Questions & Answers

water whys

Water pressure

Q:
Why isn't my water pressure great at home? Is that your responsibility or mine?

A:
Usually it's due to an issue on your property such as the length or size of your water pipes. Under our customer charter, we have to provide a minimum flow rate of 20 litres per minute for a 20-millimetre water connection (most houses will have a connection this size). This flow rate is measured at your water meter or the closest tap to the meter.

Q:
How do you measure water pressure?

A:
Water pressure is measured in kilopascals (kPa). To help understand what this means, every 10 kilopascals is roughly equal to one metre of head. For instance, imagine if you had a water tank on a stand at your house. All you'd have to do is multiply the height of the water tank by 10 to work out what your water pressure is in kPa. For example, if your water tank is five metres above your house, the water pressure at your house would be about 50kPa.

In our systems, each house does not have its own water tank to provide water pressure. Instead, it's usually made possible through one of our elevated water tanks located at the top of a tower or stand, from a reservoir (or sometimes via a pumped system). These water towers and reservoirs are usually somewhere between 20 and 100 metres above the height of your house. This means that the water pressure delivered by the water tower or reservoir to your property will be somewhere between 200kPa and 1,000kPa.

Q:
How can my plumbing impact water pressure?

A:
The flow of water can drop when it travels from the water meter to your shower, garden taps, kitchen sink and hot water service due to a range of reasons.

Length of pipe: The further the water has to travel, the more its flow will be reduced. This is because there is friction between the water and the inside of the pipe which slows down the flow of water. For example, water flow at a garden tap at the front of your house will be more than the water flow from a garden tap at the back of your house because the water has to travel further.

Diameter or size of the pipe: Smaller pipes will have higher levels of friction, further slowing down the flow of water. A good example is a garden hose. Even though the end of the hose could be right next to your tap, because the water has to pass through the entire length of hose (usually these are a small diameter), the flow at the end of the hose will be less than what you would get directly from the tap.

Increased water demand within your property: A good example is when someone is having a shower and a garden sprinkler is running. The small diameter pipes within your house only have so much capacity to deliver the required water. This capacity drops off very quickly when you have more than one tap or appliance running.

Elevation: If you have a two-storey house, any showers or basins on the second storey will have reduced flow compared to those on the ground floor. This is because the water exits the shower head or tap outlet at a greater height which means there is less pressure available on the upper level.

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Q:
What happens if a lot of customers are using water at the same time?

A:
The flow of water at your water meter will drop when the water level in our water tower drops. The water levels in our towers usually only go up and down by a few metres during peak water demand times.

The levels will go down because we sometimes can't replace the water in the water tower fast enough when customers are watering their lawns and gardens on a hot day. If the water level drops by one metre, then the pressure at your water meter will decrease by about 10kPa. If you were previously getting 40 litres per minute at 200kPa and the level in the water tower dropped by one metre, then the pressure would decrease to about 190kPa and the flow of water would decrease to about 39 litres per minute (a reduction of one litre per minute).

The pressure at your water meter will also drop when there is more water going through our water main. This is the same as what happens with your internal pipes. As the flow of water increases in our water main, this increases friction and slows down the flow of water. However, as our water mains are usually large pipes, this friction loss is so small it is generally not noticeable.

Q:
What if I'm building a new house?

A:
The water flow at your water meter doesn't fluctuate very much throughout the day. If you're planning a new house or renovation, consider asking your plumber to do a test and then design your new pipe sizes to ensure you get an acceptable water flow to all your water appliances in and around your house.

It's just like us with our water mains. We design and build them with sufficient size so that we can ensure all customers receive at least 20 litres per minute from a 20mm connection.

Wannon Water – Here for you!