Using Pressure Tanks in Your Rainwater System

If you have installed a rainwater harvesting system, then you'll know that one of the most important things to get right is having good water pressure coming from your tank into your home.

While National Poly Industries provide pump pressurised systems, another less known option you might want to look into is having a pressure tank.

How Pressure Tanks Work

Pressure tanks work by providing a reserved amount of pressurised water that can be quickly accessed at different points throughout your property when needed.

These tanks are often made from metal or polyethylene plastic. Inside, a flexible membrane separates two sections – the top is filled with compressed air, the bottom is where water is pumped in from your water source.

As water fills the pressure tank it compresses the air in the top section, producing pressure. This in turn pressurises the water in the whole system. So when you turn on your tap, the system delivers water instantly.

As the pressure tank empties, the compressed air keeps the remaining water under pressure. Therefore, it doesn't need to be refilled until it's almost empty. Only at this point does your power pump start again and refill the pressure tank with water.

In a rainwater solution with a standalone pump, every time you turn on a tap the pump powers on to push water through the pipes in your system. This can cause a slight delay by a period of lower pressure until the pump pushes enough water into the system to build pressure. With a pressure tank the water is waiting, already pressurised, and this can reduce any such delay.

Pressure Tank Sizes

Pressure tanks come in various sizes, some are even small enough to placed on the pump itself. To receive the maximum benefit when using a pressure tank, bigger is better. Something around 35 litres is probably good, depending on your usage. If a pressure tank is something that interests you, then just ask a rainwater plumbing specialist to help you estimate the size of pressure tank you need. When in doubt, go bigger.

The pump in a pressure tank system is only used when water is running low. So the advantage of a bigger pressure tank is that the pump is used less often. Quality pumps are quite durable today, however reducing how many times it is used could result in less maintenance and repair issues.

Cost Efficiency

An advantage of adding a pressure tank is that it can improve the functioning of your rainwater system dramatically. Cost-wise, buying a large pressure tank can be expensive, more than the cost of a new pump. With this up-front expense however, your costs over time could be lower by adding one to your system.

Using a pressure tank places less demand on your pump, extending it's life by up to 300%. This is a significant saving on one of the most expensive and fault-prone elements of a rainwater system and could greatly outweigh the extra cost of a pressure tank.

You will also see savings on your power usage. With a pressure tank system, lower power pumps can be used, including solar-powered models. This is because the strain of pressurising the system is taken by the pressure tank, rather than the pump. The noise of the pump is also less disruptive, as it isn't used as often.

Buying a Pressure Tank

Adding a pressure tank to your rainwater harvesting system can give you great advantages. Lower energy and maintenance costs, higher pressure and less noise. If you can overcome the higher initial cost and you have the space to spare for them, pressure tanks can offer you an alternative to water pressure pumps.

While some might use pressure tanks as part of their rainwater system, it is a more complicated solution that introduces another part to your system. Powered water pumps alone are the more popular choice for pressurised water.

With National Poly Industries, we can ensure you will receive an appropriate water pressure pump for your needs and only supply reliable brands like Davey, ClayTech and Ramdex.

Web version (current):
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