

P-30 A

**Roca**

**E**

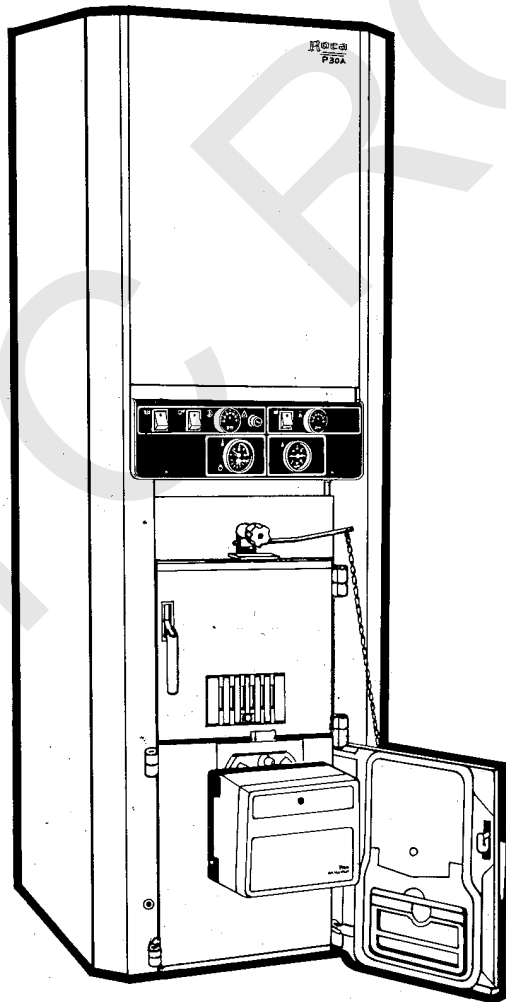
## Caldera policomcombustible

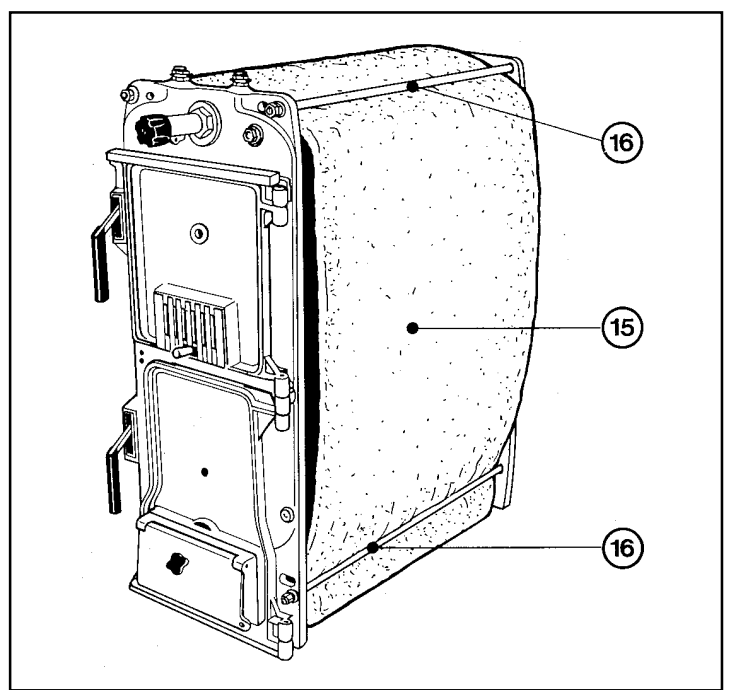
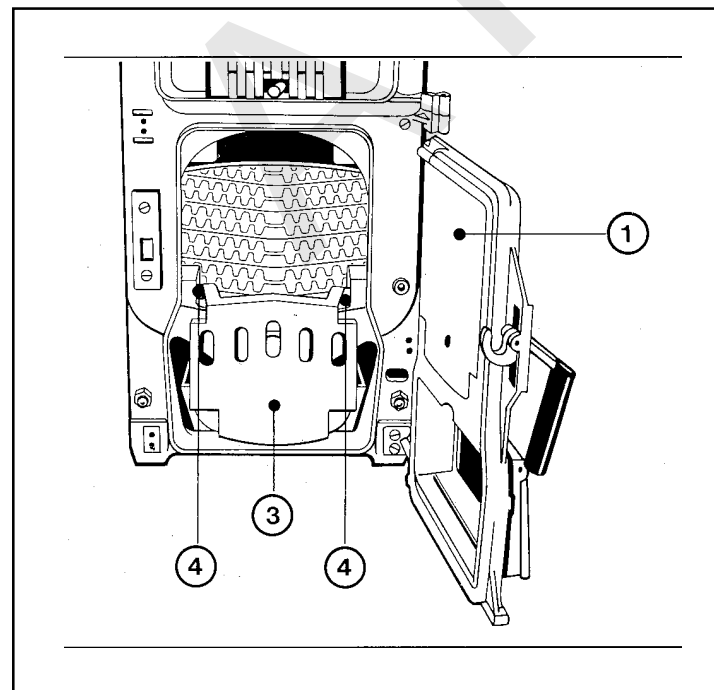
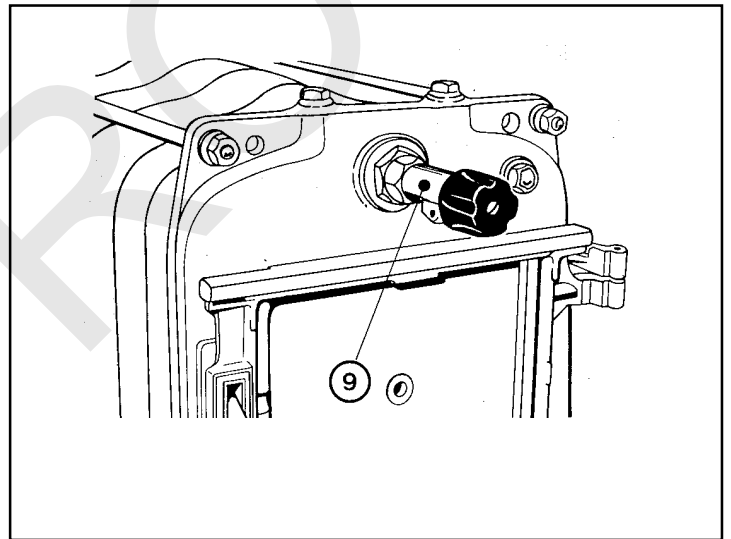
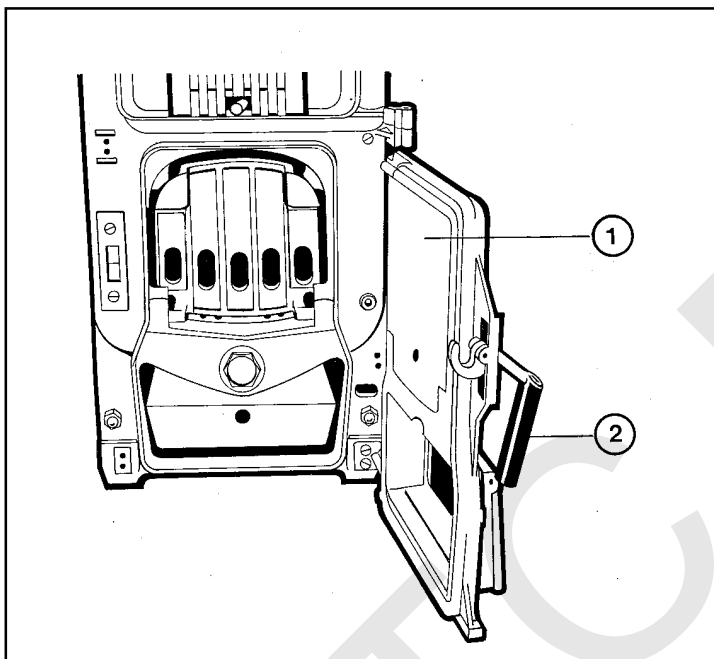
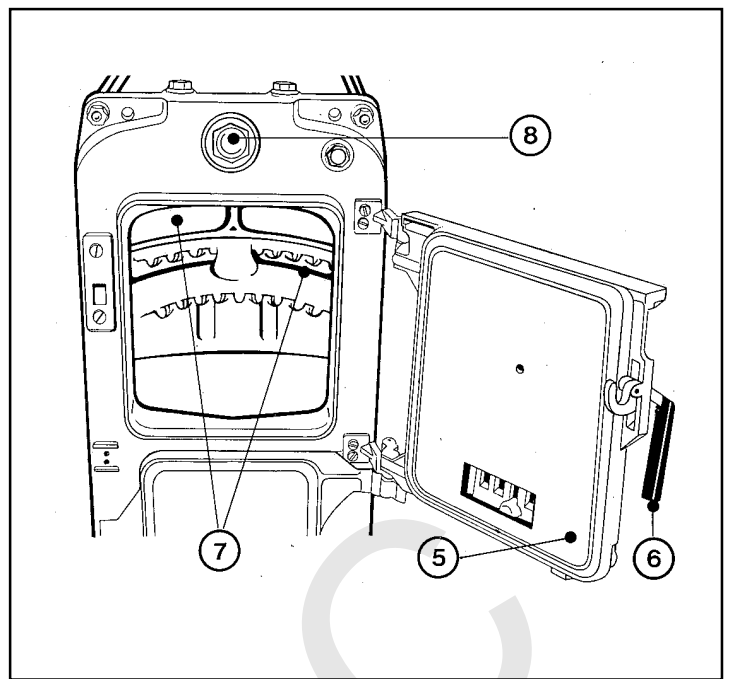
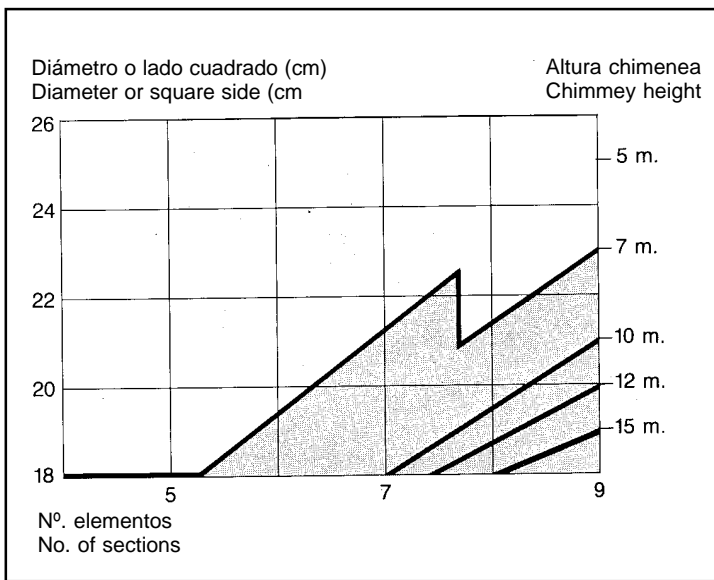
Instrucciones de Instalación,  
Montaje y Funcionamiento  
para el **INSTALADOR**

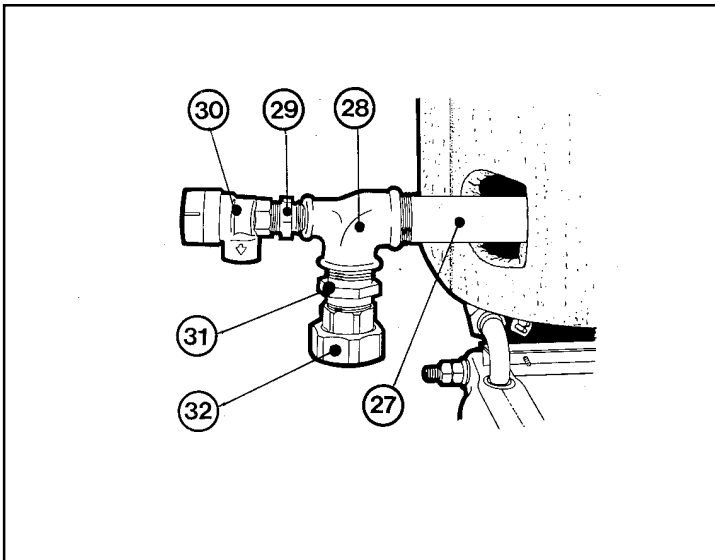
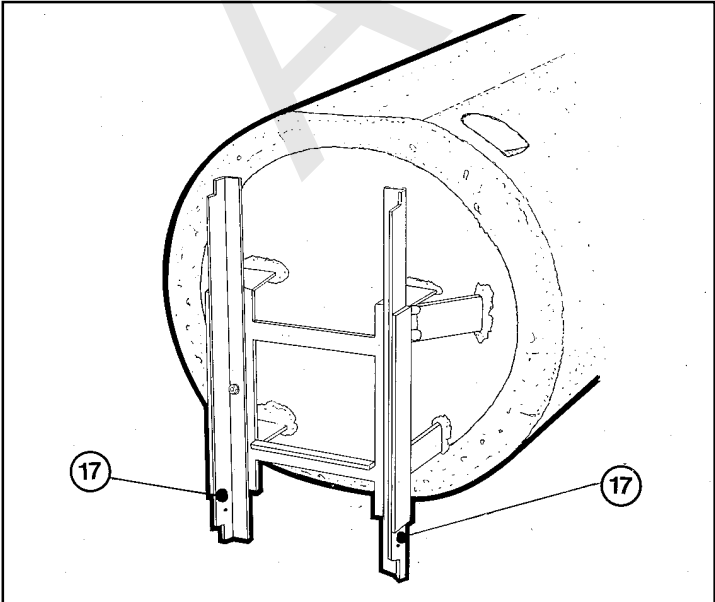
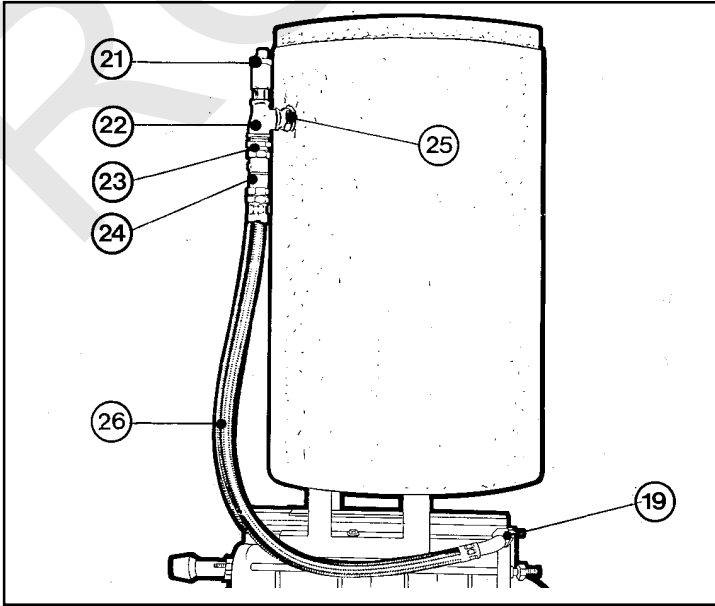
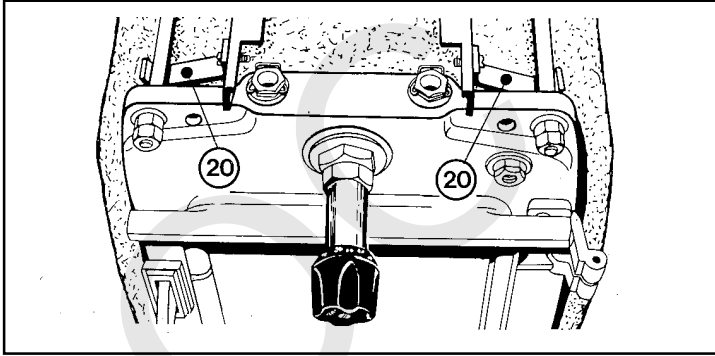
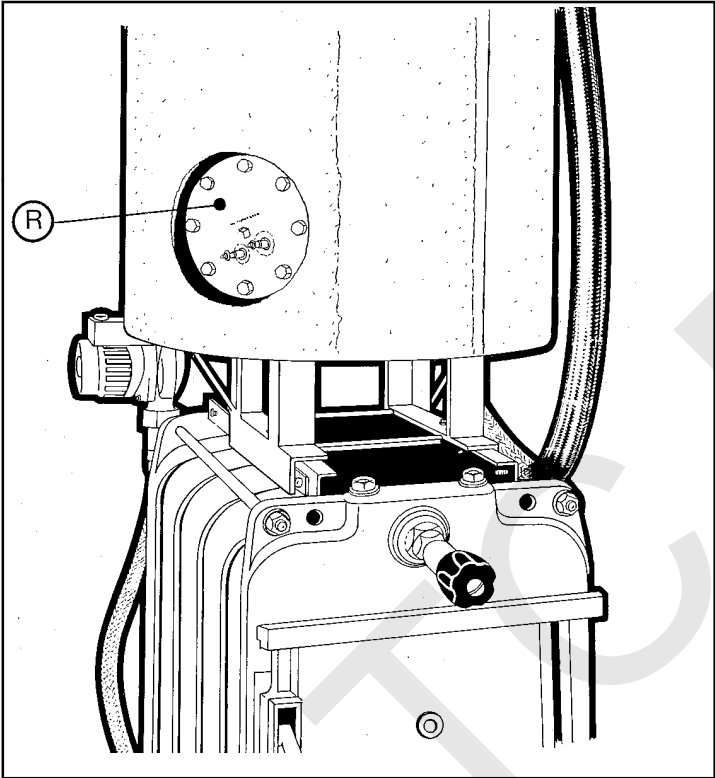
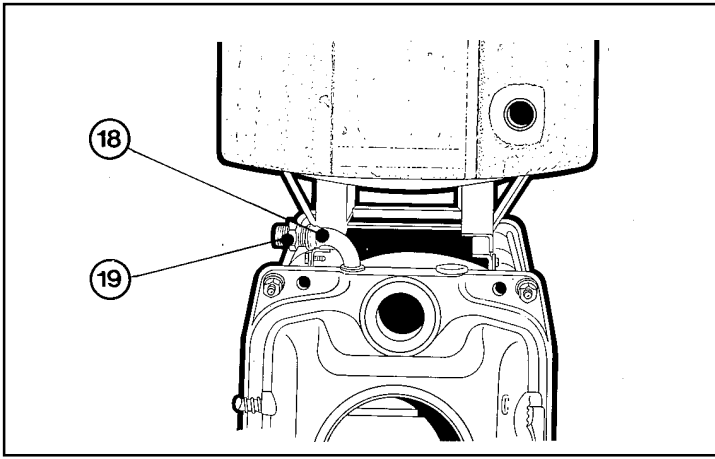
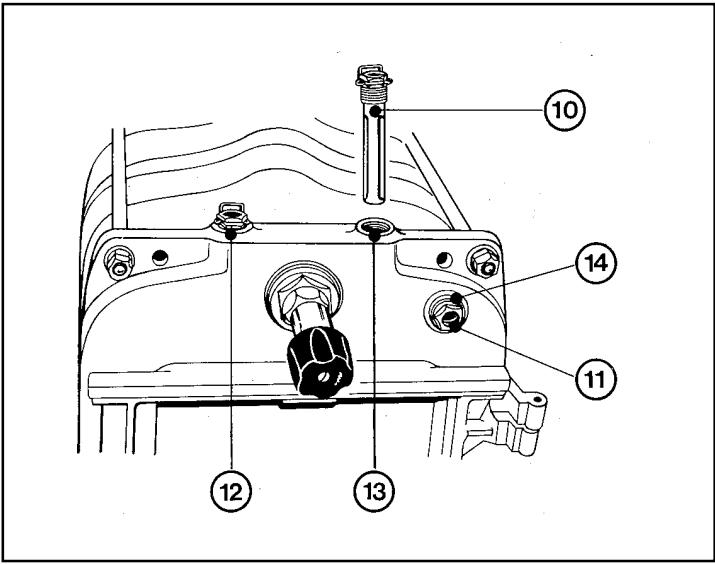
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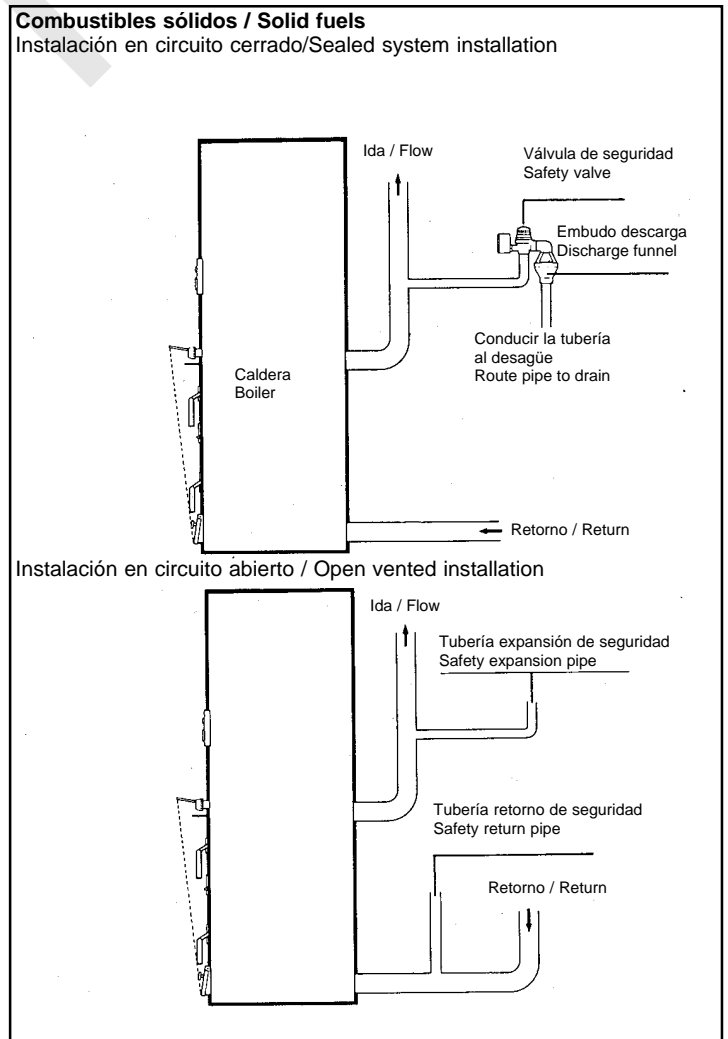
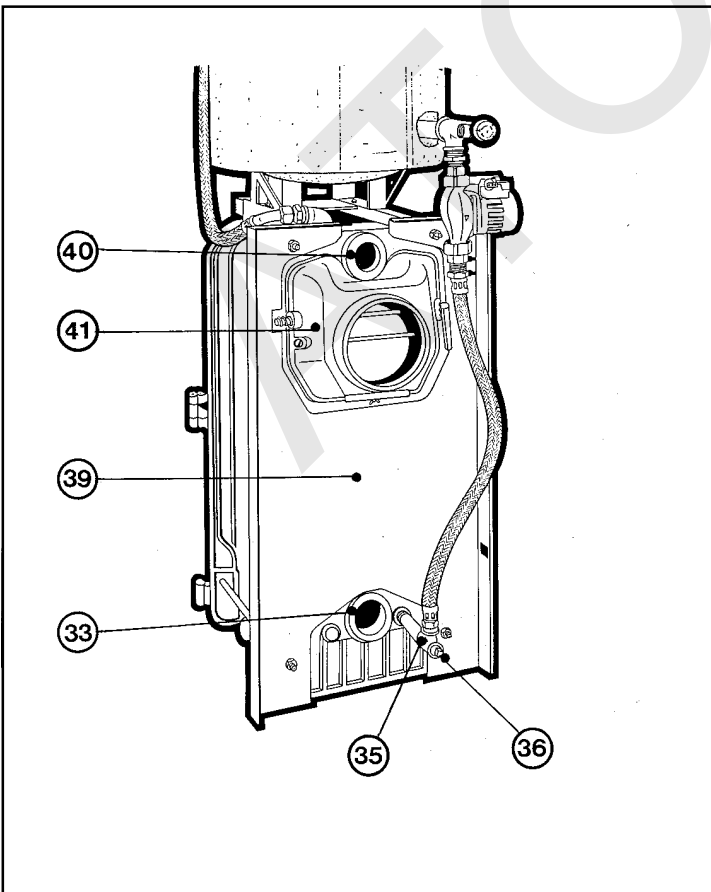
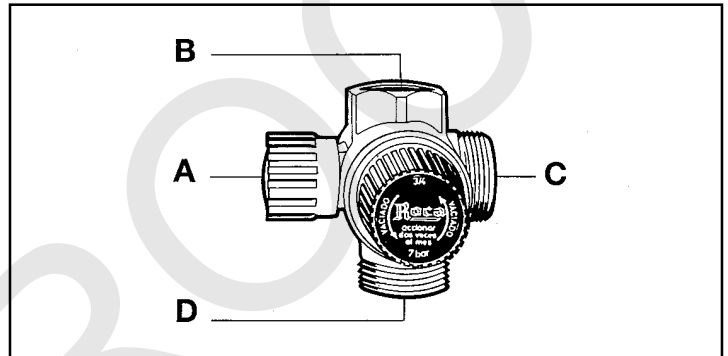
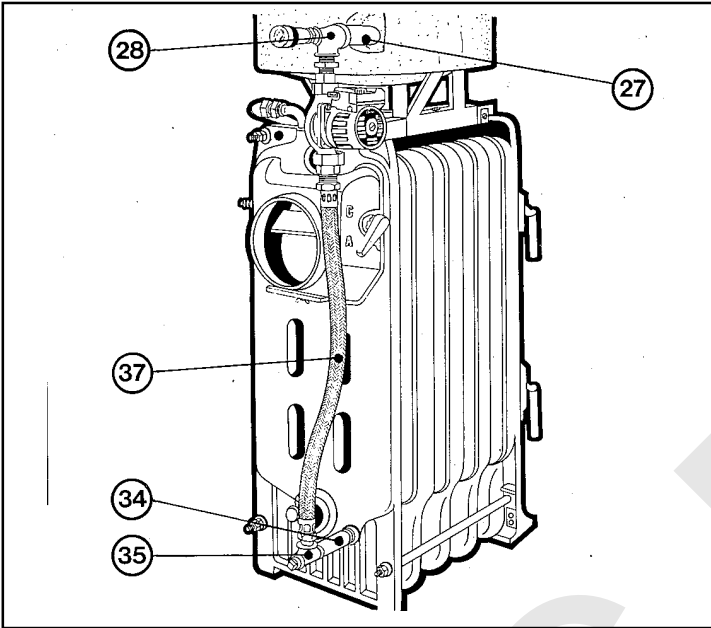
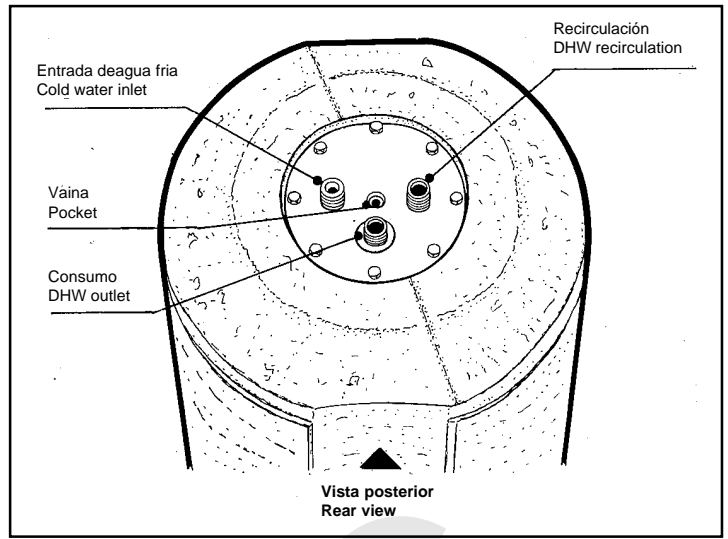
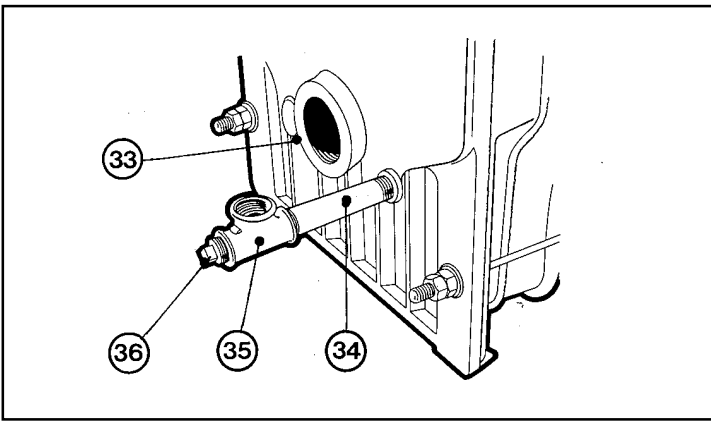
## Multifuel Boiler

Installation, Assembly  
and Working Instructions  
for the **INSTALLER**



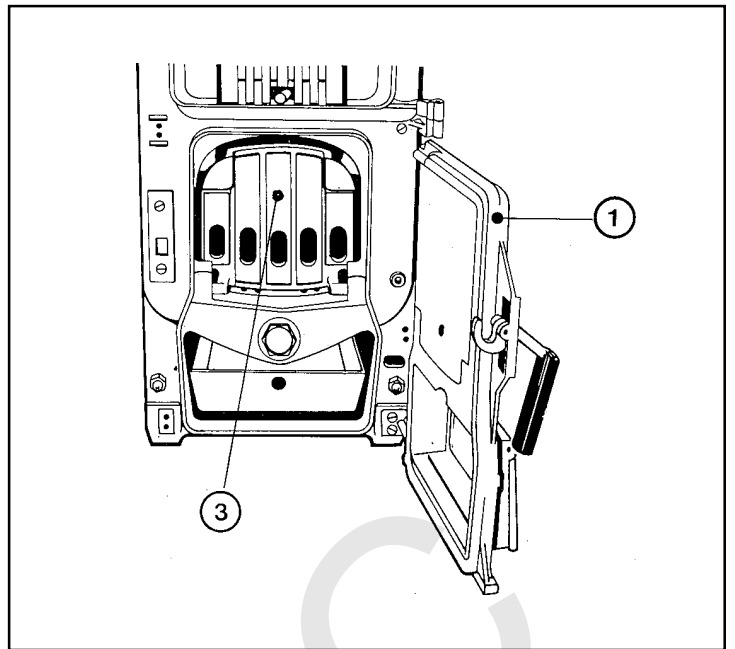
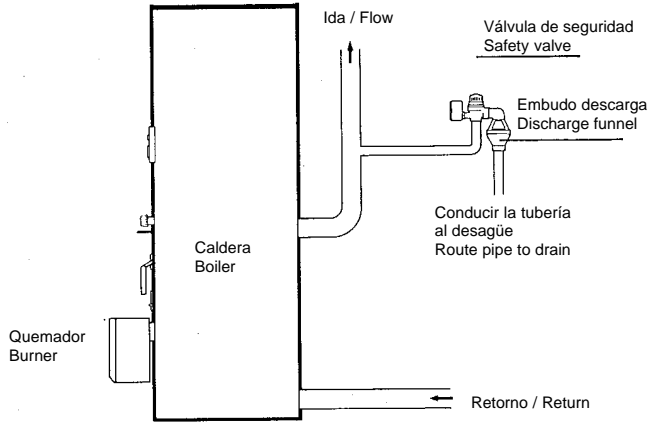




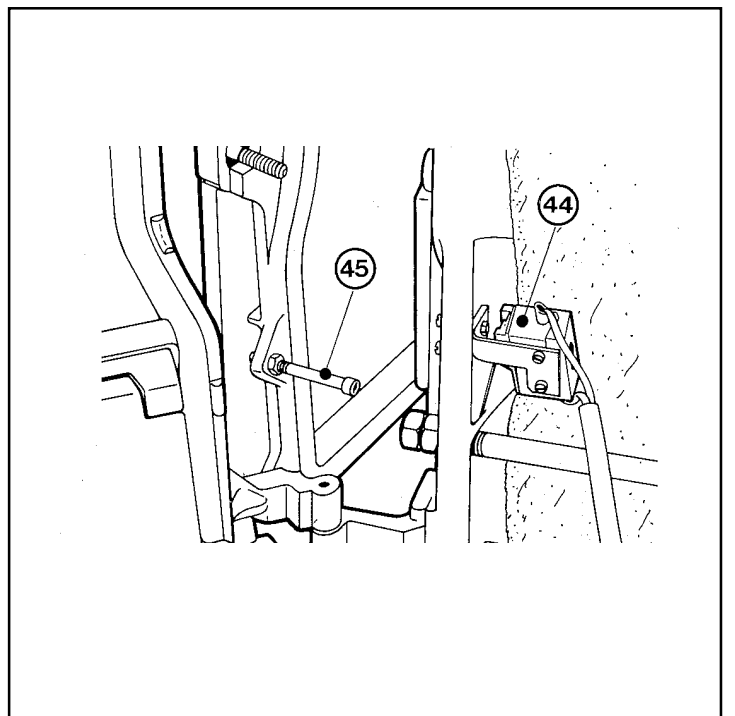
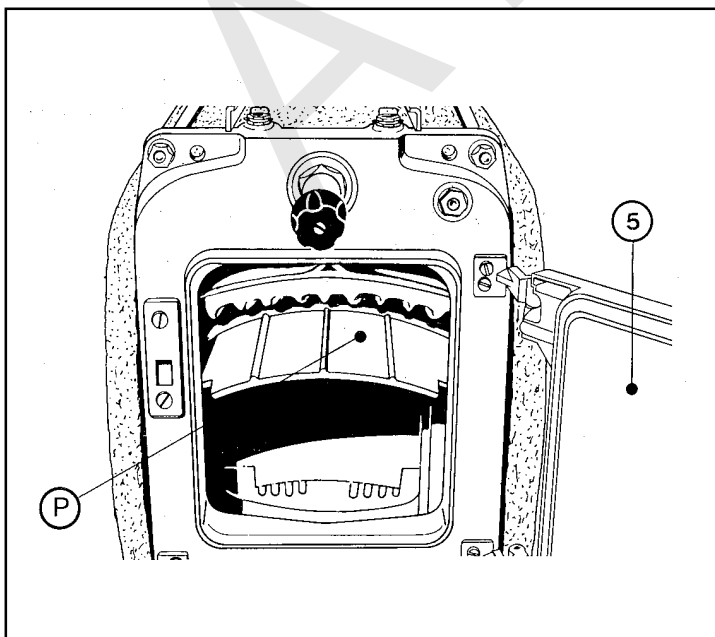
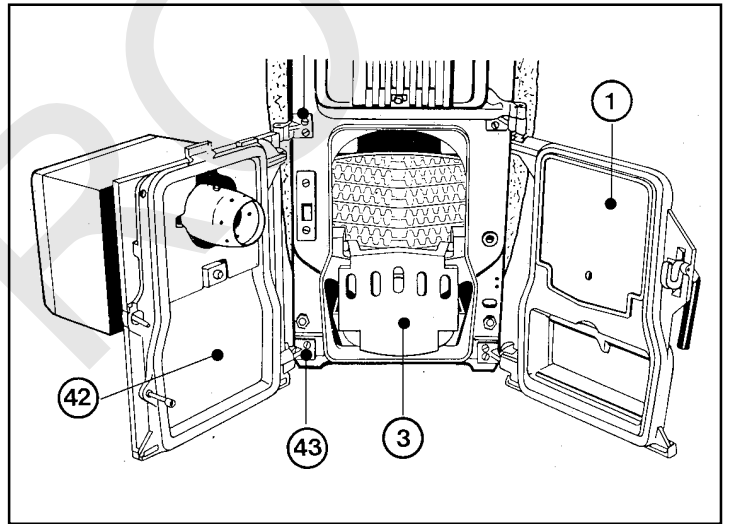
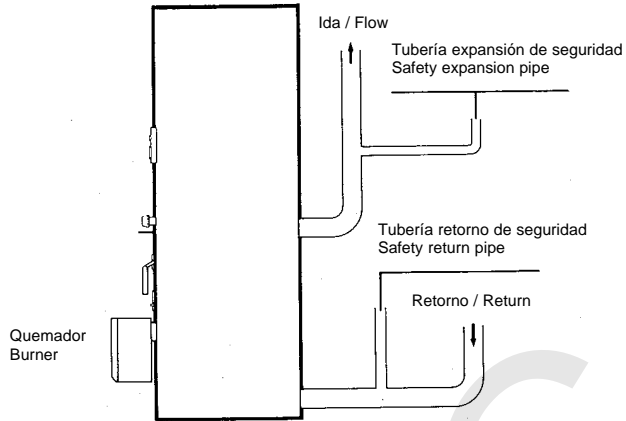


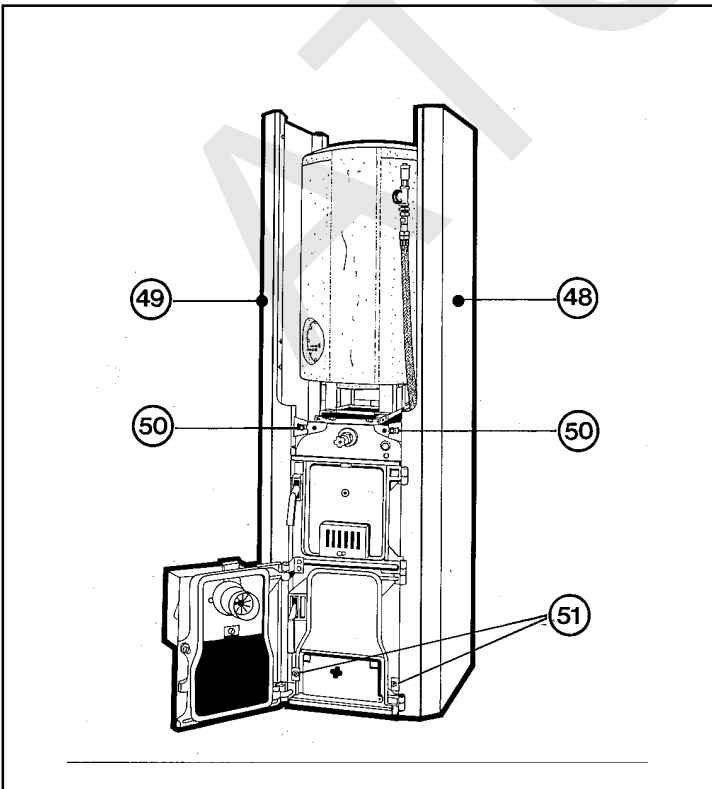
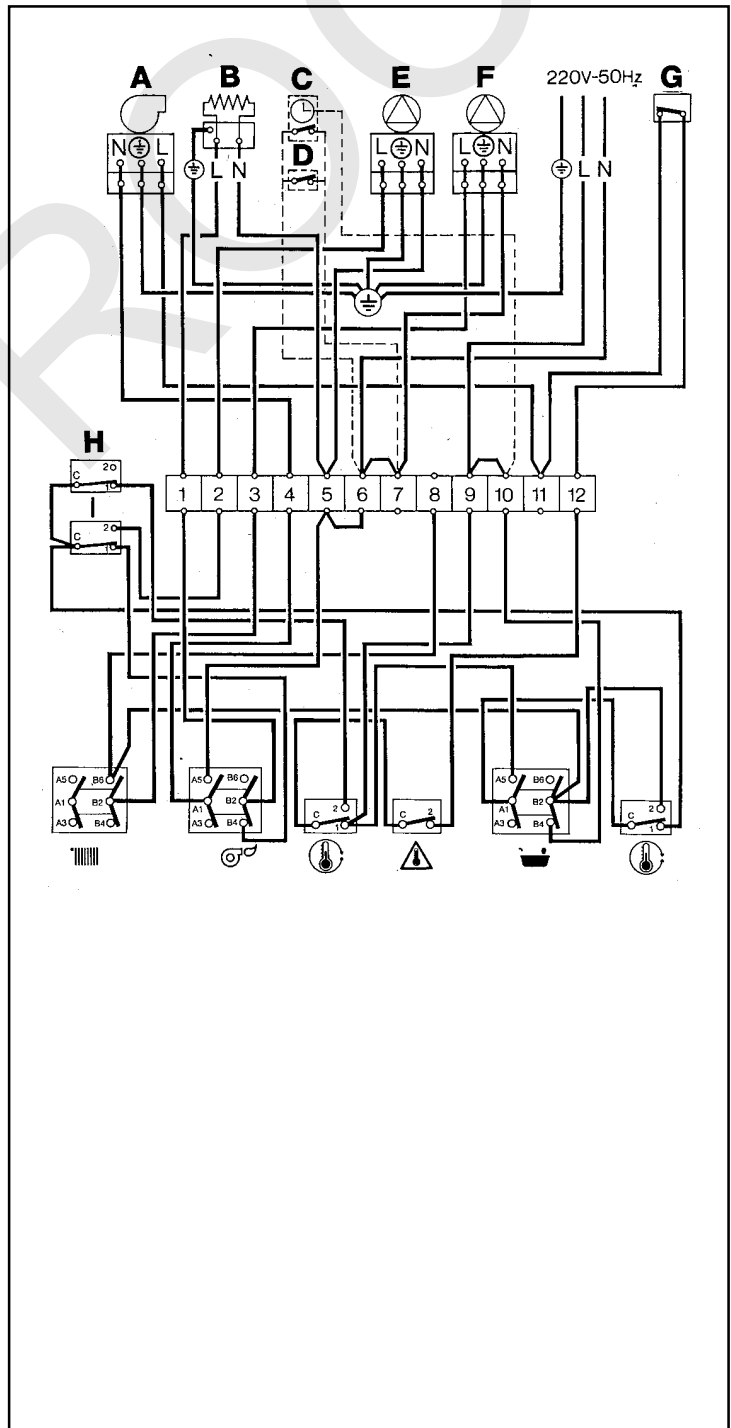
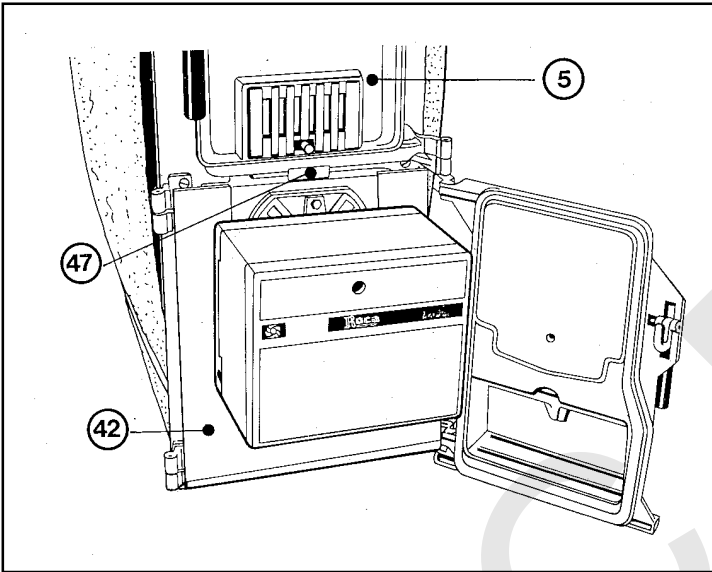
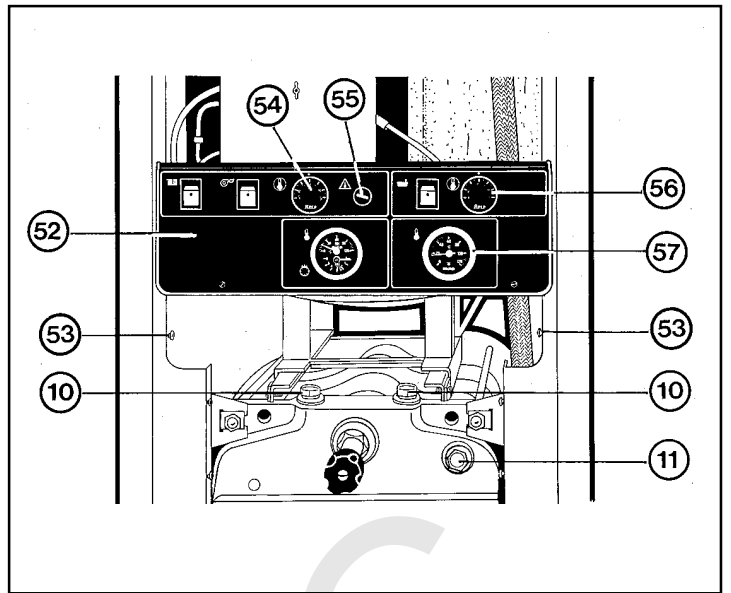
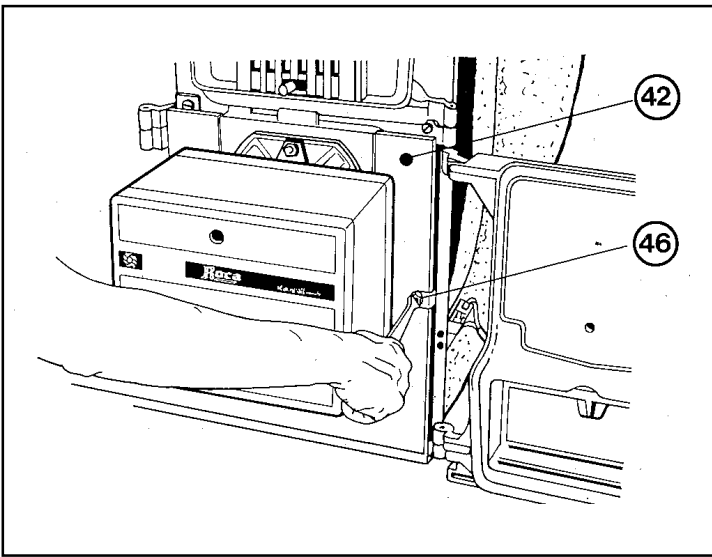
**Combustibles fluidos / Fluid fuels**

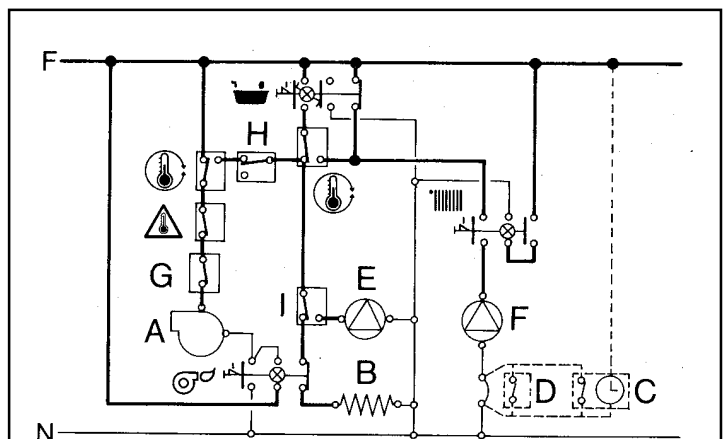
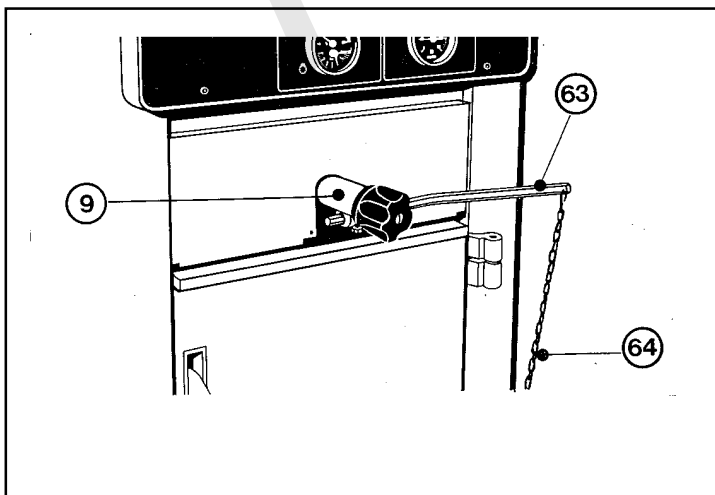
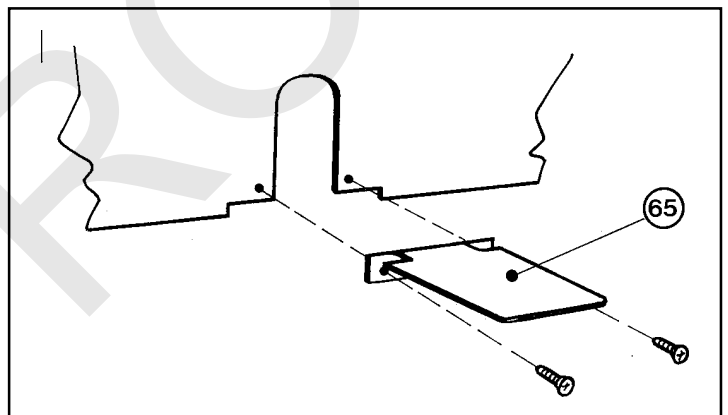
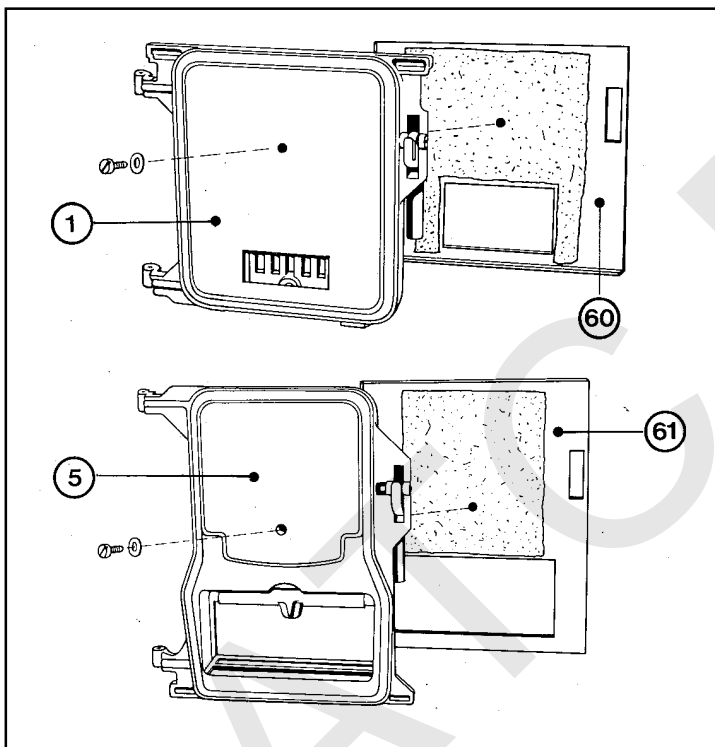
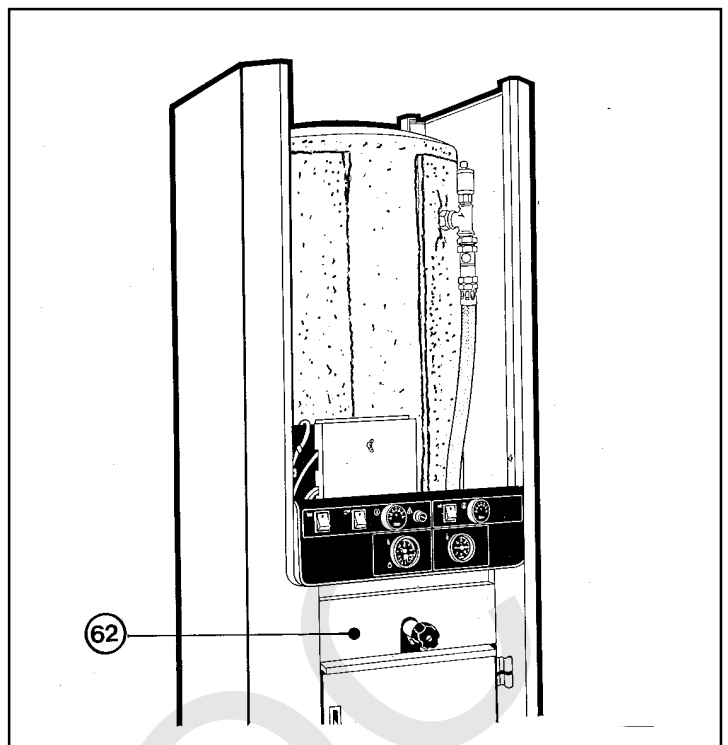
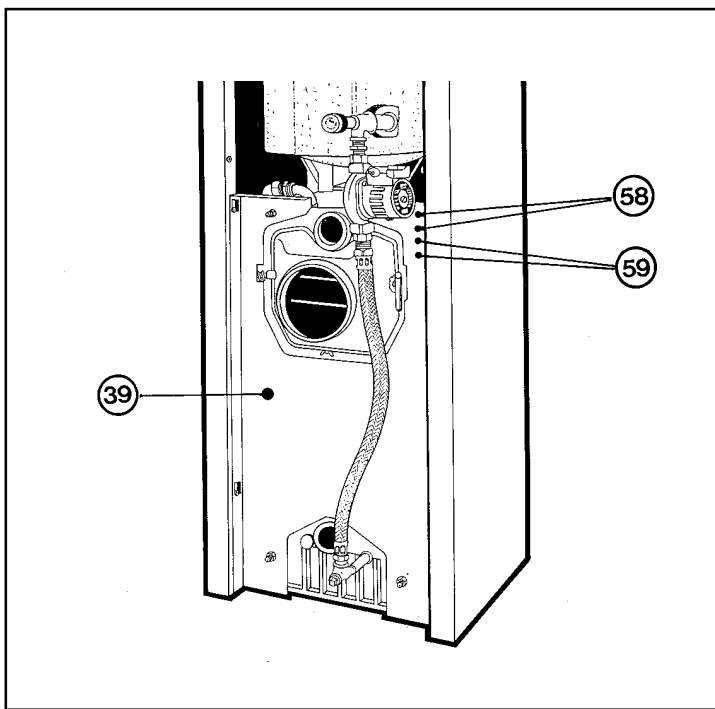
Instalación en circuito cerrado/Sealed system installation



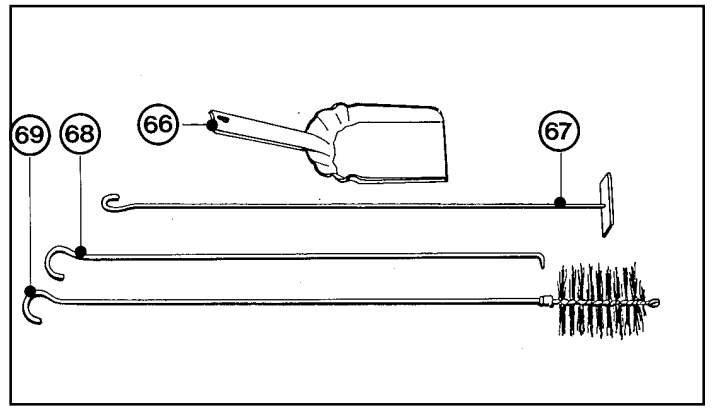
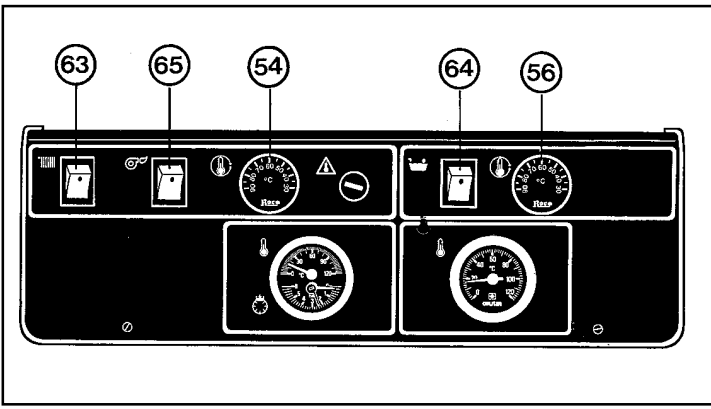
Instalación en circuito abierto / Open vented installation



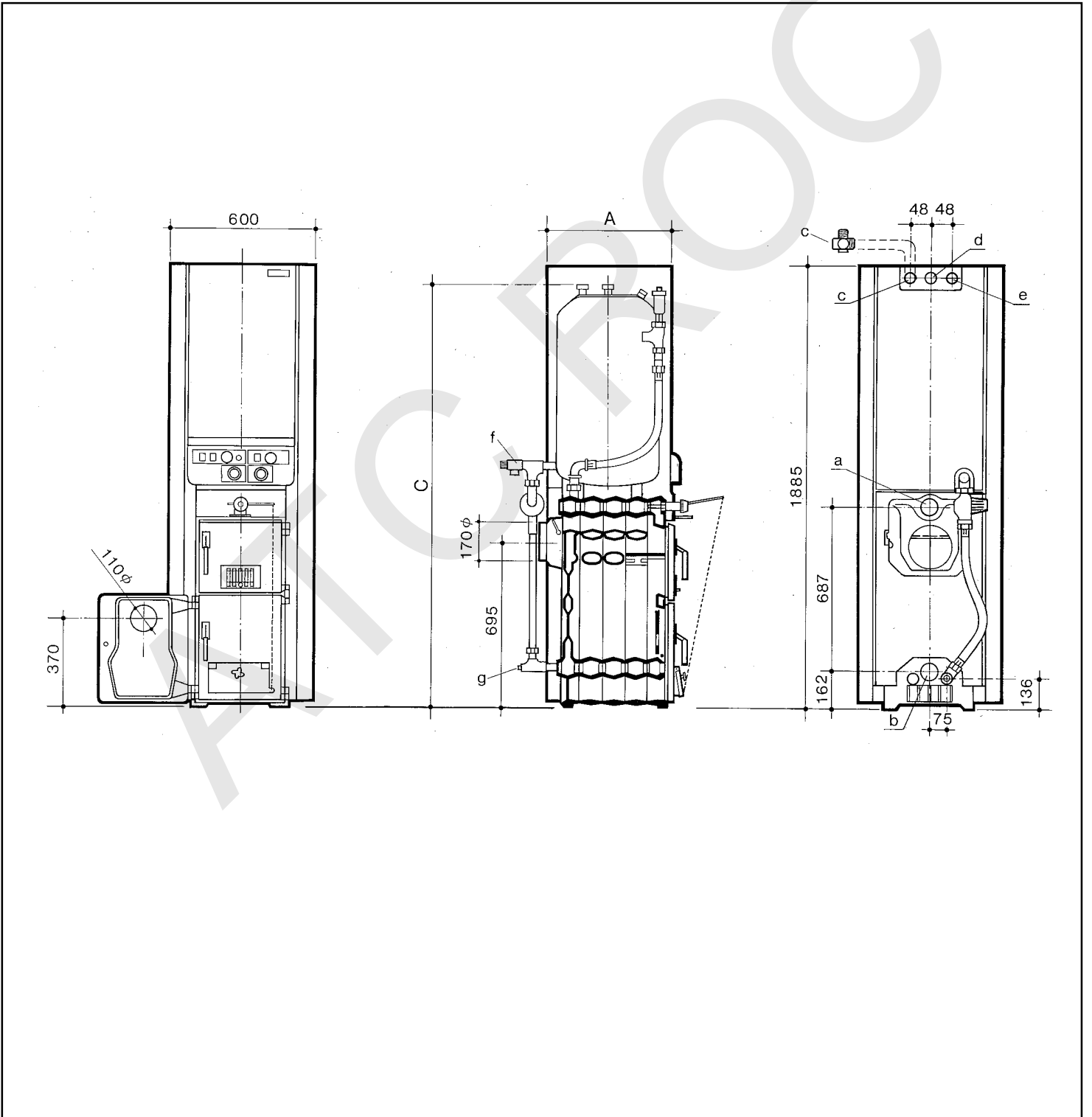




- |   |                                   |
|---|-----------------------------------|
| <b>A</b> Quemador.                                  | <b>H</b> Termostato fijo 80°C.    |
| <b>B</b> Resistencia.                               | <b>I</b> Termostato fijo 60°C.    |
| <b>C</b> Termostato ambiente con reloj programador. | Pulsador servicio calefacción     |
| <b>D</b> Termostato ambiente.                       | Pulsador quemador.                |
| <b>E</b> Circulador circuito agua sanitaria.        | Pulsador servicio agua sanitaria. |
| <b>F</b> Circulador circuito calefacción.           | Termostato regulación.            |
| <b>G</b> Microrruptor puerta quemador.              | Termostato seguridad.             |



## Dimensiones y características técnicas / Dimensions and Technical Features





	Caldera Boiler Type			Acumulador - Intercambiador Cylinder-Heat Exchanger			
	"a"	"b"	"g"	"c"	"d"	"e"	"f"
Orificios Tappings	ida Flow	retorno Return	vaciado Drain	entrada de agua fría Cold water inlet	consumo de A.C.S. DHW outlet	recircula- ción recircula- tion	válvula de seguridad Safety valve
Ø pulgadas Ø inches	2	2	1/2	3/4	3/4	3/4	1/2

Caldera Tipo Boiler Type	P-30 A-5	P-30 A-7	P-30 A-9
Cota "A", mm Dimension "A", mm	555	765	975
Cota "C", mm Dimension "C", mm	1810	1835	1835

Caldera Tipo Boiler type	Nº. de elementos No. of sections	Capacidad de agua, litros Water content, litres	Combustible sólido Solid fuels				Combustible fluido Fluid fuels				
			(1) Potencia útil Heat output		Rendimiento Net efficiency	(2) Volumen carga de comb. Fuel load volume	Potencia útil Heat output		Rendimiento Net efficiency	Peso aprox. Approx. weight	
			kcal/h	kW	η %	dm <sup>3</sup>	kg	kcal/h	kW	η%	kg
P-30 A-5	5	26	16.600	19,3	75	30	265	25.000	29,1	84	276
P-30 A-7	7	37	24.000	27,9	75	46	364	35.000	40,7	84	375
P-30 A-9	9	47	32.000	37,2	75	62	435	43.000	50	84	446

(1) Potencia obtenida con carbón: - Granulometría: 20 ÷ 60 mm (2) Corresponde al volumen ocupado por el combustible desde las parrillas hasta el nivel inferior de la puerta de carga.

(1) Output obtained with coal: - P.C.I.: 7.000 kcal/h (2) Corresponds to the volume occupied by the fuel from the grates to the bottom of the fire door.

- Granulometry: 20 ÷ 60 mm

- Calorific value (net): 7,000 kcal/h

Depósito acumulador de acero inoxidable (A.C.S.)  
Stainless steel storage cylinder (DHW)

Caldera Tipo Boiler Type	Nº. de elementos No. of sections	Capacidad litros Water content litres	Presión máxima de trabajo, bar Max. working pressure, bar		Modelo Model	Circulador primario A.C.S. DHW primary pump		
			Primario Primary	Secundario Secondary		Potencia abs. (W) Power input (W)	Intensidad nominal (A) Running current Amps	Resistencia calefactora (W) Electric Heater element (W)
P-30 A-5	5	75	3	8	MYL-25	94	0,4	1500
P-30 A-7	7	140	3	8	MYL-25	94	0,4	1500
P-30 A-9	9	140	3	8	MYL-25	94	0,4	1500

Composición caldera P-30 A según número total de elementos  
Composition of boiler P-30 A according to the number of sections

Caldera Tipo Boiler Type	Combustible sólido Solid fuels				Combustible fluido Fluid fuels				
	Elemento frontal Front section	Elto. medio de un paso de humos One-pass intermediate section	Elto. medio de dos pasos de humos Two-pass intermediate section	Elemento posterior Back section	Elemento frontal Front section	Pantalla paso de humos Flue baffle	Elto. medio de un paso de humos One-pass intermediate section	Elto. medio de dos pasos de humos Two-pass intermediate section	Elemento posterior Back section
P-30 A-5	1	1	2	1	1	1	1	2	1
P-30 A-7	1	1	4	1	1	1	1	4	1
P-30 A-9	1	2	5	1	1	1	2	5	1

Presión máxima de trabajo de la caldera: 4 bar  
Temperatura máxima de trabajo: 100 °C  
Presión máxima de trabajo circuito agua sanitaria: 8 bar  
Depresión necesaria en la base de la chimenea: 2 ÷ 3 mm.c.a.  
Maximum working pressure: 4 bar  
Maximum operating temperature: 100 °C  
Max. working pressure of DHW circuit: 8 bar  
Negative pressure required at base of chimney: 2 ÷ 3 mm.c.a.

## Main features

Combination boiler which offers the convenience of individual Central Heating and Domestic Stored Hot Water production. Constructed basically from cast-iron sections, which constitutes a guarantee of indefinite continuous use. The stainless steel storage cylinder offers all the advantages of this quality material against rusting and corrosion. Thermally insulated with injected rigid polyurethane foam to reduce heat loss.

With the burner in place, both the ashpit door and burner door can be fitted at the same time and therefore it is not necessary to change any accessories for adapting the boiler for using different fuels.

The cast-iron sections, joined together by means of push nipples, make up a completely sealed combustion chamber and flueways, for making full use of the combustion heat and energy consumed.

Combustion chamber with fixed water-cooled grates adapted for burning all types of fuel, with no need of firebrick protection. Large firedoor to facilitate stoking with all kinds of solid fuels and ash-pan for quick and clean removal of ashes and cinders. The boiler body and all the doors are thermally insulated to prevent heat loss and improve efficiency.

Automatic damper regulator, control panel and burner safety microswitch for use according to the chosen fuel.

## Installation

- 1 - When installing the boiler, keep in mind that to obtain the nominal output indicated on the nameplate, the cross-section and height of the chimney should be in accordance with the [graph](#).
- 2 - All parts of the boiler should be fully accessible for maintenance, monitoring and management operations as specified in the current Regulations.

## Delivery

The P-30A boiler for solid-fuel firing is delivered in four packages:

- 1 - Fully assembled boiler body, painted with an anti-rust primer, protected with wooden packing for transport. The ash-pan beneath the grates.  
The automatic damper regulator, in its packing, and the shovel in the combustion chamber.
- 2 - The casing unit in a cardboard pack which contains:  
The casing, comprising:
  - Top cover
  - Top rear cover
  - Middle front cover
  - Top front cover
  - Right-hand panel
  - Left-hand panel
  - Rear bracket cover
  - Firedoor case
  - Ashpit door case

Control panel

Cylinder accessories:

- Right-hand bracket
- Left-hand bracket

Cleaning tools

- Flue brush
- Brush handle
- Scraper
- Slice bar

Insulating blanket

A plastic bag containing:

- 4 cylinder fixings (cylinder brackets to boiler)
  - 2 hex bolts M6x20 (brackets to cylinder)
  - 2 hex nuts M6 (brackets to cylinder)
  - 2 washers B6.4x12.5 (brackets to cylinder)
  - 1 protective cover for the regulator (wrapped up in paper)
  - 2 self-tapping screws B3.5x9.5 (protective cover for regulator)
  - 6 nuts M12 (4 for rear bracket cover- 2 for side casing panels to front end of tie-rods).
  - 2 fixing plates for boiler side casing panels (to front end of tie-rods)
  - 2 screws M6x25 (firedoor and ashpit door cases)
  - 2 washers B6.4x18 (firedoor and ashpit door cases).
- 3 - Unpacked storage cylinder, with screwed tappings protected.
  - 4 - Storage cylinder hydraulic unit, including an electric resistance heater, protected with cardboard packing.

The P-30A boiler for fluid-fuel firing comes in five packages. The contents of four of them are similar to those for the solid-fuel version, whilst the one containing the conversion kit for fluid-firing, protected with cardboard, comprises:

- 5 - Burner door with fitted casing.
  - Baffle plate.
  - Burner door microswitch, in a plastic bag.
  - Plastic bag containing the accessories for fitting the burner door.
  - Burner connecting cable.

## Assembly

### Checking the material

First we suggest checking the number of packages, that their contents conforms to those indicated in "Delivery" and that no incident in transport or lying on site has altered their composition.

With respect to the boiler, proceed to:

- Remove the packing
- Open the ashpit door (1) by means of the handle (2).
- Lower the front section grille (3) hinged on the built-in section brackets (4) and leave it upside down.
- Take out the material contained in the combustion chamber and replace the grille (3) in its original position. Close the ashpit door (1).
- Open the firedoor (5) using the handle (6) and check the flues (7) to make sure that no foreign body has entered them. If so, it should be removed. Close the door (5).

### Location

- Check that the P-30A boiler is level on the base chosen for its use and that this complies with the requirements in "Installation-2".

### Damper Regulator

- Remove the plastic cap that protects the threads of the tapping (8) in the front section and fit the body with handle of the automatic damper regulator (9)\* according to the instructions that come with this accessory.

\* This operation can be omitted in boilers intended for continuous use of fluid fuels and the bushing in the tapping (8) substituted by a 1¼" plug. Nevertheless, from the aesthetic point of view it is suggested that this piece be fitted.

In any case, it is preferable not to fit the hexagonal rod and chain permanently until after assembling the casing.

- From the pack containing the control panel, remove the two 100-mm pockets (10) and from the control panel itself remove the non-return/sensor valve for the altitude gauge (11).
- After removing the plugs from the tappings (12), (13) and (14) in the front section, screw in the 2 pockets (10) in the first two and the valve (11) in the last one.

### Insulating blanket

- Cover the body of the boiler with the insulating blanket (15), passing it between the body and the four tie-rods (16).

### Electric heater element

- Fit the flange with the heater element (R) to the storage cylinder, replacing the original blank flange and secure it with the same nuts.

### Storage cylinder

- Fasten the RH & LH brackets (17) to the base of the cylinder by means of the M6x20 hex bolts, the two B6.4x12.5 washers and the two M6 hex nuts provided. The ends with a hole belong to the bearing parts of the brackets on the boiler front section.

### Hydraulic Unit

The water-tightness of all the components that make up the hydraulic unit should be guaranteed through the use of teflon tape or hemp.

- Remove the 1/2" plug from the top tapping in the front section and screw in the bend (18) of the pre-mounted cylinder flow assembly.
- Fit the adaptor (19) to the end of the bend (18).
- Position the storage cylinder over the boiler body so that the brackets (17) are parallel to the tie-rods (16), resting on both the front and back sections and as far as they will go against the back section. The flange for the optional heater element will be at the front, on the left-hand side. The brackets (17) should be locked in position over the boiler by means of the four fixing plates (20) and the four M6x16 screws.
- Fit the parts which make up the cylinder flow assembly, i.e. the FLEXVENT floatvent (21), the reducing tee (22), the male hexagon nipple (23), the check valve (24) and the reducing hexagon nipple (25). Screw the free end of the nipple (25) to the cylinder connection, after removing the protective cap. Check that the arrow on the check valve points to the floatvent.
- Connect the flexible tube (26) to the check valve (24) and to the adaptor (19).
- Screw the 1" pipe (27) to the cylinder connection, after removing the protective cap, and then fit the reducing tee (28), the 1/2" male hexagon nipple (29), the safety valve (30), the 1" male hexagon nipple (31) and the pump upper union adaptor (32).

We suggest removing the plastic cap from the bottom tapping (33) in the back section and screw in the water connection for the system return circuit.

- Remove the plug and screw the return pipe (34) in the 1/2" RH bottom tapping in the back section and then the reducing tee (35) and the 1/2" plug (36).
- Couple the pump\* to the upper union adaptor (32) and then connect the bottom pump union adaptor to the return flexible tube (37) and this in turn to the reducing tee (35).

\* With the arrow pointing down.

- Fit the rear supporting panel (39) with its insulating material in contact with the back section and secure it through the tie-rods using the four M12 nuts provided.

### Connecting to the installation

- Remove the plastic caps which protect the upper (40) and lower (33)\* tappings in the back section and make the connections to the flow and return\* circuits respectively.
- Remove the plug (36) from the reducing tee (35) and fit a drain cock.

\* If this has not been done before.

- Connect the cylinder through the screwed nipples at the top, observing the destination indicated for each one. In the top casing panel there is a label identifying them.

A FLEXBRANE safety unit should be installed in the "cold water inlet" connection, before the cylinder, and in accordance with the instructions that come with it.

- A) Mains water inlet cock (black handwheel) with arrows indicating the direction of rotation to 'open' and 'close'.
- B) Cylinder "cold water inlet" connection with a 3/4" mesh strainer.
- C) 3/4" mains water inlet connection, with check valve.
- D) 3/4" safety valve (red handwheel) for connection to the drain.

It is advisable to operate it twice a month.

Domestic hot water expands when heated and so pressure in the circuit increases as its volume grows. This overpressure may cause the safety valve to leak and so it should be routed to a drain.

### Safety devices

- Fit specific safety devices for sealed system and open vented installations, according to the diagrams referring to installations for solid or fluid fuels.

The diameters of the safety pipes shall comply with current regulations.

### Watertight test

It is essential to fill the DHW circuit (storage cylinder) before the heating circuit and, when appropriate, empty the latter first.

- Fill the installation with water (in the order indicated above), check that there are no leaks in any part of the circuits, and bleed them both.

### Connecting to the flue duct system

- Connect the boiler to the flue duct system through the smoke hood.
- Carefully pack round the base of the chimney with putty and check the sealing of the smoke hood (41) to ensure that no air can leak in.

### Assembly of conversion kit for fluid-fuel firing

- Open the firedoor (5) and rest the baffle plate (P) on the brackets incorporated on the interior side surfaces of the first intermediate section. Close the firedoor.
- Open the ashpit door (1) and lower the front section grille (3).
- Adding the burner door (42) to the boiler does not make it necessary for the ashpit door (1) to be removed. It is sufficient to leave the latter open and hang the former from the hinges (43) after fitting them to the front section using the four bolts and the two fixing pins provided.
- Fit the microswitch (44) (a switch necessary for preventing accidental functioning of the burner when using solid fuels), with its bracket on the lower right part of the rear surface of the front section, using the two M4x25 screws in such a way that the operating lever can be pushed by the M5x55\* bolt (45) which will have been fixed in the hole for this purpose in the burner door, with an M5 nut.

\* Adjust the distance so that the burner starts up when the door closes.

- Fix the burner to the door (42) with the flange adapted for Roca burners, in accordance with the instructions that come with it. Close the burner door and fix it in place by tightening the locking bolt (46).

## Safety against opening the firedoor

It is impossible to open the firedoor (5) accidentally once the burner door (42) is immobilized since the flange (47) makes it impracticable. The firedoor can be opened only after deliberately loosening bolt (46) and opening the burner door (42).

## Fitting the Casing

- Situate the right (48) and left\* (49) side casing panels in their respective sides of the boiler and cylinder. The left panel has a cable entry for introducing the cable for the electrical connection between the burner and the control panel in boilers intended for fluid-fuel firing.

\* When the boiler incorporates a burner door, the pre-punched slots on the front edge which coincide with the hinges should be left free.

- The upper (50) and lower (51) brackets on the (chamfered) front part of the sides should be fixed between the two nuts screwed on the ends of the tie-rods\*. The angled fixing plates (see "Delivery") should be introduced through the two upper tie-rods -between the brackets and the front nut- whose ends should engage the slots punched in the side panels to fix them in place.

\* Where a burner door has been fitted to the boiler, this should be opened to allow easy manipulation of the lower front tie-rod nuts.

- Fit the back cover introducing the four locating lugs into their respective slots punched on the rear edge of the side casing panel (39).

- Hang the control panel (52) from the first four front brackets (53) on the sides.

**Note:** The electrical wiring should include a switch so that the control panel can be energized or isolated from the mains power supply.

- In the left pocket (10) in the front section insert the bulbs for the thermostats without a wheel set at 60 °C and 80 °C, and in the right-hand pocket (10) the bulbs for the control (54) and limit (55) thermostats, as well as that for the central heating thermometer. Fasten the capillaries using the pocket clips.

- Screw this probe to the combined temp./altitude gauge non-return-sensor valve (11).

- Change the position of the control panel resting it on the last four side brackets (53).

- Introduce the bulbs for the thermometer (56) and DHW thermostat (57), with their adaptor springs, in the pocket provided for this purpose in the storage cylinder.

**Note:** Do not bend the capillary tubes with a radius of under 3mm.

## Electrical connections

- Make the electrical connections in accordance with the wiring diagram printed on the self-adhesive paper stuck on the terminal strip cover in the control panel.

**Note:** Please note that the Domestic Hot Water service will not have priority over Central Heating if jumper 9-10 is replaced with jumper 8-9.

- Introduce the cable entries of the electrical cables for the pumps through the knock-outs (58) in the rear supporting panel (39), trying not to rub the wiring harness against the boiler body.

The mains power cable and that for the ambient thermostat should also go through the grommet (59).

- Carry out a test run as directed in the "Operation" section in accordance with the type of fuel to be used (solid or fluid) and, if the result is satisfactory, complete assembly of the casing.

## Fitting the casing (continued)

- Fix the casings (60) and (61) to both the firedoor (5) and ashpit door (1) using the M6x25 screws and B6.4 washers provided.

- Hang the half front cover (62) from the side casing panels by means of the four brackets situated between the control panel and the firedoor.

- Fit\* the hexagonal rod (63) and the chain (64) of the damper regulator as indicated in the instructions that come with it.

- Open the firedoor and fit\* the plate (65) for protecting the damper regulator in the front part of the top casing cover, using the two B3.5x9.5 blued screws supplied. Close the firedoor.

\* This operation will not be necessary in boilers intended for continuous use of fluid fuels if a damper regulator has not been fitted.

- Hang the top front cover of the side casing panels by means of the four brackets situated at the front.

- Hang the top rear cover from the four brackets situated at the back of the side panels.

- Rest the top cover on the side panels.

## Operation

### Wiring diagram

### Operations prior to the first lighting (Dual service)

- Check that the installation is full of water\* and place the fixed pointer on the combined temp./altitude gauge in the position corresponding to the static head of the installation.

- Turn ON the main On/off switch to enable the control panel.

- Turn ON the switch (63) on the control panel and check that the heating pump runs correctly.

- Ensure that the venting valve on the automatic FLEXVENT floatvent is open and that the air in the system can be eliminated through it.

- Open a hot water tap to bleed the air in the DHW circuit.

- Bleed the air from the system and radiators.

- In installations with a sealed expansion vessel, top up with water (if necessary) until the mobile pointer on the combined temp./altitude gauge is slightly above the fixed one. Where an open expansion vessel has been installed, refill until the mobile pointer levels with the fixed one.

\* See "Watertight Test"

### First lighting with solid fuels (Dual service)

- Check that the smokehood damper is open. (Handle in position "A").

- Open the ashpit door, lower the front section grille and put a sufficient amount of straw or paper, kindling or coal so as to aid lighting up.

While doing this, keep the firedoor and its observation window closed. The latter will be kept open only when using fuel with an excessive content of volatile material requiring a secondary supply of air for burning.

- Turn ON the switch (63) to start up the system heating pump.

- Following the initial combustion, put the grille back in its original position, close the ashpit door, open the firedoor and stoke the boiler with the chosen fuel to an appropriate level. Close the firedoor and check that there are no leaks of flue gases.

- Turn ON the switch (64). The heater element in the DHW cylinder will operate until the temperature of the water in the boiler reaches 60 °C (the one chosen for setting the damper regulator permitting); and from that value onwards the DHW pump will come into operation.

- Set the control thermostat dial (56) for the DHW circuit between a minimum value of 30 °C and a maximum of 55 °C.

- Set the automatic damper regulator in accordance with the instructions that come with it.
- Vent the system and ensure that all the radiators and the DHW circuit reach the required temperature in accordance with that selected on both the damper regulator and the thermostat (56).

## First lighting with fluid fuels

### (Dual service)

- Connect the fuel supply line to the burner.
- Check that the smokehood damper is open. (Handle in position "A").
- Turn ON the switch (63) to start up the system heating pump.
- Turn ON the switch (65) to start up the burner and check its running against the instructions that come with it.
- Turn ON the switch (64). The DHW pump will start up when the water in the boiler reaches a temperature above 60 °C (the setting of thermostat (54) permitting). Check that there are no leaks of flue gases.
- Set the control thermostat dial (54) for the heating circuit to a temperature above 60 °C.  
Where an ambient thermostat has been installed, set it to the required temperature.
- Set the control thermostat dial (56) for the DHW circuit between a minimum value of 30 °C and a maximum of 55 °C.
- Vent the system and ensure that all the radiators and the DHW circuit reach the required temperature in accordance with that selected on the respective thermostats.
- Check that there are no leaks of flue gases.
- Check the burner safety devices.

\* In case we want to tap hot water without the heating service being on, when switch (64) is operated, the heater element in the DHW cylinder will warm up the water to the temperature selected through the control thermostat dial (56) for the DHW circuit.

## Maintenance

To aid operating and cleaning the boiler, a set of tools is supplied, comprising:

- Shovel (66)
- Scraper (67)
- Slice bar (68)
- Flue brush with handle (69)

The shovel is used in stoking the boiler, for putting solid fuel in the combustion chamber, as well as for collecting and removing cinders from the ash-pan.

The scraper permits drawing ashes and slag which might have fallen onto the base of the boiler, from the back to a more accessible place for collecting and removing.

The slice bar eases cleaning of the grate bars in such a way that the cinders which have remained on the surface can fall onto the ash-pan. It can also be used –if necessary– for poking the solid fuels.

The flue brush is used for cleaning the flues and the interior walls of the boiler.

## Important recommendations

- If the installation is located in a frost-risk area, some anti-freeze solution should be added to the water in proportion to the minimum outside temperature of the place.
- The characteristics of the water in the installation should preferably be:

pH : 7.5 ÷ 8.5

Hardness: 8 ÷ 12 French degrees\*

\* One French degree is equivalent to 1 gram of calcium carbonate in 100 litres of water.

- If it were essential to add water to the system, always wait until the boiler has cooled down completely.