



# Hot Water System Buying Guide

Discover which Hot Water System is best for you



## Hot Water Systems Buying Guide

Are you looking to upgrade your current hot water system or are you renovating and not sure which system is best to buy for your home?

I am sure you have lots of questions running through your head, like what size of hot water heater do I need for my home? Or should I go for Gas or Electric, Solar or Heat pump? Which is the most efficient Hot Water System for my home?

Hot water systems account for a quarter of the average Australian house hold bill, given that this is one of the most expensive appliances to run in your home you want to ensure you buy the most efficient hot water heater your budget will allow.

Read on to see which Hot water system is best for your home!



### Choosing an Energy Source

Solar or Heat Pump Technology – These types of HWS are usually more expensive and more complicated to install, however they are the most energy efficient and will pay for themselves in time with the low running costs.

Largely the climate you live in or the position of your home will determine which of these are suitable for your home.

#### Solar

The best situation for Solar is on a North facing roof. A solar hot water system consists of solar panels and a storage tank for the hot water. There are 2 types Thermosiphon Systems which has both the solar panel and storage tank together on the roof and Pumped or Split System which has the solar panel on the roof and the storage tank on the ground.



To give you a rough idea a 4-person home will need roughly 4msq of solar this roughly equates to 2 panels and if you look around your neighbourhood most solar hot water systems you will see will be 2 panels.

You would need to install a slightly larger tank than with Gas and Electric HWS to allow for more storage on days with less sunlight etc. Most tanks come with a gas or electric booster in case you need it.

The solar panels can be flat or evacuated tubes, the evacuated tubes are more efficient and require less space however there would be a higher up front cost them.

Solar hot water systems on average can provide you with around 90% of your hot water with no running cost.



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### Heat Pump

Heat pump hot water systems are roughly 3 times more efficient than electric storage tank system, they work by removing the heat from the air and using it to heat the water in the storage system.

You can buy either an integrated system which is the compressor and the storage unit together or you can buy a split system which is the storage system and compressor separate.

Similar to an air conditioning unit the compressor needs to be installed outside as it can be quite noisy, it needs a well-ventilated area.

Heat Pump hot water systems tend to work better in warmer humid climates however as the technology advances new systems are being developed to work specifically in colder climates.

These are your 2 most energy efficient options however budget restraints may not make these achievable, we encourage you to consider the low running cost of these appliances and calculate a life time cost of the appliance before committing to a purchase.





### Gas & Electric Hot Water Systems

#### Storage Hot Water Systems

A storage hot water system is the most common type found in homes across Australia and is usually the cheapest to buy. Storage hot water systems work by heating the water in the tank and storing it there.



They can be placed either in laundries, cupboards, under the stairs or outside.

It's recommended that you set your thermostat to 60 degrees every degree higher will cost you more on your water heating bill and may result in you scalding your hands when you turn on the tap. Any lower and you could be at risk of creating Legionella in your water a nasty bacteria.

Storage hot water systems are available in gas or electric depending on what fuel is available in your area will depend on which is best for you. If natural gas is not available in your area you can always opt for LPG gas.

Gas is a more efficient method to heating your water than electric, not only is gas cheaper it also heats the water quicker than their electric counterpart. The gas heat is instantaneous much like a gas cooktop where's the electric storage system works similar to a kettle taking time to reach the desired temperature.

Storage hot water systems are a relatively easy installation, giving you immediate hot water from the tap and are generally low maintenance which is why these are the most popular type of hot water system Australia's buy.



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### Continuous Flow Hot Water Systems

You might be considering buying a continuous flow hot water system, these units are small and mounted on a wall. They don't store water instead they heat the water as you need it.

They work by pushing cold water through copper piping, and applying heat directly to these pipes. When a hot tap is turned on, a flow sensor triggers a gas burner and starts heating the water. Whatever you have set the thermostat to is the temperature your water will be heated to. Unlike their storage counterparts these guys won't run out of hot water.

If you buy a continuous hot water system they won't suffer from heat loss, run out of water and it is also more energy efficient than storage hot water heaters as you can set the desired temperature you require and only heat the water as you use it.

They can be mounted indoors or outdoors depending on the type you buy, always check you have the appropriate ventilation and flue requirements met.





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### What size tank do I need?

Making sure you have the right size system for your needs is imperative, too big a system and you're wasting electricity and heating water unnecessarily to small and you'll be over working your hot water system reducing its life span.

Below is a guide from our friends at Sustainable Energy Authority Victoria, 2002

Off-peak			Peak rate		
Number people	of	Capacity (Litres)	Number people	of	Capacity (Litres)
1-3		160	1		25
2-4		250	1-2		50
3-6		315	2-3		80
5-8		400	3-5		125

**SOURCE:** *Sustainable Energy Authority Victoria, 2002*



### Requirements for natural gas and LPG hot water systems

Tank storage		Continuous flow	
Number of people	Capacity (Litres)	Number of outlets at one time	Flow rate (Litres/minute)
1-3	90	1	16
2-4	130	2	20
3-5	170	2-3	24
4-6	200	3+	32
5-9	260		

**SOURCE:** Sustainable Energy Authority Victoria, 2002

### Requirements for solar hot water systems

Number of people	Hot water required (Litres per day)	Approximate tank size	Collector area (m <sup>2</sup> )
1-2	120	180	2
3-4	200	300	4
5-6	300	440	6

**SOURCE:** Sustainable Energy Authority Victoria, 2002





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### Requirements for continuous flow

The below assumes you are using the hot water outlets at the same time

<b>Number of Showers in use</b>	<b>Minimum Flow Rate</b>
<b>2</b>	minimum flow rate of 14L/min
<b>3</b>	Minimum flow rate 21L/min

Contact Plumbdog Perth if you have any questions - 1300 884 146