

Electric water heater-principle

Small-volume boilers are used for local heating of water. Local heating is not only comfortable but it has also lower power and water consumption. Thanks to their small dimensions, these boilers may be easily built in kitchen lines or cases under washbasins not to impair the visual aspect of interior.

Large-volume boilers, due to their IP25 protection, may be installed in bathrooms, even above bathtubs.

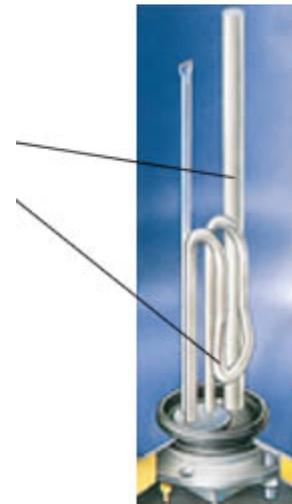
Fittings for connections to the cold water inlet and hot water outlet are situated at the bottom of a tank and so the heater is ideal for replacement of old, served out types of boilers. Easy maintenance and cleaning can be made through a flange situated at the bottom of heater.

The inside pressure tank is welded in shielding atmosphere and provided with a layer of ceramic enamel. The high-quality thermal insulation is made from polyurethane foam (density 40 g/l). The immersion electrical heating element (load $< 9 \text{ W/cm}^2$) with O'PRO series (ohmic resistance) ensures a chemical balance of metal particles inside the tank. The flange is sealed with a special rubber sleeve with a groove for an enameled edge of the tank.

Protection against corrosion is ensured with an exchangeable magnesium anode (increasing lifetime).

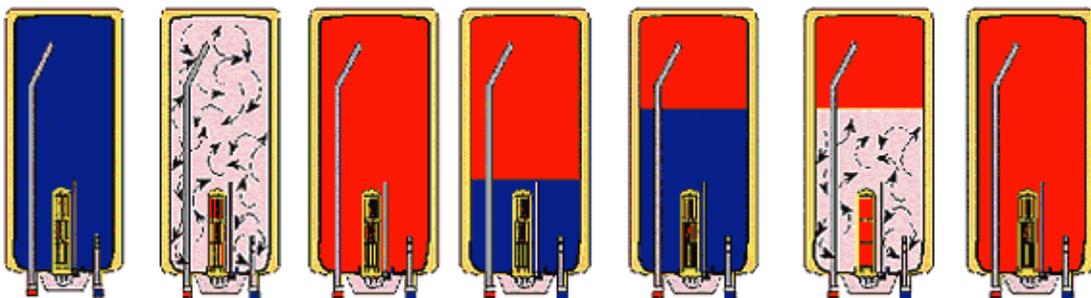
Magnesium anode

Heating element



The hot water outlet pipe is made from stainless steel and runs up to the upper part of boiler. The cold water inlet is equipped with a Venturi tube that prevents from cold and hot water mixing in the boiler.

The purpose of the Venturi tube atomizing inlet cold water in the tank is to prevent cold water of high speed and pressure from uncontrolled penetration inside the tank that would result in undesirable dynamic mixing of cold and hot water, which would decrease considerably the temperature of discharged hot water and the immediate boiler performance.

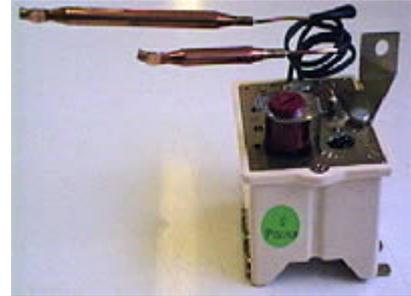


The shape of Venturi tube retains the pressure of incoming cold water and directs its propagation in the tank. With the aid of Venturi tube the tank bottom is filled with inlet cold water acting as a piston in the zone of hot water.

The boilers are equipped with pilot lights indicating operation. Outlet water temperature may be set at small-volume boilers (only inner temperature is set on large-volume boilers).

The thermostat has two modes:

- **NORMAL OPERATION**
- **EMERGENCY MODE** – for large-volume boilers (in case of the thermostat failure a reserve capillary tube acting as a thermal fuse is available).



The heaters of 80 and 150 L capacity have thermometers built in their outside casings. A safety valve is included in the delivery.

2007-07-13