

# your water pressure explained



**Scottish  
Water**  
Always serving Scotland

# water networks

## low pressure

Our water networks are designed so that 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** 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 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 on the same supply. 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 there is more demand on the water supply, which can result in lower pressure.

## low water flow

Water flow depends on the size 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'.

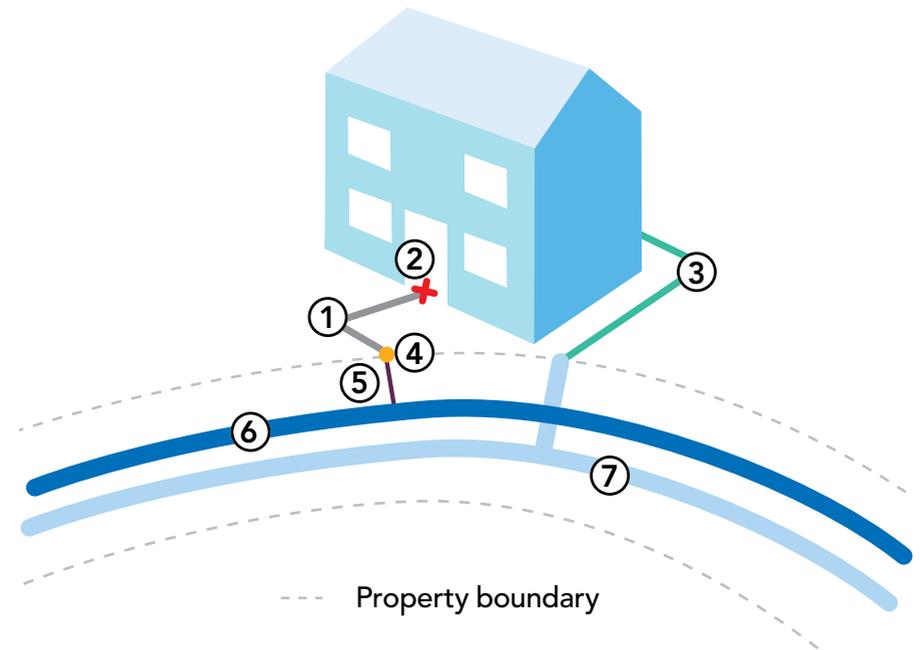
Water supply pipes in older properties were generally supplied with 12.5mm diameter pipes which would provide an adequate supply to a terrace or group of houses. This can cause low flow rates when occupants draw water at the same time. Modern appliances like washing machines, dishwashers and power showers can add to the problem and don't leave much flow for any other tap or appliance.

Modern houses and flats usually have 25mm diameter water supply pipes which result in a much greater flow of water suitable for modern appliances.

## our aim

Scottish Water will guarantee 1.0 bar of pressure at the boundary of your property which is enough to fill a 10 litre bucket on the first floor of your property in around one minute.

# your responsibility



| Water and waste pipes |                          | Water and waste pipes |
|-----------------------|--------------------------|-----------------------|
| ①                     | — The water supply pipe  | Homeowner             |
| ②                     | ✘ Stop valve             | Homeowner             |
| ③                     | — Private drain          | Homeowner             |
| ④                     | ● Stopcock/meter         | Scottish Water        |
| ⑤                     | — The communication pipe | Scottish Water        |
| ⑥                     | — The water main         | Scottish Water        |
| ⑦                     | — Sewer                  | 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 pipe.

### flow restrictions

To ensure you are receiving maximum flow check whether 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.

**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 water connection or replace old lead pipes if appropriate, which would provide you with your own water supply pipe.

**Flats** Usually 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 can be shared between the housing association, Local Authority and/or private owners. You are advised to contact the owners if you experience pressure/flow issues.

### 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 pipework although there are instances where Scottish Water provide assistance to resolve leakage within the boundary of your property. If your pipework has been incorrectly installed, your flow and pressure can be affected. If you are unsure, contact a registered plumber on [www.needaplumber.org](http://www.needaplumber.org)

# water supply systems

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 fed into the kitchen sink. The pipe would then continue up into the roof space and feed a storage cistern which can hold water for a 24 hour period.

A storage cistern distributes water through two pipes – one to supply cold water to the bath and toilet, the other supplies cold water to a hot water cylinder that heats and feeds all hot taps.

Indirect systems do not rely on a specific level of water pressure 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.

An indirect water supply system is also the most common type found in modern houses.

The mains water comes in via a rising main and 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 rising main also feeds a storage tank at a high point in the building from where the water is fed to all the other taps etc using gravity. This is the type of system where air locks would typically occur in the parts of the system not on mains pressure.

## direct systems

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

The mains water comes in via a rising main 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 that this is just a reference to the hot and cold water supplies to the taps etc, we are not dealing with the central heating system which works from the water heater (boiler).

## our investigation

If you contact our customer helpline regarding low pressure our customer service adviser will first check to make sure your low pressure enquiry is not linked to a network activity.

Once the customer service adviser has checked the low pressure is not linked to a network activity they will arrange a visit from one of our field customer representatives to check the water pressure at your property. The field customer representative 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 for any chokes on your water supply pipe
- Check the water mains which supplies the property for any signs of leakage
- Check there are no valves left in the partially shut position from prior work on the network

The objective of this investigation is to provide you with a quick resolution of the low pressure enquiry.

## investigation timescales

On some occasions further work is required by other functions within Scottish Water to complete our low pressure investigation. On these occasions our customer representative will manage your expectations by providing you with the correct timescales for further work to be carried out.

Below is a table of further investigation procedures and timescales, please note all day investigations are classed as working days:

| Work to be carried out                             | Timescale |
|--|-----------|
| Carry out an urgent repair on the water network    | 6hrs      |
| Carry out a repair on the water network            | 3 days    |
| Check the pressure at the boundary of the property | 3 days    |
| Check water network assets in your area            | 6hrs      |
| Complex network investigation                      | 3 days    |
| Full leakage network investigation                 | 10 days   |

## our advice

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

### pressure management

We are continually striving to monitor water pressures across Scotland and prevent any interruption to your water supply. Sometimes, in areas where water pressure is high there is a risk of more pipes bursting which can result in a interruption to your water supply or discolouration of your water supply. In these areas we manage the water pressure to try and minimise the risk of burst pipes so we can ensure that 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 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 threatening to interrupt 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 your kitchen sink or where the water first enters your property.

### how can I ensure I maximise my water pressure and flow?

Check that 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.

### 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 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, so always get the pressure checked by a certified 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.

# low pressure – customer journey

## step 1

Customer calls the customer helpline on 0845 601 8855 to report low pressure to their property



## step 2

Customer service adviser logs the call and takes down the task details e.g. location and services affected



## step 3

Customer service adviser arranges for a customer representative to attend. The customer representative then accepts the task and makes his way to site.



## step 4

Customer representative arrives on site to reassure the customer and to locate and determine the cause of the low pressure problem. This will involve checking the pressure at the customer's property either at the kitchen tap or where the water enters the building.



## Step 5

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



## Step 6

We will contact the customer to advise of the results of any further investigations.

# 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  
**0845 601 8855\*** to make your nomination.

If you have any questions about Scottish Water and our services, please visit **[www.scottishwater.co.uk](http://www.scottishwater.co.uk)**, or call our Customer Helpline on **0845 601 8855\***.

Or write to **Scottish Water, PO Box 8855, Edinburgh, EH10 6YQ**

Alternative formats of this booklet can be made available free of charge. For information on Braille, large print, audio and a variety of languages, please call our Customer Helpline.

\*We record all calls for quality and training purposes



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