Learn about the operating principle and structure of indirect water heaters

What is indirect water heater? Which indirect water heater operates according to the principle, how is it structured? Let's take TipsMake.com to find answers to the issues you care about indirect water heaters.

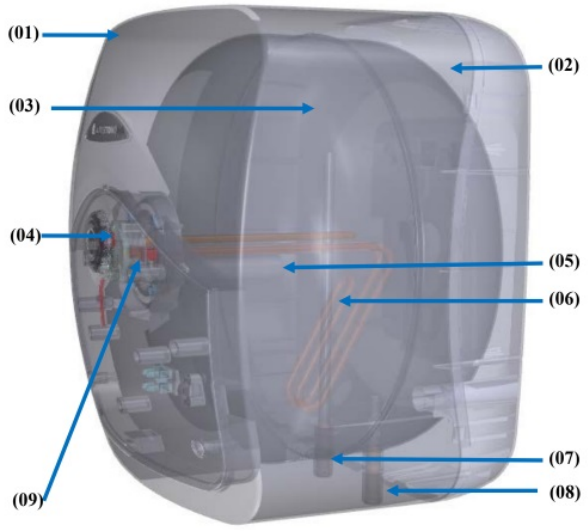
Compared to direct water heaters (with a compact design, no water tank), the indirect water heater has a completely different structure. Let's find out how indirect indirect water heaters are, operating on what principles?

Structure of indirect water heater

Indirect water heater, also known as indirect hot water heater, is an indispensable device for warming water in every bathroom of family, motel, hotel, school, hospital .

Indirect heater has many different styles: square, cylindrical or rectangular. Although different in style, they have the same structure.

Indirect water heater consists of 9 main parts: outer plastic cover, insulating insulating layer, gut, temperature adjustment knob, magnesium bar, resistive bar, cold water inlet, sugar hot water, thermal relay. Each department will have its own tasks:



01 - Plastic cover of heater

Most of the hot and cold bottles of famous brands in the market such as: Ariston water heater, Ferroli water heater, Rossi water heater, AQUA water heater, . are made of waterproof plastic material reached IPX1, IPX4, .

02 - Insulation layer (insulation)

The insulation has a very good heat-retaining function, helping the water in the kettle to last long, minimizing heat loss. The higher the density of the insulation layer, the thicker it will be, the longer the heat-retaining time will be, saving maximum power consumption.

03 - Bowel of the container

This is a very important part to store water after being heated. The intestinal layer of the container is usually coated by a manufacturer of protective enamel to minimize the build-up of sediment in the gut as well as protecting components from the risk of damage, short-circuiting due to leaking water. However, each company will use different types of enamel: Titanium enamel, Titanium enamel, synthetic diamond enamel, .

04 - Temperature adjustment knob for heating water

Depending on the model, the temperature adjustment button can be designed in the form of a rotary knob or an electronic button type, touch button. This button will help users to choose the desired hot water temperature, saving energy use.

05 - Magie bar

Although the enamel has been enameled to limit scaling, it is still possible to prevent some enamelled small spots that are prone to rust or corrosion when exposed to water and high temperature environments. Therefore, the manufacturer has added magnesium bars to limit rusty processes at these openings, helping to protect the gut of the container from being punctured.

This magnesium bar can be replaced. Users should replace it when the magnesium bar melts so it will extend the water heater. Replacement time is about every 2 years.

06 - Resistive bar

The resistor is a heating element to heat the water. Heating rods are mainly made of copper or 304 stainless steel to prevent overheating and increase durability.

07 - Hot water lines out

This is the way to hot water so that users can bathe.

08 - Cold water inlet

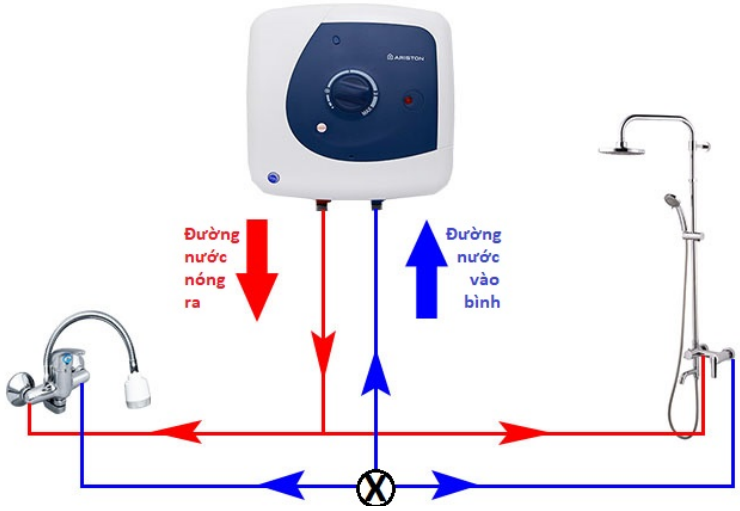
It is the way to supply cold water into the jar, from which the resistor bar will heat the water.

09 - Thermal relay

When the temperature reaches the setting level, the thermal relay senses and automatically disconnects the heating feature of the machine to ensure safety.

Principle of operation of indirect heater

Direct water heater has only 1 water outlet, so it is only used for a bathing purpose. But with indirect water heater you can use many different output water lines so users can add water lines leading to wash basins, hand washing taps, brushing teeth, sinks, .



Extremely safe indirect hot water heater means that the water in the bottle will always be filled even when the machine is not working to prevent the risk of fire and explosion is extremely dangerous.

During the process of heating water when reaching the temperature, the water for TBSE sensor setting will automatically disconnect the heating feature to save power and avoid overheating so it is not afraid of burns.

The advantages of indirect hot water heaters are always stored in containers so that the following users still have water for use without having to re-heat, extremely convenient.

Hot water when brought to the split tap will mix with cold water to produce warm water. At this time, to change the water temperature (want to hot or cold a lot), you can put the lever of the faucet left or right respectively.

Picture 3 of Learn about the operating principle and structure of indirect water heaters

When using the water heater indirectly, you should finish the kettle and turn off the power and then start using it, use all the hot water in the bottle, then turn on it again just to ensure safety and save electricity .

Hopefully, the above article will help you better understand the structure and operation principles of the indirect heater, help to use to ensure longevity and safety.