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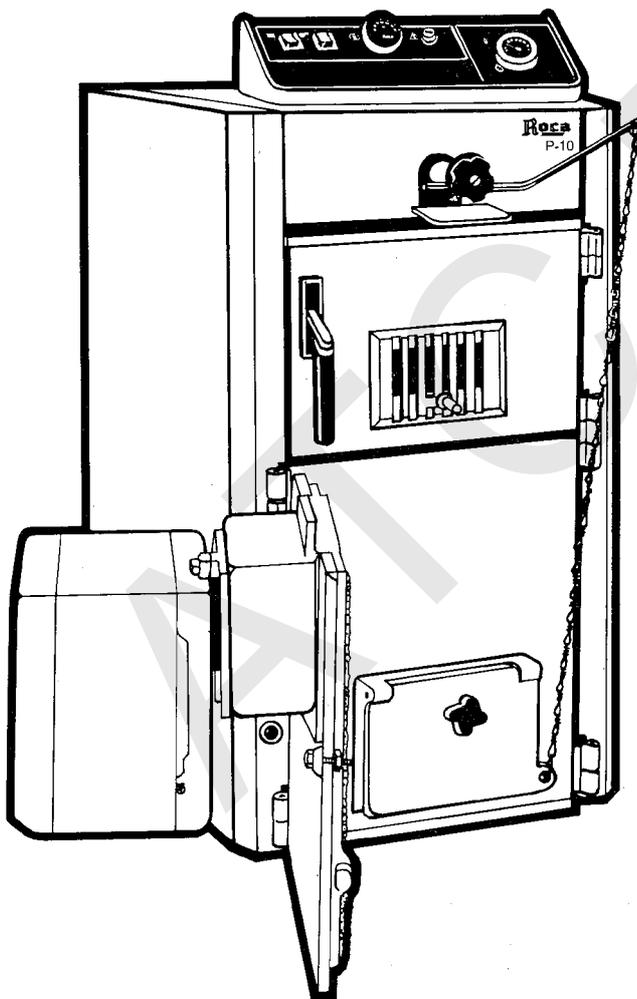
Caldera policombustible

Instrucciones de Funcionamiento,
Limpieza y Mantenimiento
para el **USUARIO**

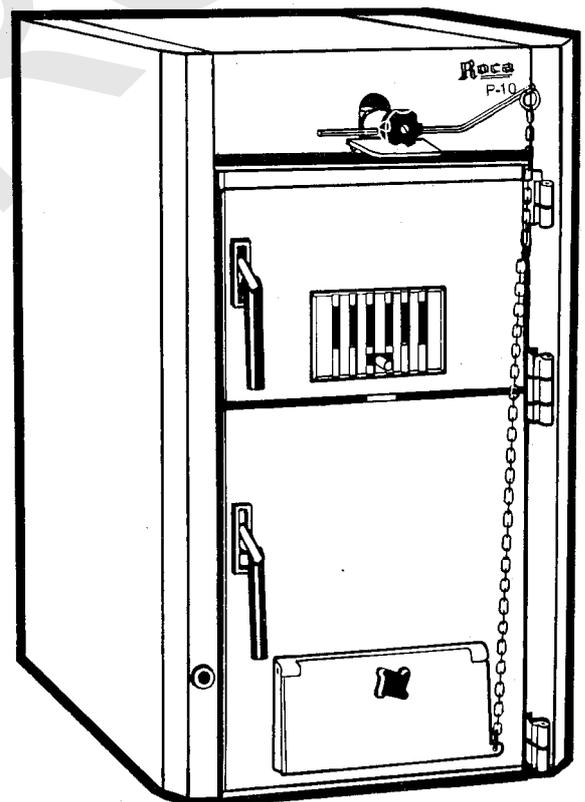
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Multifuel Boiler

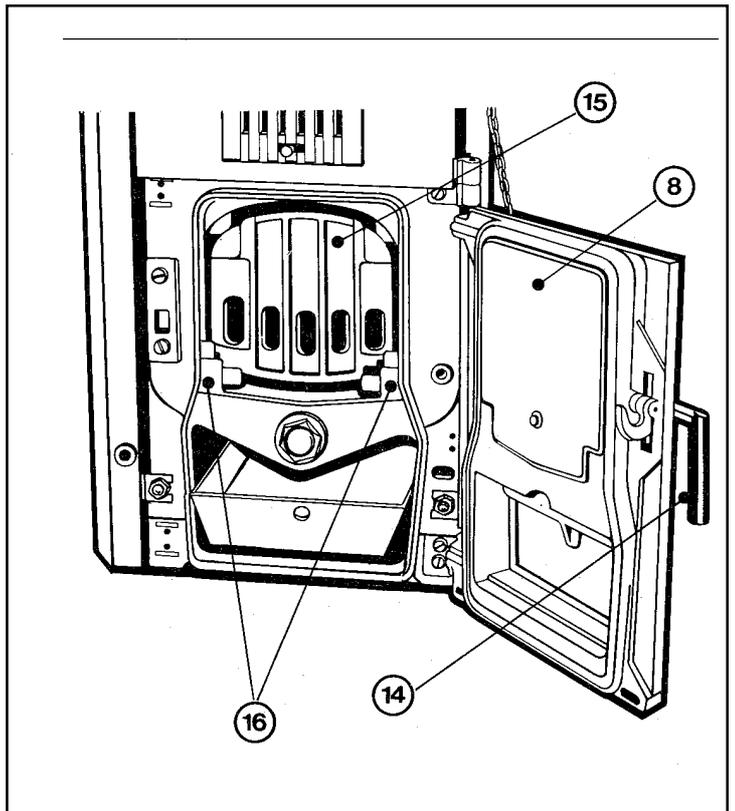
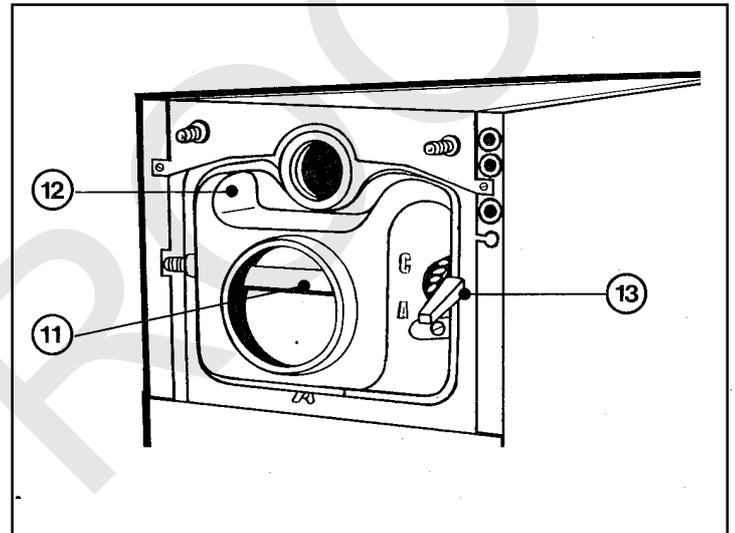
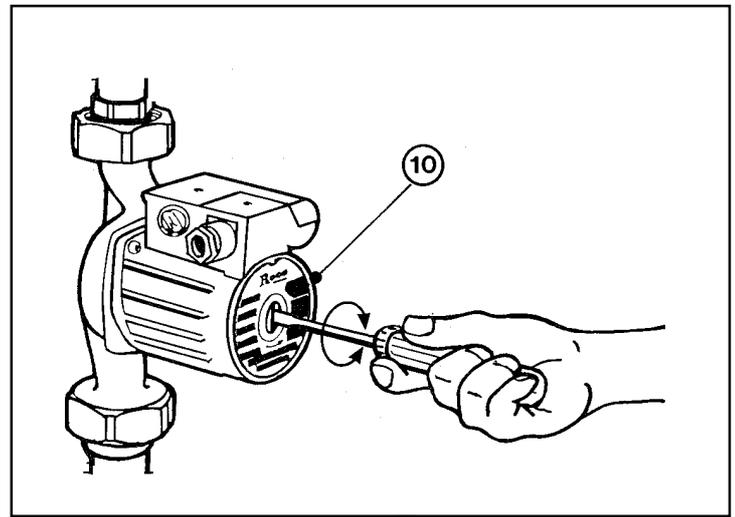
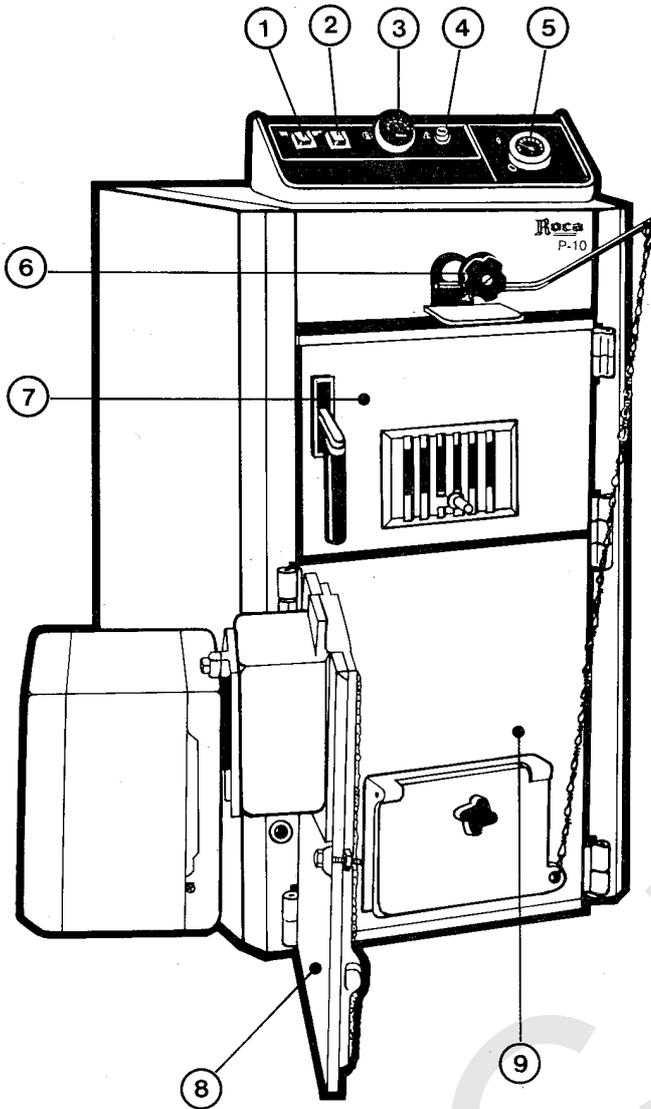
Operating, Cleaning
and Maintenance Instructions
for the **USER**



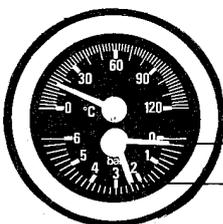
Combustibles fluidos
For fluid-fuel firing



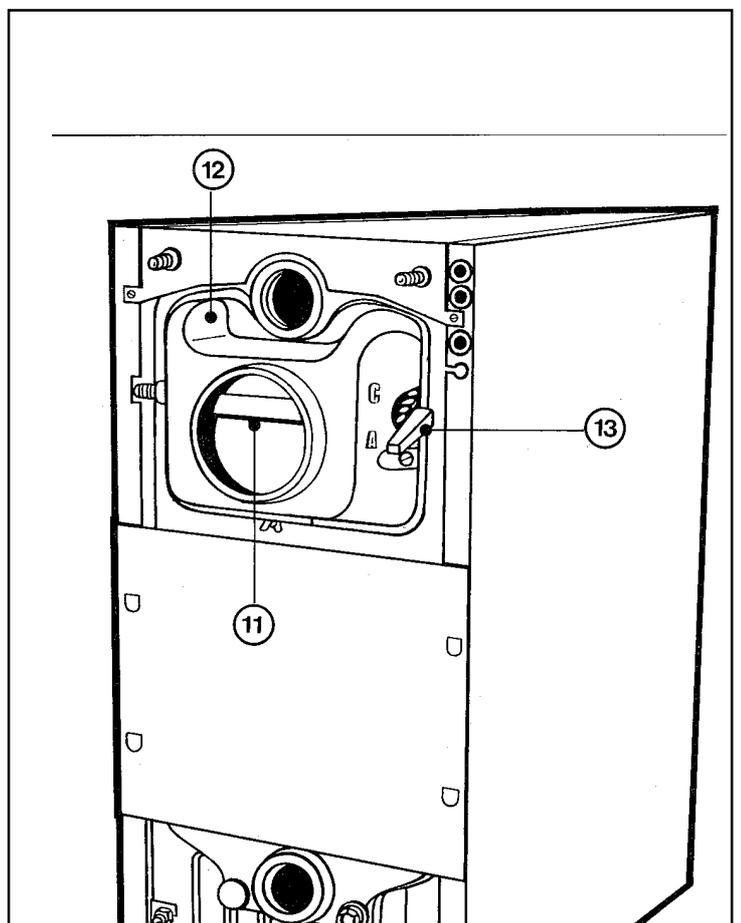
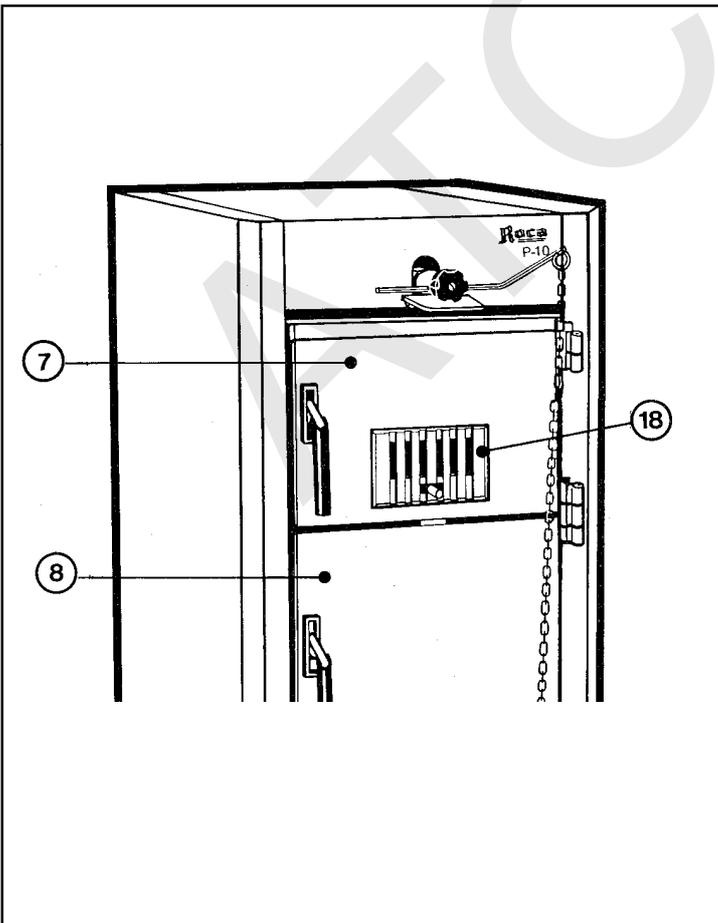
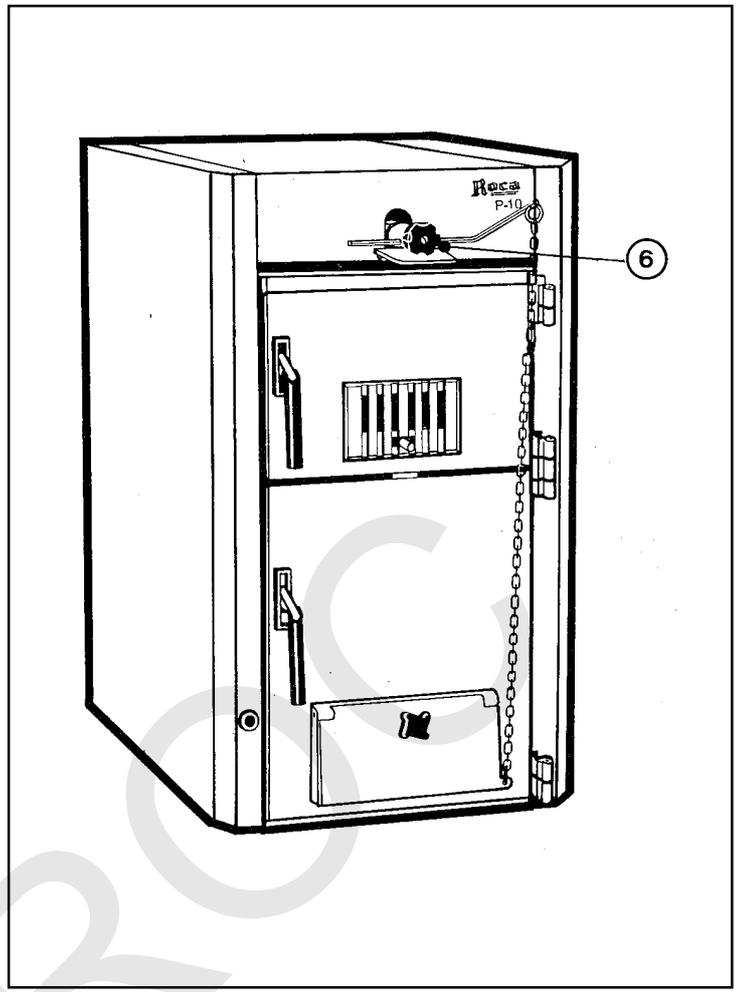
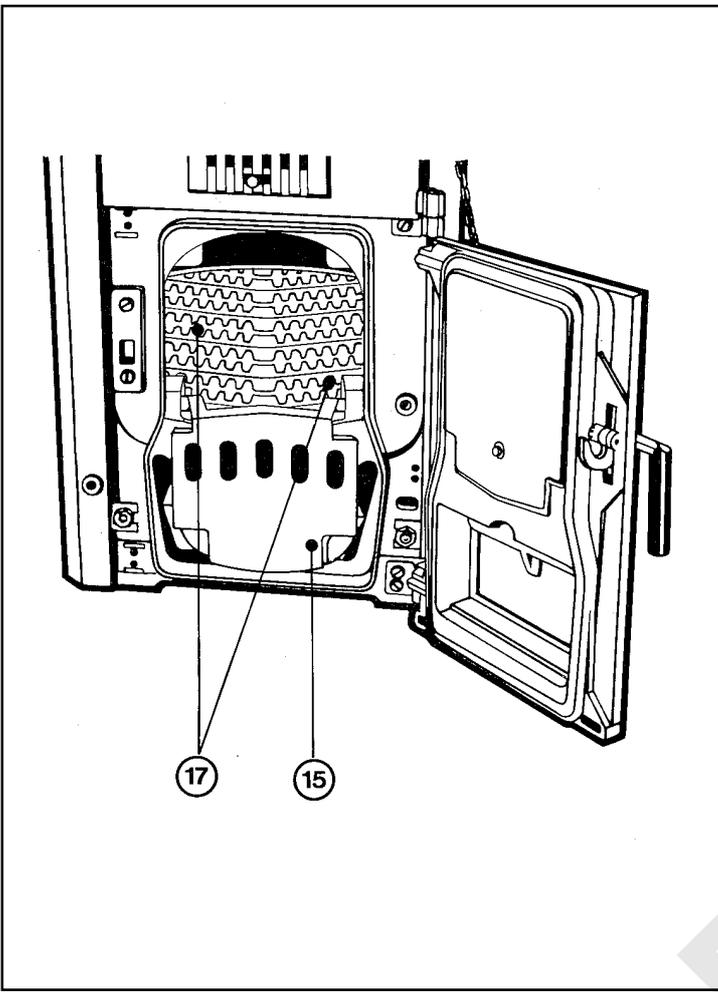
Combustibles sólidos
For solid-fuel firing

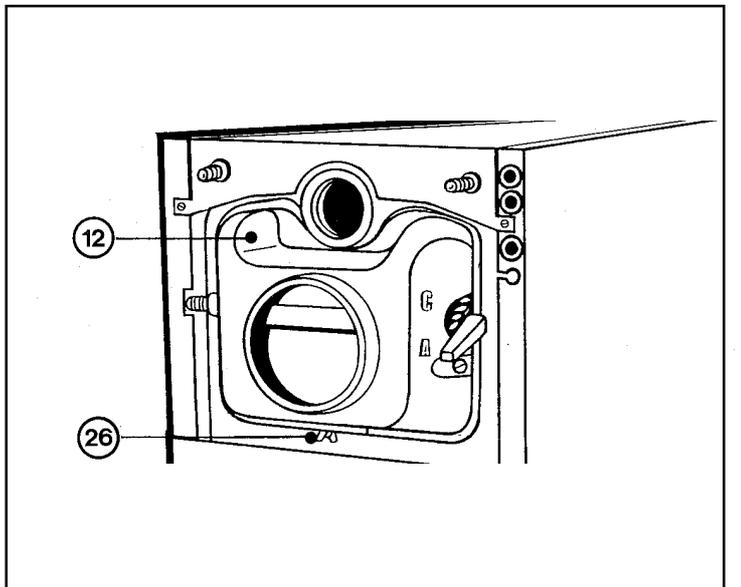
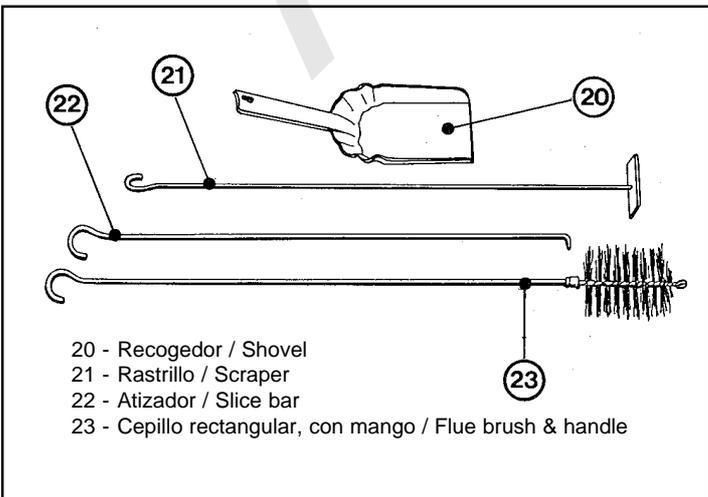
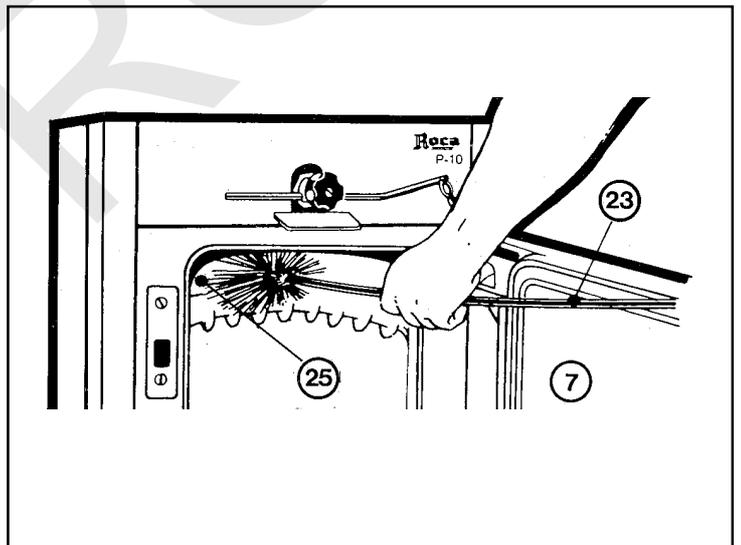
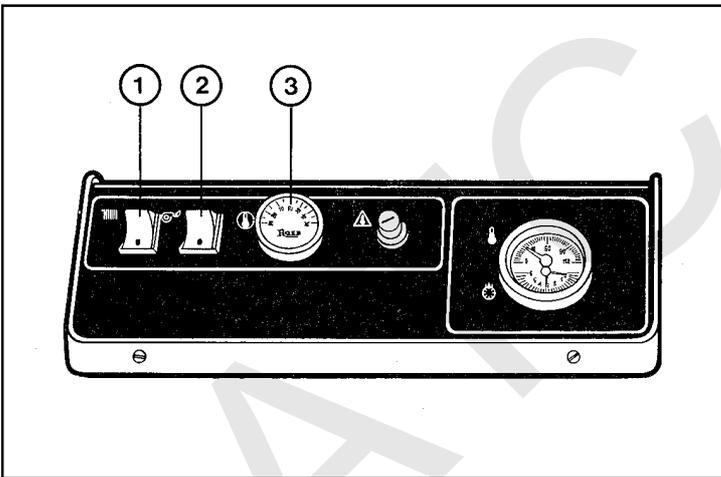
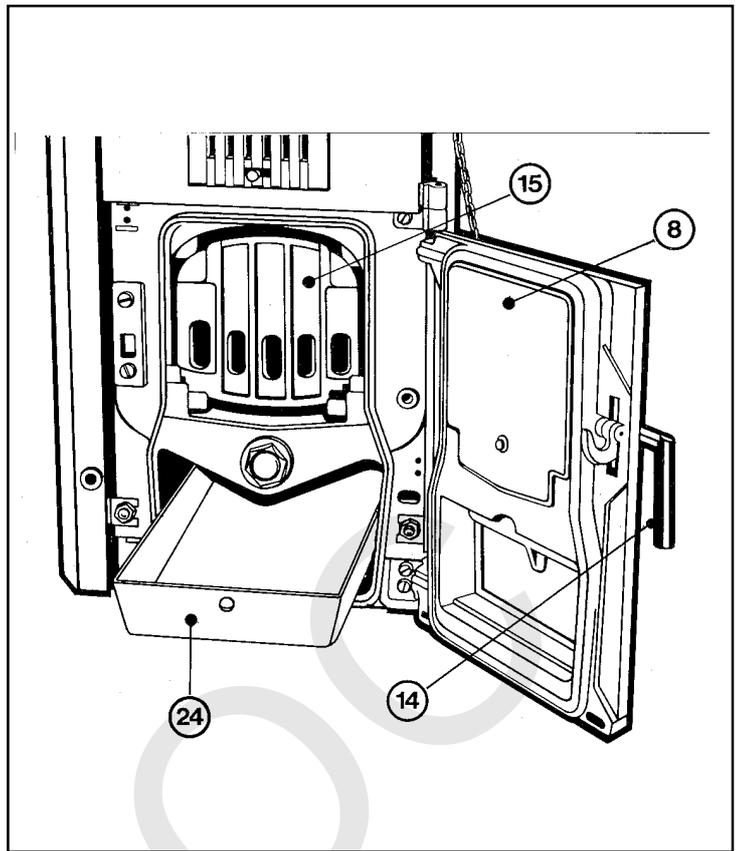
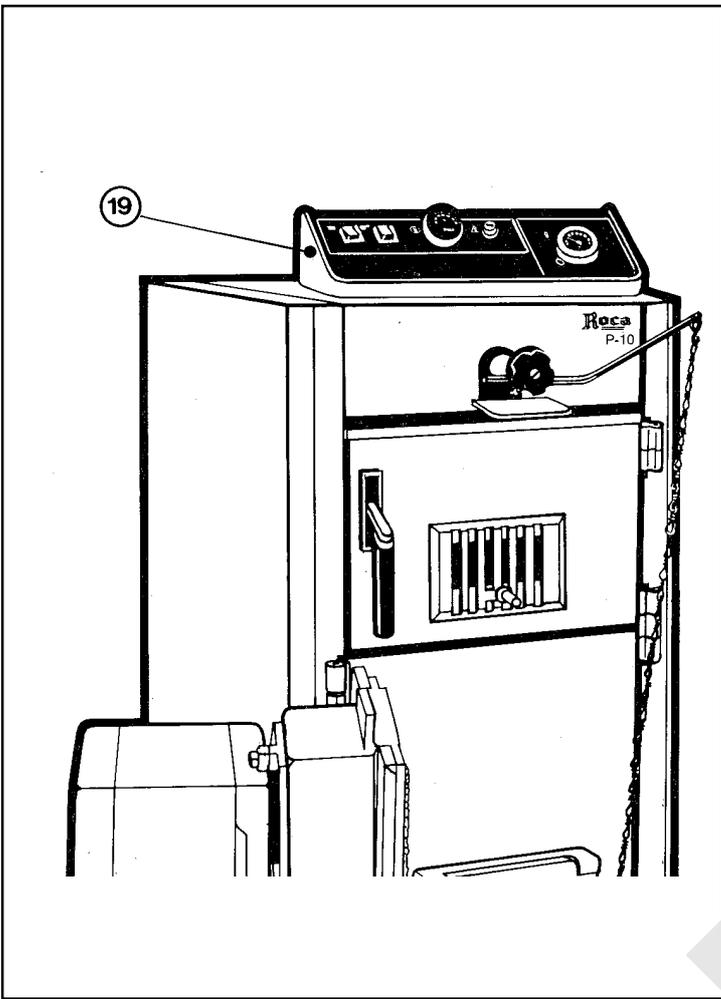


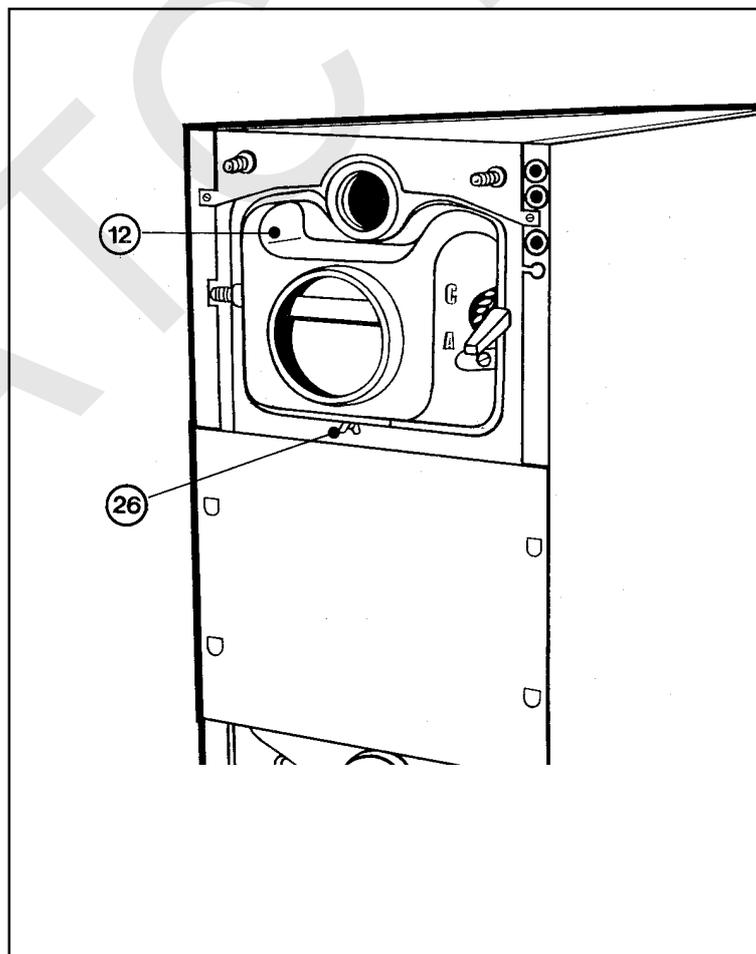
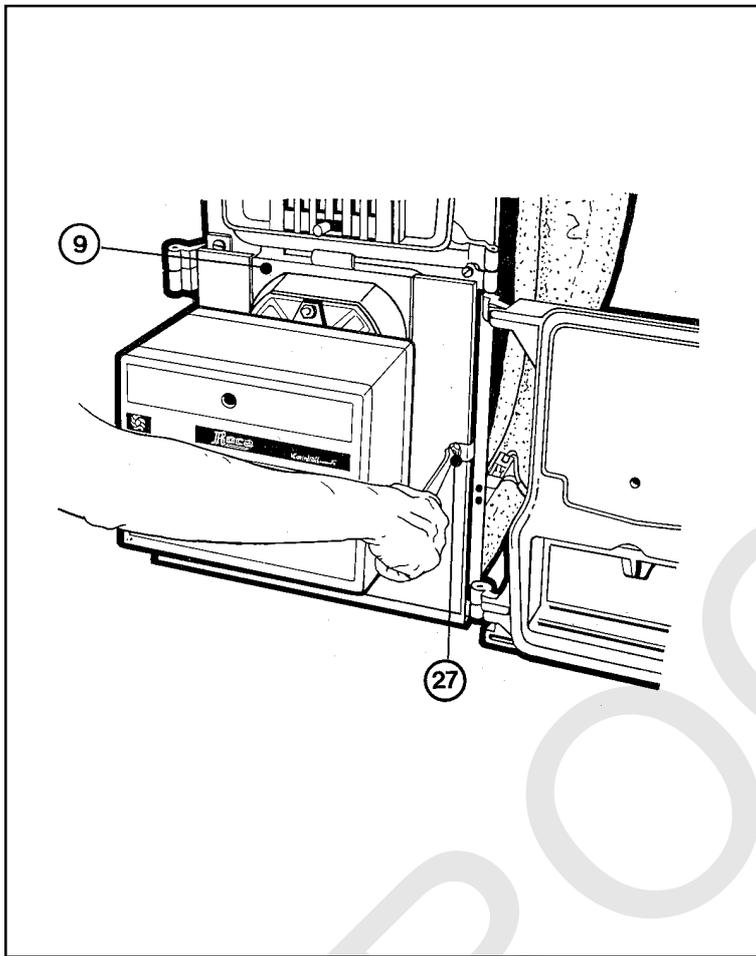
- 1 - Interruptor para el servicio del circulador.
Pump On/off switch.
- 2 - Interruptor para el servicio del quemador.
Burner On/off switch.
- 3 - Termostato de regulación / Control thermostat.
- 4 - Termostato de seguridad / Limit thermostat.
- 5 - Termohidrómetro / Combined temp.
- 6 - Regulador automático de temperatura.
Automatic damper regulator.
- 7 - Puerta de carga / Firedoor.
- 8 - Puerta de cenicero / Ashpit door.
- 9 - Puerta de quemador / Burner door.



Aguja móvil / Mobile pointer
Aguja fija / Fixed pointer







The P-10 boiler that you have chosen for your installation is basically made up from cast-iron sections and so it is a product of unbeatable quality that will provide you with the convenience of individual central heating for many years. You will obtain the level of comfort that you expect from its use.

In this information we offer you the main features of the boiler as well as the operations that are necessary for its correct performance and proper maintenance.

We are at your disposal through your Installer to solve any problem that might arise.

Main features

Boiler type	Heat output kcal/h	
	1) Solid fuel	Fluid fuel
P-10-3	7.000	10.000
P-10-4	10.000	14.000
P-10-5	13.000	18.000

1) Output obtained with coal.

Maximum working temperature: 100°C

Maximum working pressure: 4 bar

Operation

Checks and operations to follow at the beginning and end of each heating season, and also while using the boiler.

Operations prior to the first lighting

- 1 - Check that the installation flow and return cocks, if there are any, are open.
- 2 - Check that the installation is full of water and that the fixed pointer on the altitude or combined temp./altitude gauge has been placed by the Installer in the position which corresponds to the static head of the system. (See figure)
- 3 - Check the pump for correct operation. To do this, remove the turn and bleed control plug (10) with a screwdriver and look at the shaft*.

* After long periods of non-use, the pump may have become jammed. In this case, press a screwdriver into the slot on the shaft-end and at the same time, turn it.

- 4 - Bleed the air from the installation and radiators.
- 5 - In installations with a sealed expansion vessel, top up with water (if necessary) until the mobile pointer on the altitude or 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.

First lighting with solid fuels

- 6 - Check that the damper (11) in the smokehood (12) is open; otherwise open it by turning the handle (13). Get the end of the handle (13) to point at the letter "A" (open) on the smokehood.
- 7 - Open the ashpit door (8) by turning its handle (14).
- 8 - Lower the front section grille (15) hinged on the built-in section brackets (16) and leave it upside down.
- 9 - Put a sufficient amount of straw or paper, kindling or coal on the grate bars (17) so as to aid lighting up. While doing this, keep the firedoor (7) and its observation window (18) 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.

- 10 - Switch on the system circulating pump.
- 11 - Following the initial combustion, put the grille (15) back in its original position and close the ashpit door (8).
- 12 - Open the firedoor and stoke with the chosen fuel, loading it so as not to smother the fire, to an appropriate level. Close the firedoor and check that there no leaks of flue gases.
- 13 - Adjustment of the automatic damper regulator (6) will have been done by the Installer. Nevertheless, if you have to set it, proceed according to the instructions that come with it.
- 14 - Bleed all the radiators and ensure that they reach the required operating temperature in accordance with that selected on the damper regulator (6).

First lighting with fluid fuels

- 6 - Check that the damper (11) in the smokehood (12) is open; otherwise open it by turning the handle (13). Get the end of the handle (13) to point at the letter "A" (open) on the smokehood.
- 7 - Turn ON the main switch for the power supply to reach the control panel (19).
- 8 - Turn ON the switch (1) on the control panel to start up the system pump.
- 9 - Turn ON the switch (2) on the control panel to start up the burner and check its running against the instructions that come with it.
- 10 - Set the control thermostat (3) on the control panel to the required temperature. A minimum temperature of 60 °C is recommended. Where an ambient thermostat has been installed, set its dial in the position corresponding to the chosen indoor temperature.
- 11 - Bleed all the radiators and ensure that they reach the required operating temperature in accordance with that selected on the control thermostat (3).

Cleaning

The cleaner the boiler is kept the lower will fuel consumption be. For every millimetre thickness of soot adhering to its interior surfaces, consumption increases by approximately 3%. To aid operating and cleaning the boiler, a set of tools is supplied, comprising:

- 20 - Shovel
- 21 - Scraper
- 22 - Slice bar
- 23 - Flue brush & handle

The shovel (20) is used in stoking the boiler, for putting solid fuel in the combustion chamber, as well as for gathering and withdrawing cinders from the ash-pan.

The scraper (21) permits drawing ashes and slag which might have fallen on the base of the boiler, from the back to a more accessible place for gathering and withdrawing.

The slice bar (22) eases cleaning of the grates in such a way that with its help the cinders which have remained on the surface can fall onto the ash-pan. It can also be used –if necessary– for stirring up the solid fuel.

The flue brush (23) is used for cleaning the flues and the interior walls of the boiler.

Using solid fuels

Before each stoking proceed to:

- 1 - Open the ashpit door (8) using its handle (14), lower the front section grille (15) as described in point 8 of the "First lighting with solid fuels" section and use the slice bar (22) to remove cinders from the grate bars, which will drop into the ash-pan (24).
- 2 - Put the front section grille (15) back in position, withdraw the ash-pan (24) and, with the aid of the shovel (20), empty it. Replace the empty ash-pan and close the ashpit door.

At regular intervals* carry out the following operations:

- 3 - Open the firedoor (7) and, with the aid of the brush (23), clean the flueways (25).

* The frequency of this regular cleaning procedure will depend on how much the boiler works and the type of fuel used.

- 4 - Loosen the wing-nut (26) to detach the cleaning cover from the smokehood (12) and remove the soot inside it.
- 5 - Inset the brush (23) in the stoking and ashpit openings of the front section and clean the interior surfaces of the sections that make up the combustion chamber.

Using fluid fuels

At regular intervals* carry out the following operations:

- 1 - Turn OFF the main switch to isolate the system.
- 2 - Close the fuel supply valves to the burner.
- 3 - Open the burner door (9) by loosening the locking bolt (27) with a suitable tool, and protect the burner so that it does not get dirty.
- 4 - Inset the brush (23) in the stoking and burner openings of the front section and clean the interior surfaces of the sections that make up the combustion chamber.
- 5 - Loosen the wing-nut (26) to detach the cleaning cover from the smokehood (12) and remove the soot inside it.

* The frequency of this regular cleaning procedure will depend on how much the boiler is used.

Maintenance

- At the end of each heating season or before a long period of non-use, the boiler should be thoroughly cleaned without letting the soot harden.
- Check, at least once a year, the correct functioning of all control and safety devices.
- Carry out, at least once a year, the maintenance operations contained in the instructions which come with the burner.
- Clean the chimney at least once a year.

Important recommendations

- In case of long periods of non-use, the installation must not be emptied.
- Water should be added to the system only when absolutely necessary.
This operation should be done only when the boiler is cold.
- Frequent addition of water may cause lime deposits on the boiler, damage it seriously, and reduce efficiency.
- 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.

Troubleshooting after long periods of non-use.

The radiator or panel circuit does not warm up even when the temperature of the water in the boiler is correct. In this case check that:

- The circulating pump is rotating correctly; otherwise, proceed as indicated under "Operation-3".
- The valves on each radiator are open and their spindle (headwork) is not jammed.

The burner does not start up. In this case check that:

- The control (3) and ambient thermostats are set to the right temperature.
- The installation fuses are the correct ones and the main switch is ON.
- Voltage is reaching the control panel.
- The safety limit thermostat (4) has been activated. To reset it, unscrew the protective cap and press the tab inside.

Should no positive result be obtained, after these checks report it to your Installer.