

Guide for selection of solar water heater



Is solar water heater suitable for your site?

Before buying a solar water heater, temperature of residence and installment area of solar water heater are two important factors you should consider first. Most systems of solar water heaters are configured according to the expected output of hot water in particular climate. In areas which have warm weather, such as Florida and Southern California, the use of relatively small systems can help you get a large amount of hot water. In colder areas, larger collectors and active systems may be needed to meet the need of hot water needs. Besides, most solar water heating systems are installed on roofs. In order to achieve the best effects, your roofs should better match the following points. First, obtain direct sunlight from 10 a.m. to 4 p.m. throughout the year. Second, face South (within 15 degrees). Third, be reinforced with shingles in good condition. If your roof is not suitable for solar water heaters, but you have suitable unshaded land near your home, you may consider using a ground-mounted system instead. After knowing that, you can choose an appropriate solar water heater by yourself.

What is your budget on solar water heater?

The total cost of a solar water heater depends on many factors. These includes its capacity, the materials used in the internal and external tanks, the length of the distribution pipe needed to deliver hot water to the bathroom, and brand value within it. The solar water heater is not really expensive. Compared with traditional heating methods, solar water heaters have faster return on investment and are more affordable. For just a few hundred dollars, you can build your own system, even a commercial system. If you install the solar water heater by yourself, it is no need for you to pay additional fee. But if you prepare to hire a pro to install, you need to pay extra charges.

The capacity of solar water heater

Just as you have to choose a traditional water heater (114 liters, 151 liters or 189 liters), you need to determine the appropriate size of the solar water heater to install. Determining the size of the solar water heater includes determining the total collector area and storage capacity needed to provide 100% of household's hot water in winter. Solar tanks usually have a capacity of 189, 227, 303 or 454 liters. A Small (189 to 227 liters) one is enough for 1 to 3 people, a medium (227 liters) one is suitable for 3 or 4 person, and a large (454 liters) one is suitable for 4 to 6 people. The rule of thumb for collector size: allow each of the first two family members to have a collection area of about 20 square feet (about 2 square meters), and each additional family member to have 8 square feet (0.7 square meters). When hot water demand is low, a ratio of at least 5.7 liters of

storage capacity to 1 square foot (0.1 square meters) of collection area can prevent overheating of the system. In very warm and sunny climates, experts recommend that the ratio should be at least 7.6 liters to 1 square foot (0.1 square meters).

Types of solar water heater

According to the structures of solar water heaters, they can be divided into compact pressurized solar water heater, copper coil solar water heater, flat plate solar water heater, non-pressure solar water heater and so on.

[Compact pressurized solar water heater](#) combines the tank with the collector. We call it the integrated pressurization system. The design of the system is direct. The water pipe is directly connected with the system, and the water is supplied automatically by the pressure. The vacuum tube absorbs solar energy and transfers heat to the tank through the copper pipe in the tube. The water in the tank is gradually heated. Those who want to buy solar water heaters must benefit from solar water heaters. If you want to save costs, it is necessary to install the most efficient compact solar water heater.

[Copper coil solar water heater](#) is a classification of solar water heater system. Copper coil solar water heater relies on natural circulation of water between solar collector and solar water tank or heat exchanger. In this type of installation, the tank must be above the collector. As the water in the vacuum tube is heated, it becomes lighter and rises naturally to the tank. At the same time, the cooling water in the tank flows downward to the bottom of the vacuum tube, causing the whole system circulates.

[A flat plate solar water heater](#) has a metal box with a glass or plastic cover on the top and a dark absorption plate at the bottom. The side and bottom of its collector are usually insulated to reduce heat loss. It is one of the lightest flat plate panels on the market, but allowing for the maximum heat transfer. Our flat plate solar collectors are constructed of durable aluminum so that they can withstand heavy weight and changing environmental conditions. It is also cost efficient and environmentally friendly.

[Non-pressure solar water heater](#) is suitable for most families. Non-pressurized systems are much cheaper than pressurized ones. Pressure-free systems use gravity to provide hot water for families. Water is pumped to a tank on the roof by some kinds of pump, which naturally means there is a certain amount of pressure. The system is fully compatible with shower pumps and other household pumps to increase indoor water pressure. But the tanks and the panels or the pipes itself are not pressurized by themselves. If you are short of money, non-pressure solar water heater is a good choice.

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