

TECHNICAL MANUAL



CONDENSATE NEUTRALIZER

For condensing boilers with nominal heating capacity up to 1000 kW

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DESCRIPTION

The nitric acid (strong acid) and carbonic acid (weak acid) released in the condensate due to methane gas combustion lowers water pH to values between 3.5 and 4.5.

The acidic condensate must be neutralized with calcium carbonate (3) in order to bring the pH to values above 7 thus allowing it to be discharged into domestic waste as provided by the regulations in force.

Please note, however, that waste waters are strongly alkaline due to common detergents and are present in higher amounts compared to the water produced by a condensing boiler (100 basic parts at 1 acidic part). Therefore, an efficient neutralization of acidic condensate is already provided by domestic waste water.

The neutralization process uses calcium carbonate present inside the tank and requires reinstatement in order to maintain a layer inside the tank at least 2-3 cm thick.

Due to the fact that amount of condensate to be neutralized depends on boiler operation, the amount of calcium carbonate required can be assessed only by observing its level periodically during the first year of operation.

CONNECTION (see picture)

In the bottom part of the smoke box chamber there is a condensate drain tube, typically of stainless steel construction.

This tube should be connected to NEUTRALIZER inlet (the lowest fitting), considering that the condensate should flow down freely thanks to the small level difference. From the highest fitting of the NEUTRALIZER exits the neutral/basic water that can be discharged into the sewage system due to the level difference.

We recommend you install a well on the section that couples the NEUTRALIZER to the sewage system to have discharged water available for random sampling.

Coupling must be performed with the material supplied, proceeding as follows:

- Screw in the elbow rubber holder to the condensate drain tube of the smokebox chamber.
- Cut a section of the rubber mesh pipe and fit it between the rubber holder installed on condensate drain tube of the fume chamber and that installed at drawer inlet; then, fasten it with the special clamps.
- The remaining section of the pipe and the relative clamp must be fastened to the rubber holder fitted at drawer outlet; it is used to discharge the fluid into the well.

IMPORTANT: upon first start-up you must fill the drawer with water until it overflows from the drain in order to prevent fumes from leaking through the rubber pipe.



KEY

- 1. Drawer
- 2. Cover
- 3. Calcium carbonate
- 4. Inlet/outlet rubber holder
- 5. Filter

- 6. Gasket
- 7. Rubber pipe
- 8. Metal clamp
- 9. Elbow rubber holder
- 10. Inlet/outlet adhesive

DIMENSIONS:

- H = 300 mm
- 375 mm L = Ρ
- 678 mm



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