

Rainwater tanks

Efficient use of water has become a priority for many people.

By installing a rainwater tank, you can use your rain water regardless of restrictions—for gardens, lawns, washing the car or any other outdoor purpose.



Before you buy

Do your research before making a purchase. Here are some tips on what you should do before buying.

- ◆ Find out whether you are entitled to any local council or federal government rebates and check for all mandatory requirements. For example, to be eligible for a rebate you may be required to connect the tank to your laundry or a toilet, or to have your tank installed by a licensed plumber.
- ◆ Check if there are any council regulations about where you may put your tank. For example, in some areas there is a minimum distance from the side property boundary.
- ◆ There are other mandatory installation requirements, such as mosquito-proof screens, stormwater connection and the fitting of a first flush diverter.
- ◆ Choose an energy-efficient pump that will be suitable for your needs.

Note: If your tank is connected to a laundry or toilet, you need to connect the mains water supply to your tank to top up the supply. In this situation you will be subject to any local water restrictions.

Costs

Tank prices vary depending on type, size and materials.

Additional costs to consider include:

- ◆ transportation
- ◆ installation
- ◆ alterations to guttering and downpipes
- ◆ tank stand or foundation
- ◆ additional plumbing
- ◆ ongoing maintenance.

What size tank do you need?

Rainwater tanks are available in a wide range of sizes. Smaller tanks, suitable for townhouses and small gardens, start at less than 1000 litres. Most domestic use tanks are around 3000 to 5000 litres.

Rebates may vary based on tank size, so check to see what level of rebate applies to the tank you are considering.

How much water do you need to store?

This will depend on your individual water usage, the size of your block, your local climate and the type of soil and garden you have.

Some advisors recommend at least 3000 litres for a small garden, and 5000 litres for a larger block.

As a guide, running your hose at maximum capacity can use up to 20 litres per minute, so a full 1000-litre tank will provide around 50 minutes of hosing.

Available space

Aim for the largest tank you can accommodate in the space available. It may be easier to fit two smaller tanks than a single large tank.

Local rainfall

Also think about the pattern of rainfall in your district. Do you need to store enough water for a 10-month dry spell or do you receive rainfall on a more regular basis?

Tank Material

Tanks can be made from a range of materials, and the choice of material is largely a matter of personal preference. Tanks are also available in a wide range of colours, shapes and sizes.

Metal tanks are recommended for their strength when used in larger scale water storage situations.

Bladder or sac tanks can also be placed underneath Queensland style or raised houses—a good space saving alternative. Check with your local council for any plumbing or building approvals and installation requirements, especially in regards to tanks that are to be installed below ground.

Check that the tank is manufactured to appropriate Australian standards.

Tank features

Consider the different tank accessories available.

- ◆ Water level **gauges** are included with some tanks, and can be installed on others, if you would like to monitor the amount of water in the tank.
- ◆ You should install a **first flush diverter** to get rid of the initial debris when rain starts. The first flush water is usually discharged into your stormwater system.
- ◆ **Mosquito proof screens** are essential to prevent insect entry and breeding. These screens are to be made of the appropriate materials for your tank and of the correct size to keep mosquitoes out.

Site selection

Select a position that will collect water from the largest possible roof area. If possible, find a location where you can connect more than one downpipe to your tank.

Make sure the tank won't restrict access to the garden or block views and is aesthetically acceptable (please consider the neighbours' perspective as well).

Also consider the weight of the tank when full—for example, a tank should not be placed on top of a retaining wall.

Check your local council regulations to ensure building approvals are not required.



Installation

You will need a base for the tank, which needs to be slightly larger than the tank diameter. You can build this yourself or have your installer do it for you.

A sturdy solution for a base is a reinforced 10 cm concrete slab. The slab can be square or round and should always be at least 10 cm larger than the diameter of the tank.

A timber frame could also be used. Choose termite-resistant or treated timber. The frame is usually filled with crusher dust or concrete, to prevent subsidence. This is important, because if the tank is not level, the weight of the water will make it lean to the side and become unstable.

The overflow pipe should be connected to the stormwater outlet.

Water pumps

You will probably need a water pump to get a good water flow from your tank. The only case where this is not needed is if you have a high enough tank for gravity feed to provide adequate water pressure. In most cases if you want to connect an irrigation system, or even a hose, you will need a pump.

When buying a water pump you should:

- ◆ get advice about the best size pump for your needs. The bigger the area you are watering, the stronger the pump you will need
- ◆ buy a pump that delivers water at a constant pressure, and turns off automatically when the tank is dry
- ◆ consider the quality of the pump. Cheaper pumps can be noisy to operate and will wear out more quickly than the better engineered alternatives. However, if you intend to use the pump infrequently this may still be a cost-effective choice
- ◆ protect the pump with a pump cover to extend pump longevity, reduce noise and improve aesthetics. These are usually made of fibreglass or plastic and can be purchased with the pump
- ◆ consider whether you can link more than one tank together and use the one pump to drain water from them all.

Using your tank water

Don't be afraid to use your tank water, especially if top-up rain is predicted. If you know rain is coming, water your garden so that the coming rain will be better able to penetrate into the soil. It's also a good idea to use wetting agents before rain if your soil has become water repellent or hasn't been wet for a while.

Remember:

- ◆ It's better for your plants to have long deep soakings, so water when you have time to do it thoroughly, and don't limit yourself to short sprinklings.
- ◆ A water gauge is helpful for letting you know whether you have enough water for a deep soaking.
- ◆ If you plan to use your rainwater for drinking you will need to keep your roof and gutters clean, and monitor the water quality regularly. See Queensland Health's website for information about water quality.

Maintenance

Once a rainwater tank is installed it is recommended that the following maintenance be carried out.

Every three months

- ◆ **First flush device**—check that it is working effectively and clean if necessary.
- ◆ **Gutters**—regularly inspect your gutter and clean if necessary. Keeping them as clean as possible will enable them to drain freely and avoid contaminants entering the tank.
- ◆ **Roof**—check for accumulated debris including leaf and other plant material. Remove all debris and prune overhanging branches.
- ◆ **Tank inlets, insect-proofing and leaf filters**—if necessary these should be cleaned and repaired (October to March—every month. April to September—every three months).

Every six months

- ◆ **Tank and tank roof**—check structural integrity of the tank, including roof and access cover. Any holes or gaps should be repaired.
- ◆ **Internal inspection**—check for evidence of access by animals, birds or insects, including the presence of mosquito larvae. If present, identify and close access points.
- ◆ **Pipework**—check for structural integrity and that all pipework connections remain secure.



Every two years

- ◆ Check inside the tank for accumulated sediment. If sludge is covering the bottom of the tank, siphon it out or completely empty the tank.

Refer to the Queensland Health website for information about keeping your tank free from insects and pathogens. Fines can apply for tanks which are not mosquito proof.

More information

Other water-efficient gardening guides are available on the Department of Energy and Water Supply website <www.dews.qld.gov.au>.