



**Scottish  
Water**

Trusted to serve Scotland



**Your water pressure explained**

# Water networks

Scottish Water's water supply network is designed so a typical home has a plentiful supply of water pressure and flow. There are, however, a lot of factors that can affect supply.

## Water pressure

Water pressure is a measure of the force that pushes the water through our pipes and into your property. We measure this in 'bars' and one bar is the force needed to raise water through pipes to a height of 10 metres.

Pressure from your cold water kitchen tap depends on how high your home is in relation to our service reservoir or water tower, how close you live to one of our pumps, or how much water is being used by other customers connected to the same public water pipe. Ground level is also a contributing factor. High pressure is common in low lying areas and low pressure is common in higher lying areas.

Pressure can vary at different times of the day as it is affected by the demand from the number of customers using the water supply at the same time. Mornings and early evening are the most common times of day where more people are using water, which can result in you experiencing reduced pressure. Leaking pipes may also contribute to low pressure.

## Low water flow

Water flow depends on the size and diameter of your water supply pipe. You can only get a certain amount of flow through a small pipe to run one tap so

if there are several taps or appliances open at the same time, there may not be enough water for them all, resulting in a 'low flow'. The condition of the pipework can restrict flow as well.

Water supply pipes in older properties were generally 12.5mm diameter pipes which would provide supply to a terrace or group of houses. These small pipes can cause low flow rates when more than one of the properties draw water at the same time. Modern appliances like washing machines, dishwashers and power showers can add to the problem when they are in use and may not leave much flow for any other tap or appliance.

Modern houses and flats usually have 25mm diameter water supply pipes which allow a greater flow of water which may be more suitable for modern appliances.

## Scottish Water's aim

We aim to provide at least 1.0 bar of pressure at the point of connection or stopcock (which is normally found at the boundary of your property).

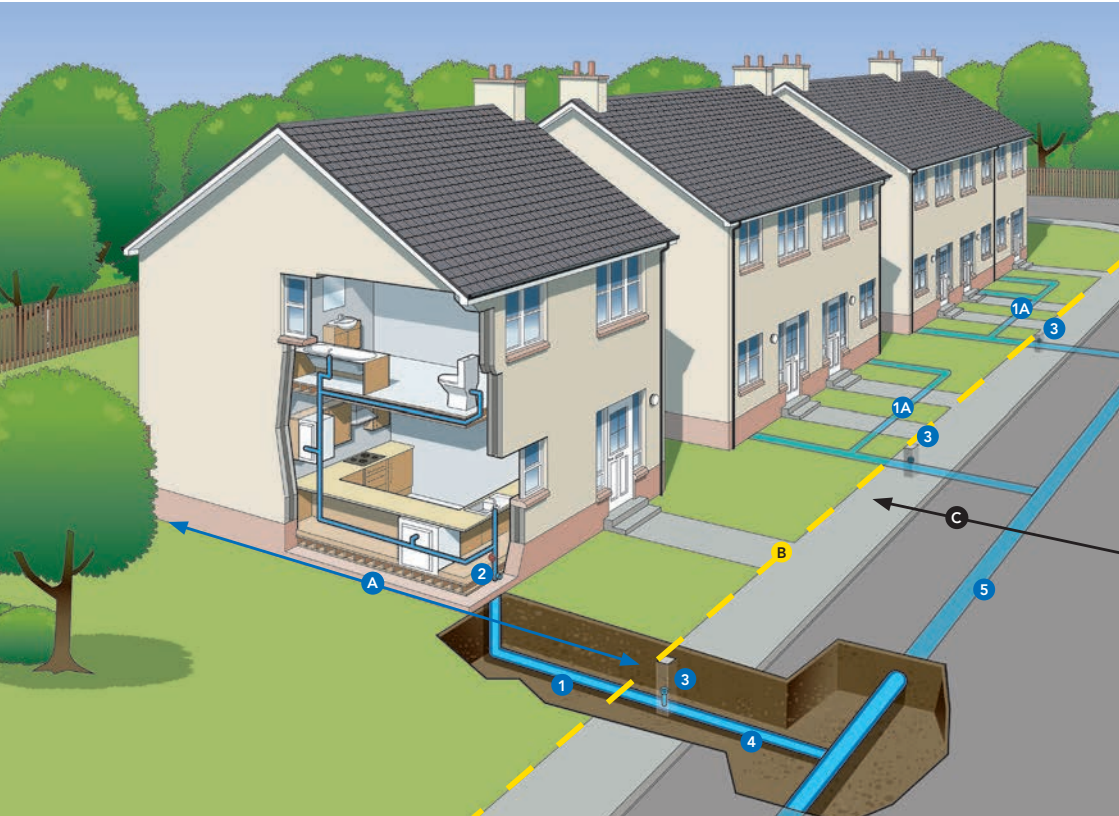
If there are no issues with any of your pipework, this level of pressure should provide enough flow to fill a 1 litre bottle with water from the cold water kitchen tap in around 7 seconds.



# Your responsibility

## Typical property diagram

This diagram below is for information only and you should contact Scottish Water to discuss the specific arrangement of pipes at your property.



| Key      |                               |
|----------|-------------------------------|
| <b>A</b> | Homeowner responsibility      |
| <b>B</b> | Property boundary             |
| <b>C</b> | Scottish Water responsibility |

|           | Responsibility           |                |
|-----------|--------------------------|----------------|
| <b>1</b>  | The water supply pipe    | Homeowner      |
| <b>1A</b> | Shared water supply pipe | Homeowner      |
| <b>2</b>  | Stop valve               | Homeowner      |
| <b>3</b>  | Stopcock/meter           | Scottish Water |
| <b>4</b>  | The communication pipe   | Scottish Water |
| <b>5</b>  | The water main           | Scottish Water |

# Your responsibility

## Possible solutions

### Pipe size

If your flow issues are related to pipe diameter you can either install a storage cistern which will help to provide a constant supply, or re-lay your supply pipe in a larger size. Alternatively, to improve flow you could consider a new water connection or replace old lead pipes if appropriate, especially if you are currently supplied water via a communal/shared water supply pipe.

### Flow restrictions

To ensure you are receiving maximum flow you should confirm your internal stop valve is fully open. Your internal stop valve is generally located under your kitchen sink and operates by moving the valve clockwise to close or anti-clockwise to open.

### Flats

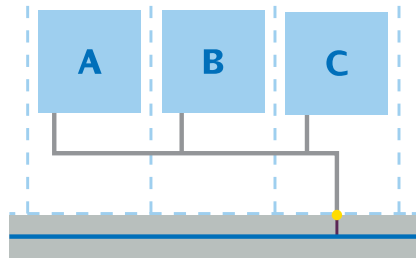
Usually low water pressure/flow problems in flats are due to old internal plumbing systems that were not designed to accommodate modern appliances. In most cases, the property owner of the high rise building has the responsibility to ensure upper floors receive adequate flow/pressure. This responsibility may be shared between you and the housing association, Local Authority and/or private owners. You are advised to contact the other owners if you experience pressure/flow issues.

**Please note:** The causes of low water pressure issues can be complicated. The examples provided in this document are for guidance purposes only. We would recommend you contact a registered plumber to help identify the cause of your issue.

### Shared supply

You can either install a storage cistern ensuring you have a water supply whenever you need it. You may also want to consider a new, independent water connection or replace old lead pipes if appropriate, which would provide you with your own water supply pipe.

### Example of a shared supply pipe supplying multiple properties



### Leaks

Leaks can reduce the flow of water reaching your appliances. They will not always be visible on the surface but you may be able to hear a hissing sound from the pipes inside the property. You are responsible for repairing any leaks on your section of the water supply pipe and internal pipework. It is worth checking existing insurance policies as some will cover the repair of leaking pipework, including the water supply pipe. There are also instances where we may be able to provide assistance to resolve leaks on your water supply pipe within the boundary of your property. If your pipework has been incorrectly installed, your flow and pressure can also be affected. If you are unsure, contact a registered plumber through [www.watersafe.org.uk](http://www.watersafe.org.uk)

# Water supply systems in your home

There are two main types of domestic water systems available – indirect and direct. The flow and pressure at your mains should determine which type is suitable for your home.

## Indirect systems

The most common method of distributing water throughout a house before 1989 was through a water supply pipe which directly feeds at least one cold tap at the kitchen sink with 'potable' water (i.e. water which is fit for drinking, cooking etc) and may also feed a washing machine, a shower and an outside tap etc. The pipe then continues into the roof space to feed a storage cistern.

Using gravity, the storage cistern distributes cold water to the bath and toilet and to the hot water cylinder. The water in this cylinder is then heated and distributed to the hot taps.

Appliances on indirect systems do not rely on the water pressure coming into the house as the water supply for the house is drawn from the storage cistern. The storage cistern automatically fills up after water has been used which ensures a constant supply.

This type of setup is where air locks may occur in the parts of the system not on mains pressure.

## Direct systems

A direct water supply system is one where the rising main directly feeds the cold water taps and a multi-point water heater.

The mains water comes into the house and directly feeds all the cold taps and a multi-point water heater – so all the taps and other water feeds are at mains water pressure. Note this is just a reference to the hot and cold water supplies to the taps etc. and not to the central heating system which is on a separate circuit and works from the water heater (boiler).

Scottish Water advise that any installations or upgrades (including hot water systems) should not be designed to be dependent on water pressure in excess of 1.0 bar. Your current pressure may be in excess of this but we cannot guarantee the pressure will always remain at this level.

## Our investigation

If you contact Scottish Water regarding low pressure, our customer service adviser will first check to make sure your low pressure enquiry is not linked to any work we are aware of in your area.

Once the customer service adviser has checked the low pressure is not linked to any work Scottish Water is carrying out, they will arrange a visit from a field operative to check the water pressure at your property. The field operative will start their investigation by checking the pressure at your kitchen tap or where the water first enters your property. If the pressure recorded is lower than expected our field customer representative will then:

- Compare the pressure in the property to the pressure recorded on the water main.
- Check your control valve is in the fully open position.
- Check there are no leaks on your water supply pipe.
- Check the water main to which the property is connected for any signs of leakage.
- Check all valves on the public pipes are in the fully open position.
- We may install temporary pressure loggers which collect information about your water pressure over a period of time.



## Low water pressure register

We are continually working to ensure everyone has adequate water pressure in their homes. Scottish Water operates a low pressure register and has procedures in place to identify properties at risk of low pressure so that we can restore the correct water pressure.

Your property will be added to the low pressure register if, following investigation, we confirm your property receives less than 1.0 bar of pressure at the point of connection. If your property is featured on our low pressure register, you will receive an annual letter with an automatic offer of a refund of your water charges as long as your property remains on the register.



Your property will not be added to the low pressure register if your home is above the level of water leaving our storage tank or less than 10.5 metres below the tank because we can't guarantee the required pressure can be reached without additional pumping or a water storage facility.

If you live close to the level of our water storage tanks, we recommend you seek our advice before installing any appliances that require a particular water pressure such as electric showers and pressurised hot water systems.



## Pressure Management

Scottish Water monitors water pressure across the water network to prevent any interruption to your water supply. Sometimes, in areas where water pressure is high, there is a greater risk of pipes bursting which can result in interruption to your water supply or discolouration of your tap water. In these areas we keep the water pressure as low as possible to try and minimise the risk of burst pipes so we can ensure you receive the best possible service from us.

### What does this mean?

Through the use of a range of innovative techniques, such as valves that allow us to control and balance water pressure, we are working to reduce interruptions to water supplies. If the pressure is high, especially in some older pipes, this can cause damage and leaks leading to the loss of precious treated water from the network.

# Frequently asked questions

## **Will I notice a change in my water supply if I stay in a pressure managed area?**

For the majority of customers any changes to pressure will be minimal – in fact you may not even notice the change in certain areas. We manage pressure in a manner that ensures there is minimal customer impact.

## **Why is high pressure a problem?**

High pressure can put water mains, internal pipework and fittings under strain and cause them to burst, leading to leaks and possible interruptions to your water supply.

## **Where is my stop valve for my property usually located?**

The internal stop valve for any property is usually located under the kitchen sink or where the water first enters your property.

## **How can I ensure I maximise my water pressure and flow?**

Check your internal stop valve is open fully. To open the stop valve fully, turn the stop valve anti-clockwise. To ensure there is no build up of debris behind the stop valve, open and close the stop valve several times, this should clear any excess debris.

## **Do I have to pay for Scottish Water to check my water pressure?**

No, this is a free service. Even if it turns out to be a private issue we will not charge you.

## **If I am thinking of installing a combination boiler or a mains fed shower, should I get the water pressure checked at my property before I proceed?**

Yes, combination boilers and mains fed showers generally need at least 1.0 bar of pressure to function effectively compared to a conventional boiler which can run on as little as 0.5 bar of pressure. Always get the pressure checked by a registered plumber to ensure the pressure at your property will accommodate a combination boiler and a mains fed shower.

## **Does low pressure affect my central heating system?**

No, most central heating systems are “closed systems” this means the water is contained and recycled within the system. Multipoint or instantaneous boilers will also not be affected as a coil inside the boiler means they can function with low water pressure.

## **How can I find out about any water supply issues in my area?**

We update information on our website and social media channels on both Twitter and Facebook. We also offer a text (SMS) service where you can subscribe to keep up to date with information if an unplanned interruption affecting a large number of properties occurs in your area. Further information can be found on our website.

## **Following disruption, the water supply to my cold water kitchen tap is restored but other taps in the house aren't working – Why is this?**

This is normally caused by an airlock in the system. Airlocks can occur when a pocket of air collects in a water pipe after an interruption to the water supply. Plumbing issues within your home may also cause airlocks. If this does happen, following an interruption to the water supply, please contact us and we can attend and attempt to clear the airlock.

## **Are there occasions where you cannot guarantee 1.0 bar of water pressure at the point of connection to the water main?**

For more information regarding our low pressure register, please see page 5.



# Low pressure – customer journey



**Step 1** Customer contacts us to report low pressure to their property.



**Step 2** Customer service adviser records the details e.g. location and services affected.



**Step 3** Customer service adviser arranges for an operative to attend.



**Step 4** Our operative arrives at your property to investigate the cause of low pressure. This will involve checking the pressure at your kitchen tap or where the water enters your property.



**Step 5** If our operative determines the pressure is low they will carry out further investigation on our water network. In most cases the pressure issue would be resolved at this point. If the problem still remains or cannot be found, our representative will arrange for further investigation or a repair to be made.



**Step 6** We will always provide you with an update on our investigation and any works we have planned to help resolve your low pressure concerns. We will provide you with advice and guidance if the issue is found to be your responsibility.



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How did we do?



Are you impressed with the service you received? Did one of our team go the extra mile for you? Nominate them for a Scottish Water gem Award and give them the recognition they deserve.

Visit [www.scottishwater.co.uk/gem](http://www.scottishwater.co.uk/gem) or call our Customer Helpline on **0800 0778778** to make your nomination.

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# Keeping up to date and getting in touch

We are always working so the cycle never stops – find out more about Scottish Water, our services and keep up to date with what we are doing in your area:

## Visit



[www.scottishwater.co.uk](http://www.scottishwater.co.uk)

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[@scottish\\_water](https://twitter.com/scottish_water)

## Email



[help@scottishwater.co.uk](mailto:help@scottishwater.co.uk)

## Call



Customer Helpline free 24/7  
0800 0778778

Alternative formats of this leaflet can be made available free of charge. For information on Braille, large print, audio and a variety of languages, please contact us.

If you have a disability, medical condition or other reason where you may need additional assistance from Scottish Water then please contact us and we can add your name, address and requirements to our confidential Priority Services Register.

We record all calls for quality and training purposes.