

2.2.13. MAINTENANCE OPERATIONS



DANGER

Before carrying out any cleaning or part replacement operations, ALWAYS turn off the ELECTRICITY, WATER and GAS supplies to the boiler.



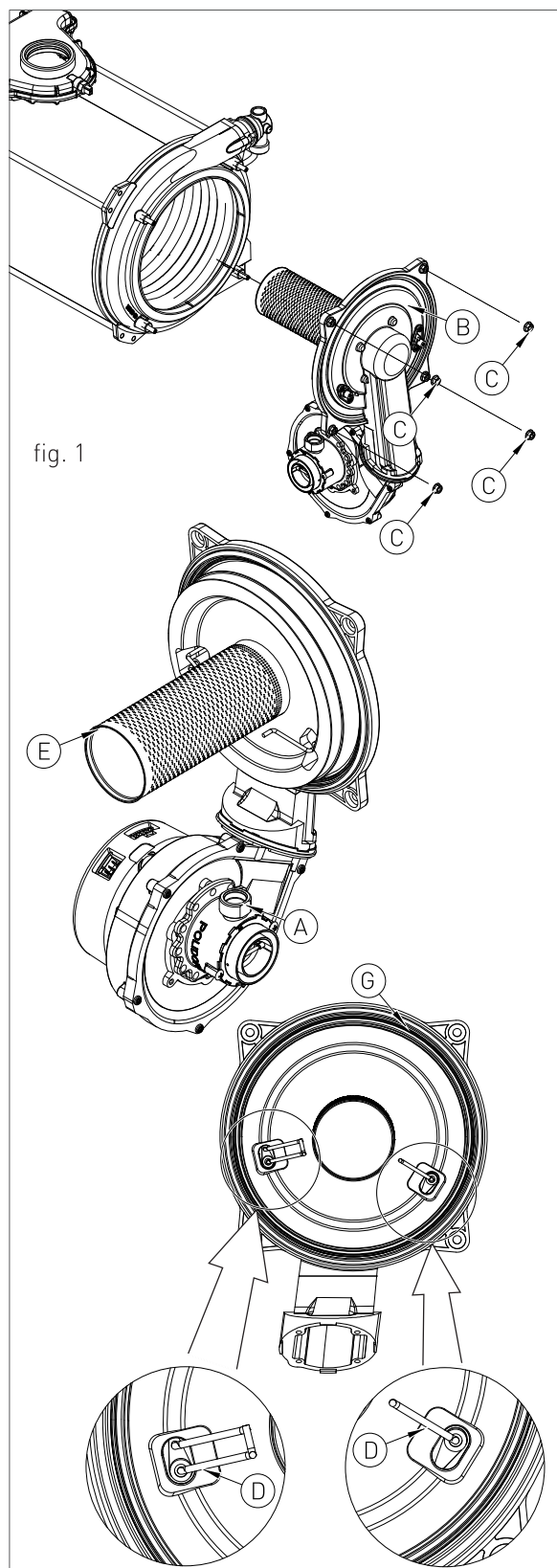
ATTENTION

Radiant Bruciatori s.p.a. will not be held responsible for damage to any of the boiler's components caused by non-compliance with this instruction.

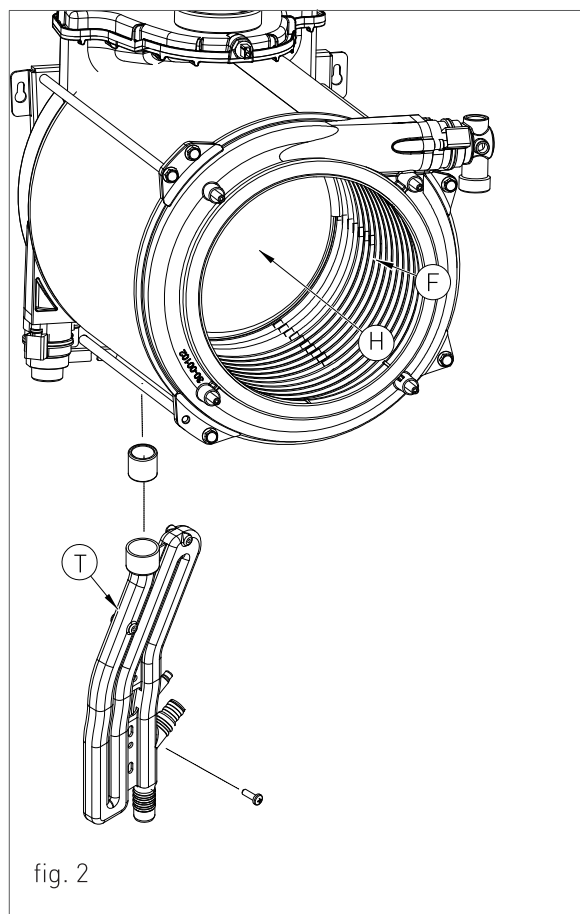
For all maintenance operations requiring removal of the boiler casing, refer to the procedures described in chapter "ACCESSING THE BOILER".

CLEANING THE MAIN EXCHANGER MODULE AND COMBUSTION UNIT (SEE FIG. 1):

- Disconnect the electrical connections of the electric fan.
- Disconnect the joint and remove the pipe linking the gas valve to the injector unit (venturi, fig.1 - A).
- Disconnect the joint and remove the gas feed pipe from the gas valve.
- Un-plug the ignition electrode and flame detection wires from the ignition control unit.
- Unscrew the nuts (fig.1 - C) securing the burner unit (consisting of a fan, manifold and burner) to the primary heat exchanger.
- Remove the burner unit (fig.1 - B), paying particular attention not to remove the ceramic fibre protection from the bottom of the heat exchanger.
- Check that the burner (fig.1 - E) is not affected by deposits, scaling or excessive oxidation. Check that all the holes in the burner are free.
- Clean the electrodes (fig.1 - D) carefully without altering their positions with respect to the burner.



- Clean the burner cylinder (fig.1 - E) using a non-metal brush and without damaging the ceramic fibre.
- Check the integrity of the washer (fig.1 - G) on the cover of the burner.
- Clean the heat exchanger (fig.2 - F) using a household detergent for stainless steel, distributing the product on the spirals of the exchanger using a brush. Do not wet the ceramic fibre coating (fig.2 - H). Wait a few minutes then remove the deposits using a non-metal brush. Then remove the residues under running water.
- Please twist-off the holding screw of the condensate trap (fig. 2 - T); remove the trap and wash under running water.
- With the cleaning completed, re-assemble the components following the above procedure in reverse order.
- Finally, check the boiler to make sure that all gas and exhaust joints are tight.



PART REPLACEMENT:

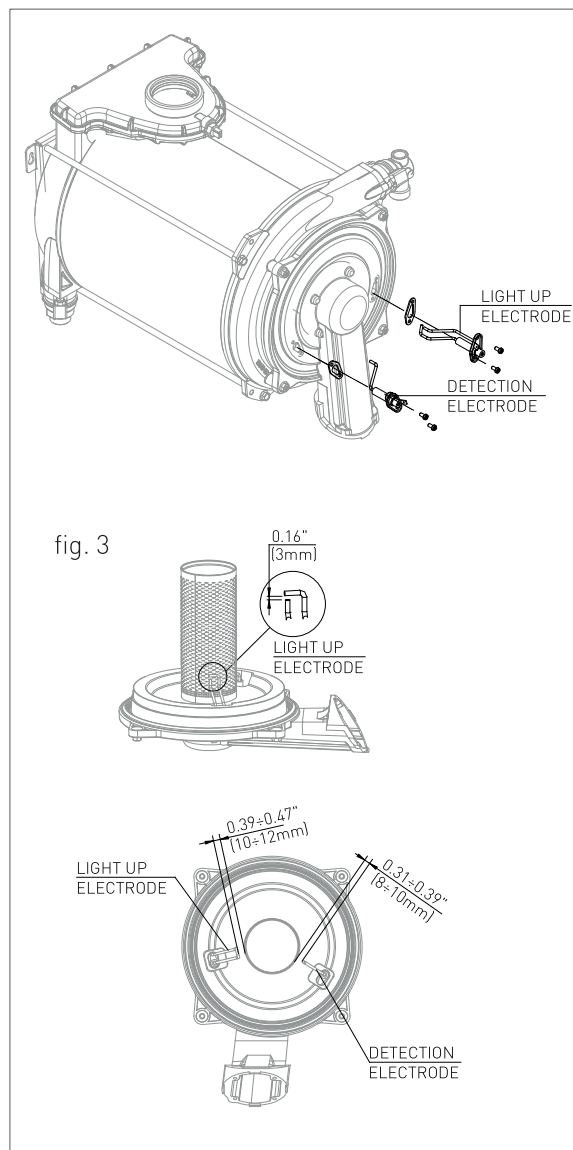
IGNITION AND/OR FLAME DETECTION ELECTRODES (FIG. 3)

- Un-Plug the electrode wires.
- Slacken the fixing screws.
- Remove the electrodes. When fitting the new ones, check that the seals are not damaged. Replace if necessary.
- Reconnect the wires and re-assemble the components following the above procedure in reverse order.
- Switch on the power supply and restart the appliance.



ATTENTION

If the boiler does not restart, check the positions of the electrodes (especially the ignition electrode). Make sure that original position and distances between the electrodes and the burner are respected to avoid a boiler malfunction).

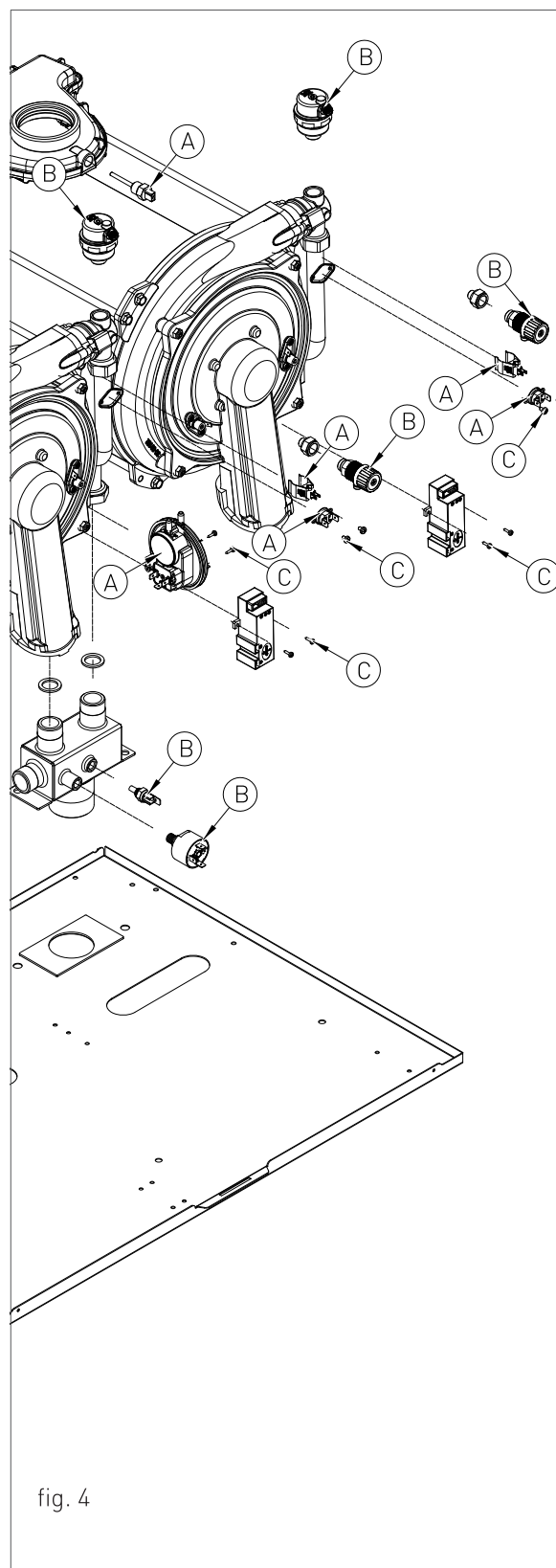


MISCELLANEOUS ITEMS (FIG. 4 - A)

- Disconnect the electrical connection.
- Unscrew the fixing screws (fig.4 - C).
- Replace the thermostat and re-assemble the components following the above procedure in reverse order.
- Switch on the electricity and restart the appliance.

MISCELLANEOUS ITEMS (FIG. 4 - B)

- Close the shut-off valves and drain the central heating circuit of the boiler.
- Un-screw the components (fig. 4 - B).
- Replace the thermostat and re-assemble the components following the above procedure in reverse order.
- Switch on the water and fill the system with water. Check for any leaks from the joints and bleed off any air from the heating circuit.



GAS VALVE (FIG. 5)

- Close the gas tap.
- Disconnect the joints and remove the gas pipe connecting the gas valve to the venturi.
- Unscrew the ring-nut at the bottom of the room-sealed chamber and remove the gas valve.
- Replace the gas valve and re-assemble the various components and proceed in reverse order. Please have a special attention to:
- Replace all the gas gaskets;
- Seal fully all the gas connections;
- Restore the electric and gas supplies, and please make sure there are no leakages thru soapy solutions or detective sprays.

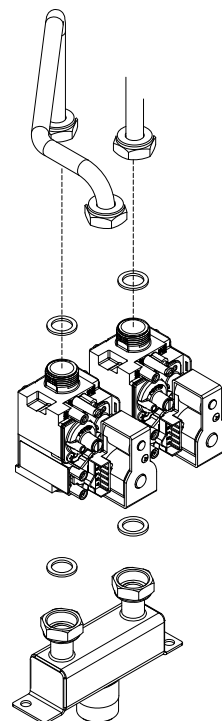


fig. 5

ELECTRIC FAN (FIG. 6)

- Remove and dismantle the entire burner unit (see paragraph "Cleaning the main exchanger module and combustion unit (fig. 1)").
- Use an 8 mm spanner to unscrew the four nuts securing the electric fan to the gas manifold and then remove the electric fan, noting the positions of the washer and diaphragm.
- Remove the air intake duct, unscrew the fixing screws from the venturi and remove the electric fan.
- Replace the electric fan and re-assemble the components following the above procedure in reverse order.
- Switch on the electricity and check the soundness of the joint by measuring the CO2 levels.

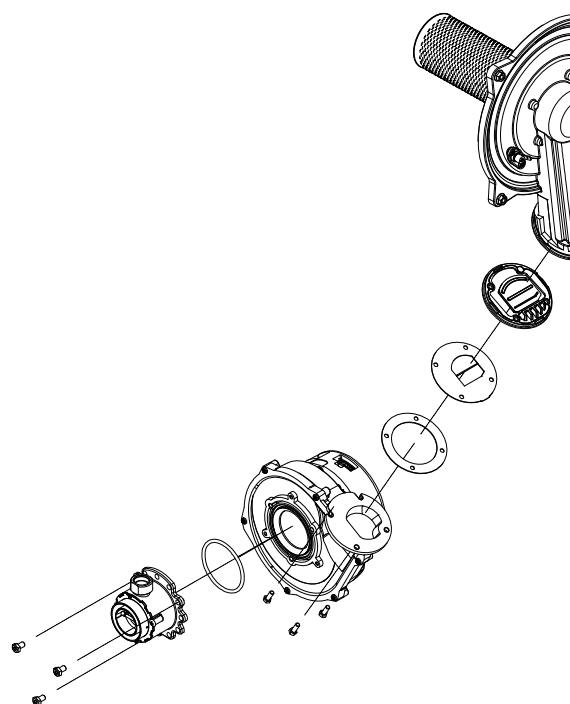
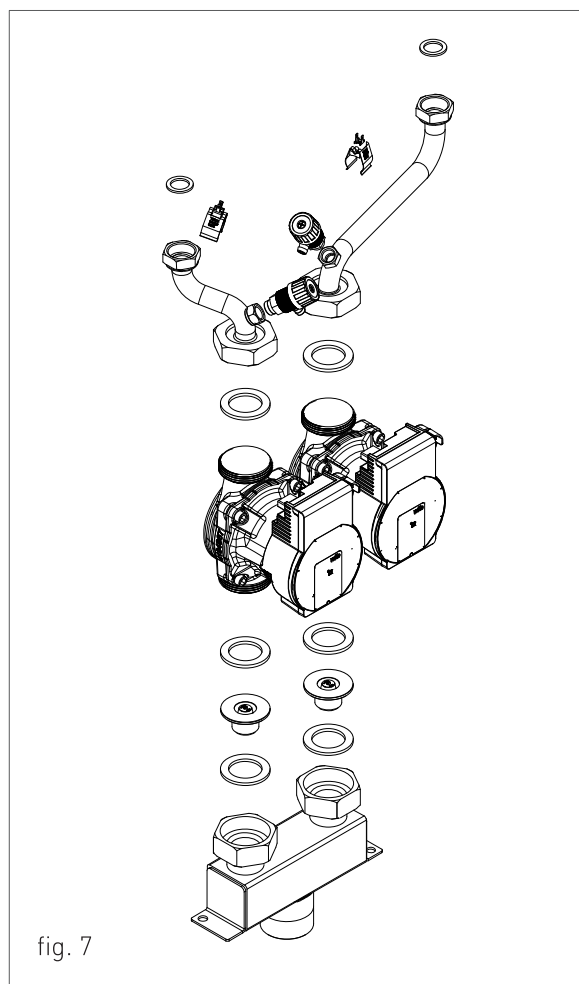


fig. 6

CIRCULATING PUMP (FIG. 7)

- Close the shut-off valves and drain the central heating circuit of the boiler.
- Switch off the power to the boiler.
- Un-screw the holding union rings.
- Replace the circulation pump and re-assemble the components following the above procedure in reverse order.
- Switch on the electricity, water, and fill the system with water. Check for any leaks from the joints and bleed off any air from the heating circuit.



PRIMARY HEAT EXCHANGER (FIG. 8)

- Close the shut-off valves and drain the central heating circuit of the boiler.
- Switch off the power and gas supply to the boiler.
- Remove and dismantle the entire burner unit (see paragraph "Cleaning the main exchanger module and combustion unit (fig. 1)").
- Un-screw the holding screw of the condensate trap, then slip the pipe.
- Remove the fixing springs and then the delivery and return pipes.
- Twist-off the holding screws of the back exchanger, then remove the exchanger.
- Replace the heat exchanger and re-assemble the components following the above procedure in reverse order.
- Switch on the electricity, water and gas supplies and fill the system with water. Check for any leaks from the joints and bleed off any air from the circuit. Restart the boiler, making sure that there are no gas leaks.

