)	Inlet Pressure (mm CE)	Inlet Pressure (mm CE)	Inlet Pressure (mm CE)
12	15	58	41
16	35	107	78
20	59	167	124
25	93	256	190
30	130	359	265

9 Fitting the casing

Fitting the casing

Remove the protective film on the casing:

- offer the casing up (fig. 14)
- engage hooks **N** on the casing in notches **R** on the side panels **M** operation **1**
- fit the top of the panel in place
- close the panel mounting clamps (fig. 15)
- screw in the two clamp locking bolts **A**

Note: it is essential to refit both locking bolts A

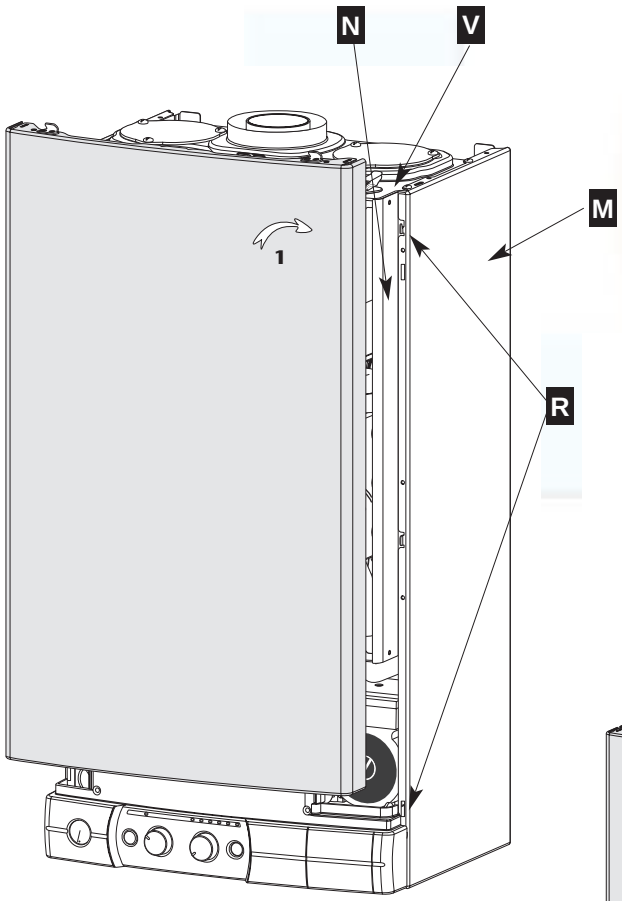


Fig. 14

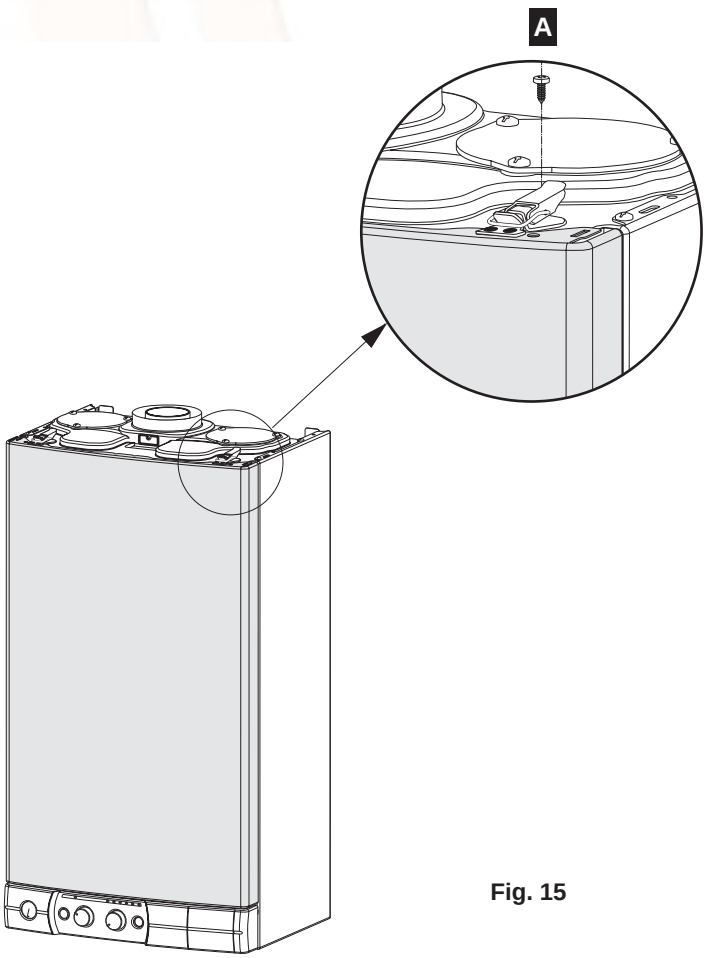


Fig. 15

10 Gas conversion

When adapting to a gas different from the one for which the boiler is equipped, you should replace the parts delivered with the transformation kit, as well the gas valve adjustments following the operational mode described below

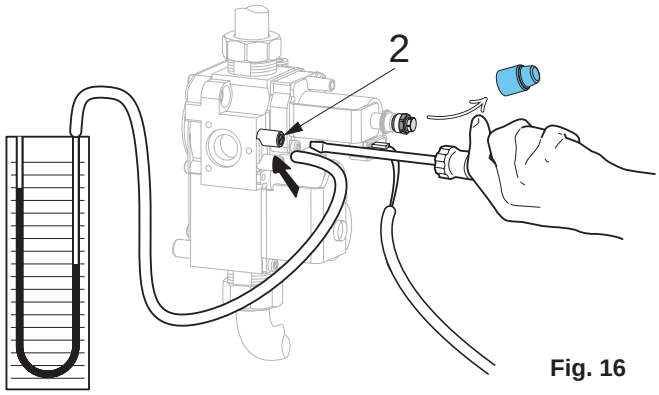


Fig. 16

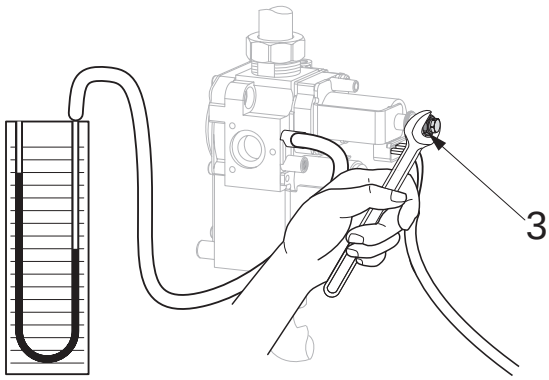


Fig. 17

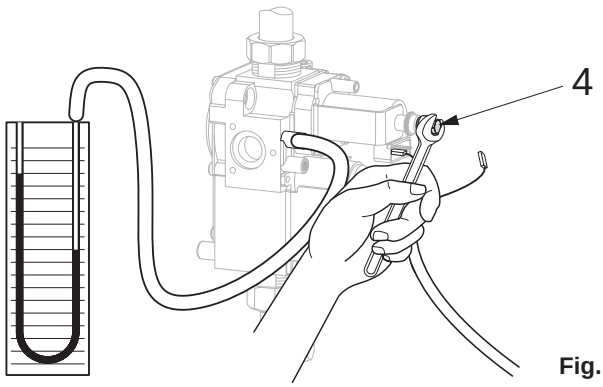


Fig. 18

Adjusting the nominal output

• take off the adjusting screws protective cap (fig. 16).
• take off screw 2 and insert a tube connected to a pressure tap gauge (fig. 16).
• start the boiler at maximum output (hot water tap on).
• put pressure on nut 3 by using an 8 wrench (fig. 17) and adjust the pressure to the value envisaged in the table
"nominal output table."

Adjusting the minimum output

• disconnect a valve power supply cable (fig. 18)
• put pressure on screw 4 by using a 5 wrench, while holding net 3 (fig. 18) and adjust the pressure to the value envisaged in the table
"minimum output table."

• adjustment finished, put screw 2 back again and test the tightness.
• put the adjustment screws protective cab back on.

Adjusting the minimum output

(see settings on page 12).

Output nominal

mm CE	G 20	G 30	G 31
24 kW FF	114	268	352
30 kW FF	130	265	359

Output mini

mm CE	G 20	G 30	G 31
24 kW FF	18	47	67
30 kW FF	15	41	58

11 Incorrect function

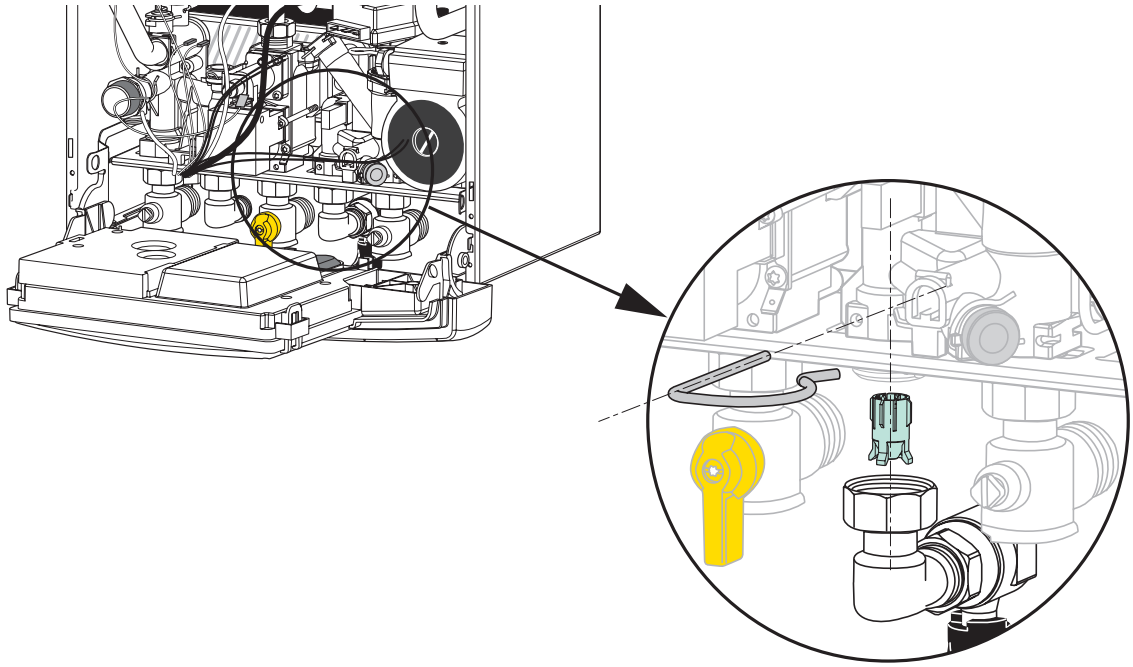
If a fault occurs in the appliance, one or more LEDs (22) flash according to the fault type listed in the table below.

CODE						FAULT INFORMATION
30	40	50	60	70	80	
❍	❍	❍	❍	❍	●	Overheating safety feature.
❍	❍	❍	❍	●	●	No flame detection.
❍	❍	❍	●	❍	●	Antifrost mode on (pump in operation).
❍	❍	❍	●	●	❍	Antifrost mode on (burner and pump in operation).
❍	❍	❍	●	●	●	lack of water circulation.
❍	❍	●	❍	❍	❍	Primary water circulation defect
❍	❍	●	❍	●	●	Central heating inlet thermistor faulty (open circuit).
❍	❍	●	●	❍	❍	Central heating inlet thermistor faulty (short circuit).
❍	❍	●	●	❍	●	Central heating oulet thermistor faulty (open circuit).
❍	❍	●	●	●	❍	Central heating oulet thermistor faulty (short circuit).
❍	●	❍	❍	●	❍	Firing problem
❍	●	❍	●	❍	❍	Wiring problem (or fuse 1,25 A)
❍	●	❍	●	❍	●	Fan on but does not activate air pressure switch.
❍	●	❍	●	●	❍	Fan off but air pressure switch fails to return to off position.
❍	●	●	●	●	●	Communication defect with the display PCB.
●	❍	❍	❍	❍	❍	Communication defect with the main PCB.

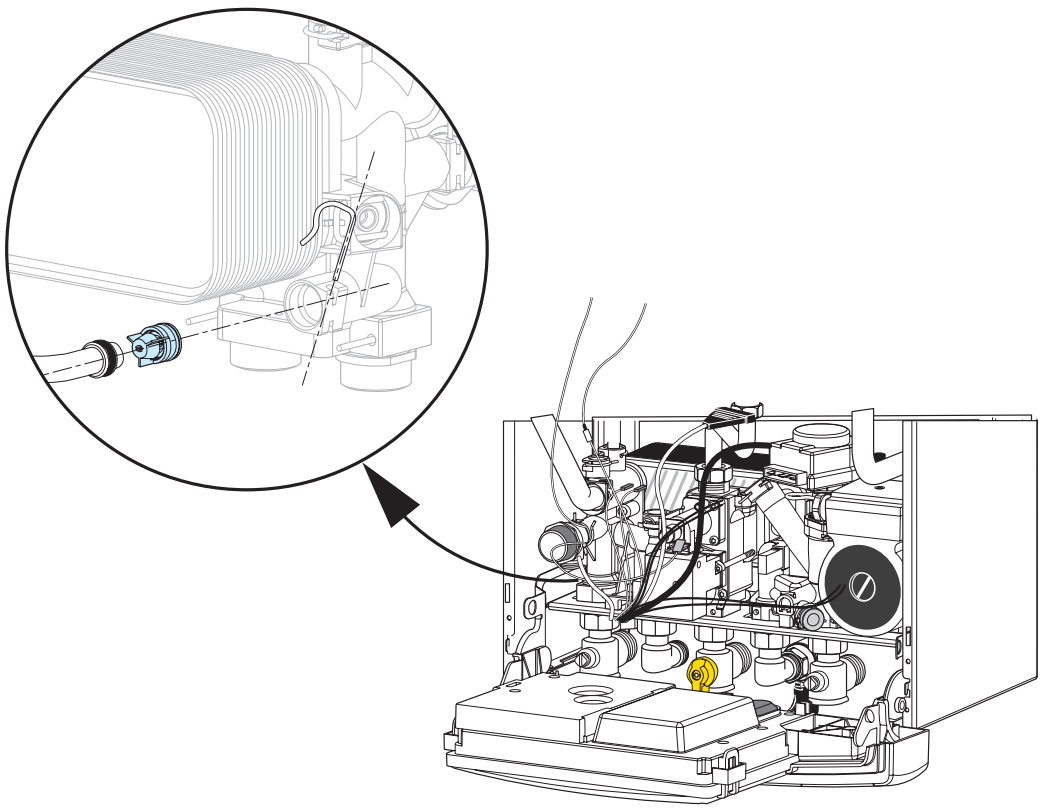
❍ = LED off

● = LED blinking

Flow rate controller assembly direction



By-pass valve assembly direction



13 Control panel

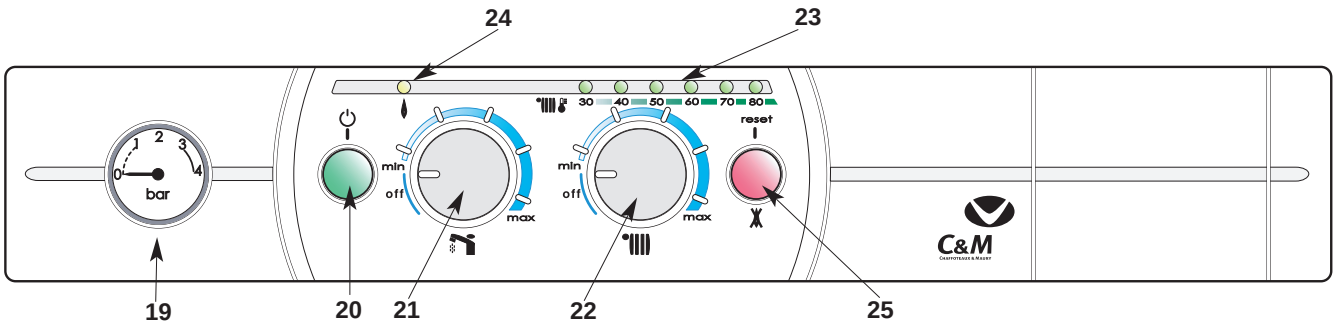


Fig.16

Control panel (fig. 16)

19. - Pressure gauge

20. - On/off push button and power on indicator light

21.- Sanitary temperature setting and sanitary start button

22.- Heating temperature setting and heating start button

23.- Heating temperature indicator and operating faults indicator

24.- Orange indicator - Burner ON

25.- Reset push button and red indicator locking light

Connecting bracket Taps shown in Open position (fig. 17)

31 : Central heating flow isolating valve

32 : Domestic Hot Water outlet

33 : Gas service tap

34 : Water service tap

35 : Central heating return isolating valve

16 : Central heating pressure relief valve

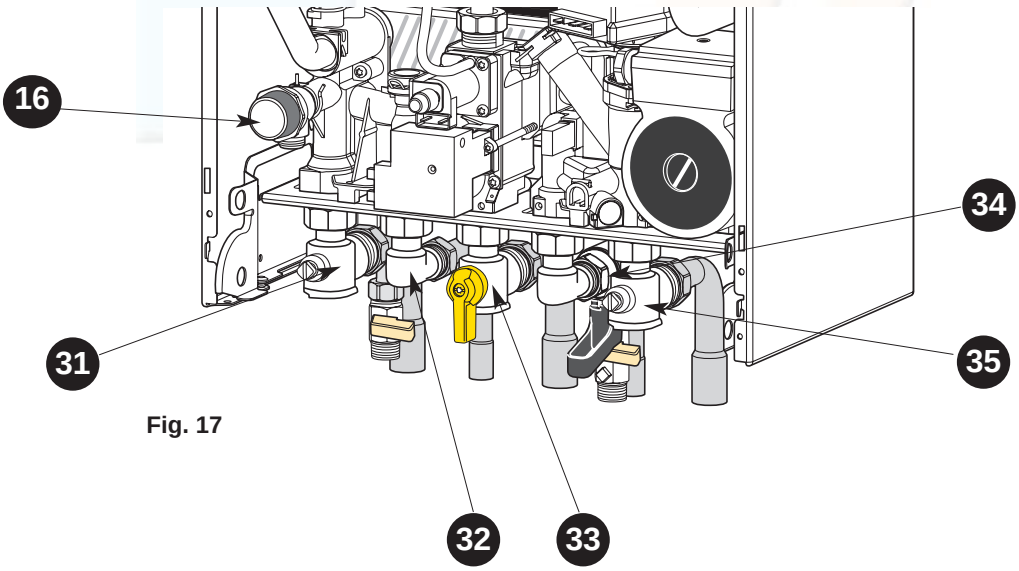


Fig. 17

14 Operation

Starting up (fig. 17)

1. check that the appliance's general gas shut-off tap is open and that the water heater is supplied with power.
2. check that there is sufficient pressure in the heating circuit: the pressure gauge needles should be at a minimum of 1,2 bar with 1,7 bar at maximum cold
3. open the gas inlet tap **33** (fig. 17)

Your water heater is now ready to operate.

Important

When the appliance is operated after a prolonged period of inactivity, the presence of air in the gas flues may hinder the first attempts at igniting the gas

See section 18 “**Operating faults**”

To obtain hot water and heating :

To obtain hot water and heating:

Press On/Off button **20**; it lights up green when power is supplied

- turn button **21** to authorise water heating ignition if water is being drawn.This button allows you to adjust the hot water temperature. While hot water is being drawn, LEDs **23** light up two by two.
- turn button **22** to authorise heating ignition. This button enables you to adjust the water temperature in the heating circuit according to seasonal requirements. Indicator light **23** displays this temperature
  - Turn button **22** :
    - to Max in cold weather,
    - to Min in mild weather,

  Furthermore, if your home is fitted with a room thermostat, set it to the desired indoor temperature.
- orange indicator light **24** lights up each time the burner operates

Stopping the heating

- Turn button **22** to «**off** » position. The water heater then produces only hot water.

Stand by mode

- Turn buttons **21** and **22** to «**off** »position, button **20** (fig. 16) remains lit. The function remains active unless the boiler freezes.

Turn off the water heater completely

- press push button **20** , the indicator light turns off
- turn off the electricity supply to the water heater.
- turn off the gas by turning inlet tap **33** (fig. 17)

Note:

In some circumstances, it is possible that the pipes (and possibly a radiator) heat up slightly after hot water is drawn. To prevent this, simply close heating inlet tap **31** (*fig. 17).*
Remember to re-open it at the start of the heating season, when you switch the heating back on by pressing button **22** *(fig. 16)*

15 Maintenance

As with your car, your boiler will work more reliably and efficiently if regularly serviced. We recommend an annual service check. The service history of the appliance will be marked on the logbook.

16 Flue gas safety

This water heater is equipped with a flue gas extraction flow detection system which authorises operation of the burner.
If the flow is insufficient for a prolonged period of time, the water heater shuts down for safety reasons, and indicators (**23**) 40, 60 and 80 flash.
Important: this flue gas checking device must not be removed, or have untimely work carried out on it. If it needs to be replaced, only original parts may be used.

17 Guarantee

The manufacturer`s guarantee is for 12 months from the date of purchase. The guarantee is voidable if the appliance is not installed in accordance with the recommendations made herein or in a manner not approved by the manufacturer. To assist us in providing you with an efficient after sales service, please return the guarantee registration card enclosed with the boiler without delay.

18 Practical information

Pump anti-sticking device
When the boiler is switched on (indicator light **20** lit), the circulation pump operates for 1 minute after the water heater has been out of operation for more than 23 hours, whatever the operation of the water heater, to prevent the pump jamming.

Precautions to take in freezing conditions
We recommend that you contact your gas fitter or After-Sales service, who will advise you of the measures to take according to your circumstances.

Hot water circuit
The hot water circuit is drained after closing the appliance's water counter and cold water tap:
- open a hot water tap
- unscrew the cold water connection union nut

Heating circuit
Take one of the following steps:
- 1) drain the circuit of the heating appliance
- 2) protect the heating appliance with an anti-freeze product. Periodically checking the level of protection provided by this anti-freeze is an additional guarantee requirement.
- 3) allow your appliance to run at low load by setting the room thermostat to the "anti-freeze" position (between 5 and 10°C).
- 4) leave the power to the water heater on. It is fitted with an anti-freeze device which activates the circulation pump, then the burner.

19 Technical data

Model	MX2 24 FF	MX2 30 FF
Appliance Category	II 2H3+	II 2H+3+
Heat output C/H .....Pn	10 to 24 kW	12 to 30 kW
Heat output DHW .....Pn max	24 kW	30 kW
DHW flow rates (ΔT: 30 K) .....D	11,4 l/min.	14,3 l/min.
Minimum DHW operating flow rate	2 l/mn	2 l/mn
Minimum DHW working pressures .....Pw min	0,1bar	0,1bar
Maximum DHW working pressures .....Pw max	10 bar	10 bar
C/H circuit pressure max operating .....Pw max	3 bar	3 bar
Supply	230 volts mono - 50 Hz	
Consumption	150 W	
Protection	IP X4D	
Natural gas G20		
Gas rate max	2,75 m³/h	3,44 m³/h
Gas rate mini	1,27 m³/h	1,50 m³/h
Nominal inlet pressure	20 mbar	20 mbar
Burner injector dialeter in 1/100 of mm	135	130
Butane LPG G30		
Gas rate max	2,05 kg/h	2,56 kg/h
Gas rate mini	0,95 kg/h	1,12 kg/h
Nominal inlet pressure	28 mbar	28 mbar
Burner injector dialeter in 1/100 of mm	80	80
Propane LPG G31		
Gas rate max	2,02 kg/h	2,52 kg/h
Gas rate mini	0,93 kg/h	1,10 kg/h
Nominal inlet pressure	37 mbar	37 mbar
Burner injector dialeter in 1/100 of mm	80	80

This appliance is suitable for Natural gas or LPG. A gas conversion must be made by a competent person.

20 Instruction for setting the built in clock (if fittied)

1. General layout

The mechanical clock covers a 24 hour period. Each tappet represents 15 minutes **A** (fig. 19). An override switch is located on the clock **B** (fig 19).

2. To set the time

To set the time of day, grasp the outer edge of the dial and turn slowly clockwise until the correct time is lined up with the arrow **C** (fig. 19).

3. To Set the "On" and "Off" times

The clock uses a 24hours system. e.g. 8 =8.00 am and 18 = 6.00 pm "ON" periods are set by sliding all tappets between the "ON" time and the "OFF" time to the outer edge of the dial.The tappets remaining at the centre of the dial are the "OFF" periods.

4. To select function mode

Put the selector switch **B** to symbol ◷ to control the boiler by the clock. Put the switch **B** to «**I**» to select permanent operation or to «**0**» to turn heating off permanently.

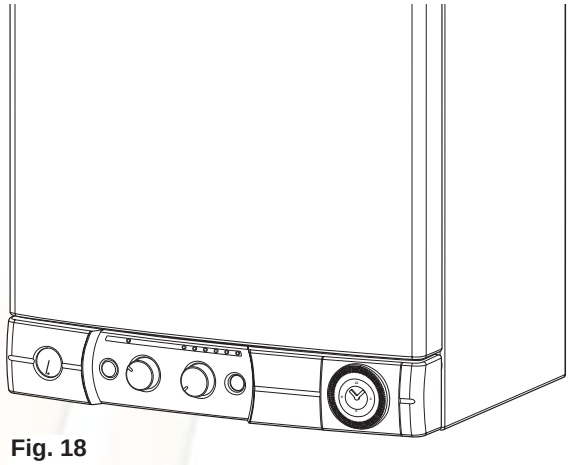


Fig. 18

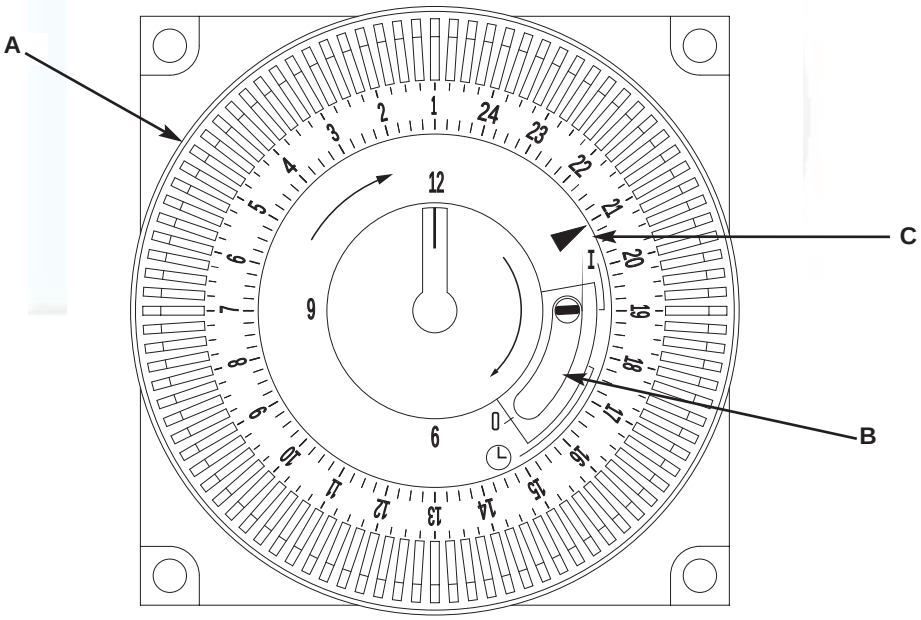


Fig. 19

21 Incorrect function

Fault	Cause	Solution
The boiler doesn't start	No gas, no water or no electricity	Control gas, water and electrical supply, fuses…
	Air in the gas pipe	Follow procedure in chapter 7
		Set up the room thermostat
Red indicator alight	Room thermostat switched off	Wait for a few minutes Press on reset button **25** (fig.16) the red led turn off and the boiler attempts to re-light. If red indicator alight too frequently, please call your localfaîtes service centre.
Noises in CH system Radiators rise in temperature During summer season	Air presence in CH system or. Insufficient pressure Gravity effect in the CH system	Purge of air the system and rise up the system pressure (chapter 7) Close the heating flow isolating valve. Don't forget to open itagain when you will start heating.

If these solutions do not cure the fault, call a qualified professional

Manufacturer: **Chaffoteaux & Maury - France**

Commercial subsidiary: **MTS (GB) Limited**
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