
FACT SHEET: SOLAR HOT WATER SYSTEM CYLINDERS

The correct hot water cylinder is critical to the optimal performance of your solar hot water system. The three things to consider when choosing a cylinder are:

1. location
2. type
3. size
4. water quality

Location of the Hot Water Cylinder

The hot water cylinder can be located on (or in) the roof, outside or inside the house. If the cylinder is located on (or in) the roof it is likely to be a thermosiph system which does not require a pump or electrical assistance to operate effectively. If the cylinder is on the roof or in the roof space to the roof or ceiling will need to be strengthened to provide for the weight of the cylinder. If you are off grid or desire a low energy house then this is the best system for you. If the hot water cylinder is located away from the collectors it will require a pump to circulate the water between the solar collector and the hot water tank.

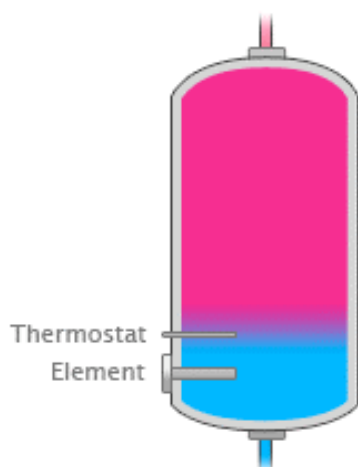
Type of Cylinder

All specialist solar hot water cylinders are designed to achieve optimal performance from a solar hot water system.

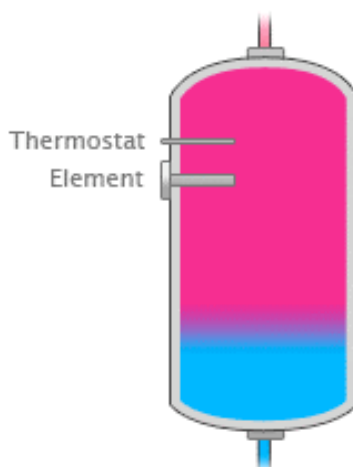
Glass lined cylinders are not recommended for evacuated tube systems due to high water temperatures.

When considering a solar hot water system in a retrofit situation you will need to consider whether you choose to retrofit the solar collector to your existing hot water tank or replace the existing hot water cylinder. The main difference is that a specialist solar hot water cylinder is larger and specially designed to handle the higher temperatures. A comparison of the two types of cylinders is given below.

Conventional
Hot Water Cylinder



Specialist Solar
Hot Water Cylinder



The location of the thermostat and electric element all contribute to the greater efficiencies of a specially manufactured cylinder.



Notwithstanding this, it is still possible to achieve reasonable performance from a conventional hot water cylinder through correct design of the solar hot water system.

In general terms there are two types of solar hot water cylinders – either stainless steel or glass lined with a stainless steel outer. Generally stainless steel cylinders are higher quality provided the stainless steel used to manufacture the cylinders is of a high quality. Glass lined cylinders are cheaper and require replacement of the anode on a semi-regular basis. There is little difference in the performance of the cylinder, provided that the manufacturing quality is the same. A solar hot water cylinder ranges in price from \$800 to \$1,800. The price difference is due to the type of cylinder and the quality of the manufacture.

Size of Cylinder

The optimal performance of a solar hot water system requires that the correct sized cylinder is used. Generally a purpose built solar hot water cylinder is larger than a conventional hot water cylinder. A conventional hot water cylinder is 180 litres, whereas a solar hot water cylinder can be up to 340 litres.

The sizes for a solar hot water cylinder are as follows:

Number of Occupants

- 3-4 people
- 5-6 people

Cylinder Size (litres)

- 200-270
- 270 - 340

