



**Scottish
Water**

Trusted to serve Scotland



Quick Guide Water Byelaw compliance within your home



Scottish Water provides good, clean, safe and high quality drinking water to homes and business premises throughout Scotland. At Scottish Water we use many measures to maintain and protect water quality and, among these, are Water Byelaws. Water Byelaws are created to help ensure the safety of the water supply, with the main aim being the prevention of backflow contamination of the public water supply.

This guide will help to provide advice on some of the installation requirements in place to help ensure everyone complies with Water Byelaws.

More detailed information is available at www.scottishwater.co.uk/byelaws

What is backflow?

Backflow is the term used when fluids travel back towards the source – contrary to the direction which was intended.

How does it happen?

1. Back Siphonage:

Fluctuations in water pressure, an interruption to the mains supply, carrying out repairs or where there is a high usage on the system – can cause a lowering, and in some cases, a negative pressure or vacuum to occur in the water supply. This may result in fluids being siphoned or sucked, back into other parts of the system.

2. Back Pressure

Where the pressure in the system downstream is greater

than those upstream, fluids can be forced back towards the source into other parts of the system.

Fluid Categories and backflow protection

In your home, backflow prevention devices must be fitted between the domestic plumbing system and sources of any potential contamination.

The table below give a simple overview of the fluid categories and appropriate backflow protection devices which could be used to protect from backflow.

Please note this is not a comprehensive or exhaustive list.

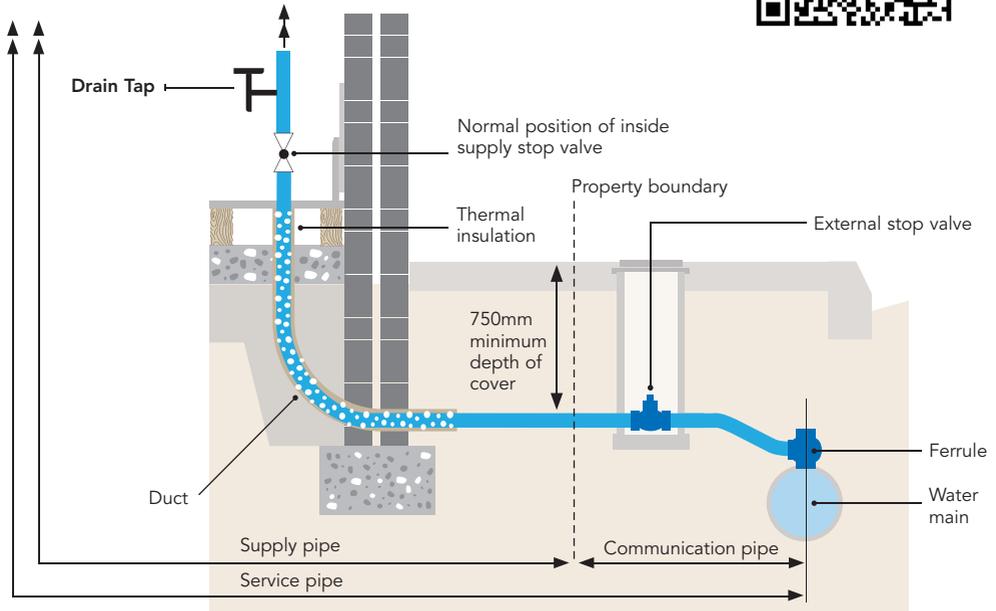
Fluid Category – risk to health	Typical device which may be used
1. Drinking water – no risk	No backflow prevention device needed
2. Slight change in taste, odour or temperature – slightly unpleasant	Single check valve
3. Chemicals of low toxicity – slight health hazard	Double check valve
4. Toxic chemicals or carcinogenic substances – significant health hazard	Reduced Pressure Zone (RPZ) valve or break cistern incorporating a Type AF air gap
5. Radioactive or very toxic substances, faecal and pathogenic organisms – serious health hazard	Break cistern incorporating a Type AA or AB air gap

Underground pipes

To help prevent pipes from freezing and being damaged, pipes should be laid to minimum depth of 750mm up to a maximum depth of 1350mm. You will need written permission from Scottish Water if your pipes are laid to a depth less than this. The pipework will also will need protected from damage and freezing.

Further information relating to Byelaw 5 notification can be found at www.scottishwater.co.uk/helpingyoucomply or scan the QR code opposite.

Typical example of the requirements for pipes entering buildings



Domestic Appliances

In your home, water using appliances like washing machines and dishwashers are considered a fluid category 3 risk unless the following requirements can be met:

- Appliance meets BS EN 61770 (appendix ZB).
- Appliance satisfies Regulators Specification.
- The hoses supplying the appliance meet requirements of BS 6920.

If your appliance does not meet these requirements, both cold and hot water supplies to the appliance will require a fluid category 3 backflow prevention device, such as a double check valve on each inlet pipe.



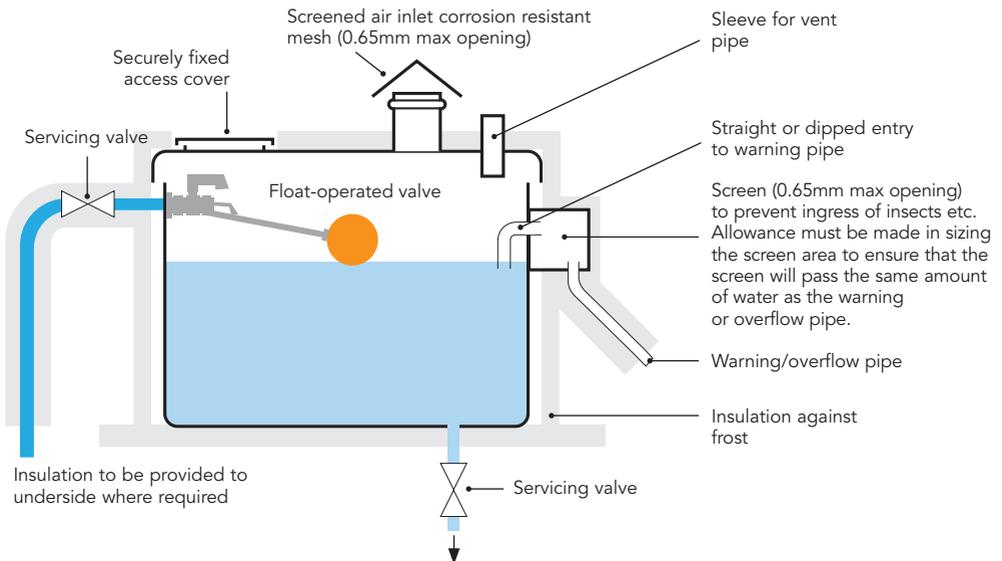
Stored water — Domestic

In some households there may be a water storage cistern. To keep the water stored within these wholesome, they must be installed to strict standards which protect the water quality.

Cisterns should be insulated against heat and frost and lids should be securely fixed with overflows screened to protect against insects entering.

Backflow protection at the inlet is also required, usually via a type AG air gap.

Typical example of domestic AG air gap cistern



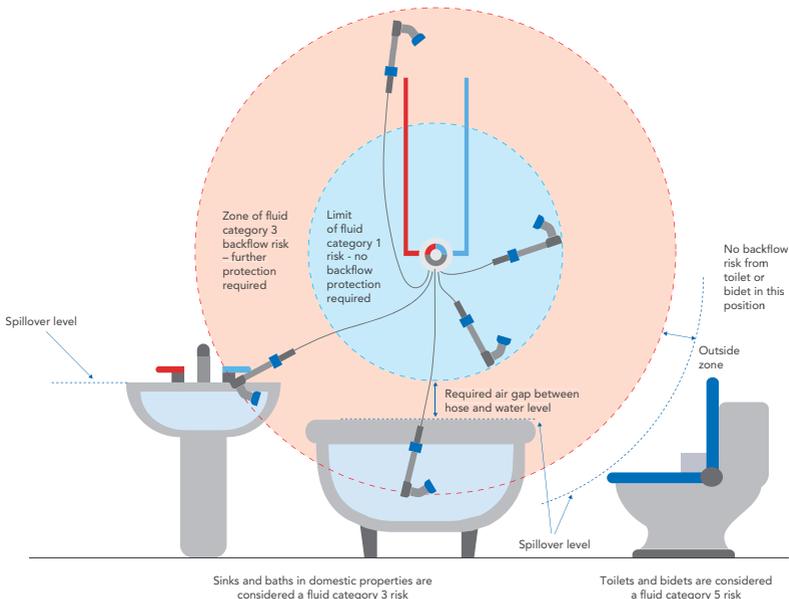
Shower hoses

There can be a backflow risk if a shower hose is submerged in any fluid. Follow good practice by making sure that your shower heads are not capable of entering any washbasin, bath, shower tray, bidet or toilet (WC) by using a short hose or robust factory applied retaining ring.

For example: If a retaining ring is not used and the shower head is capable of reaching a washbasin or bath, both cold and hot water supplies to the shower mixing valve will require a fluid category 3 backflow prevention device, such as a double check valve on each inlet pipe.

If any shower head is capable of reaching a toilet or bidet, fluid category 5 backflow protection will be required on both hot and cold water supplies to the shower, e.g, Break cistern/tank incorporating a type AA or AB air gap.

The diagram below shows a typical example of different bathroom shower hose scenarios.

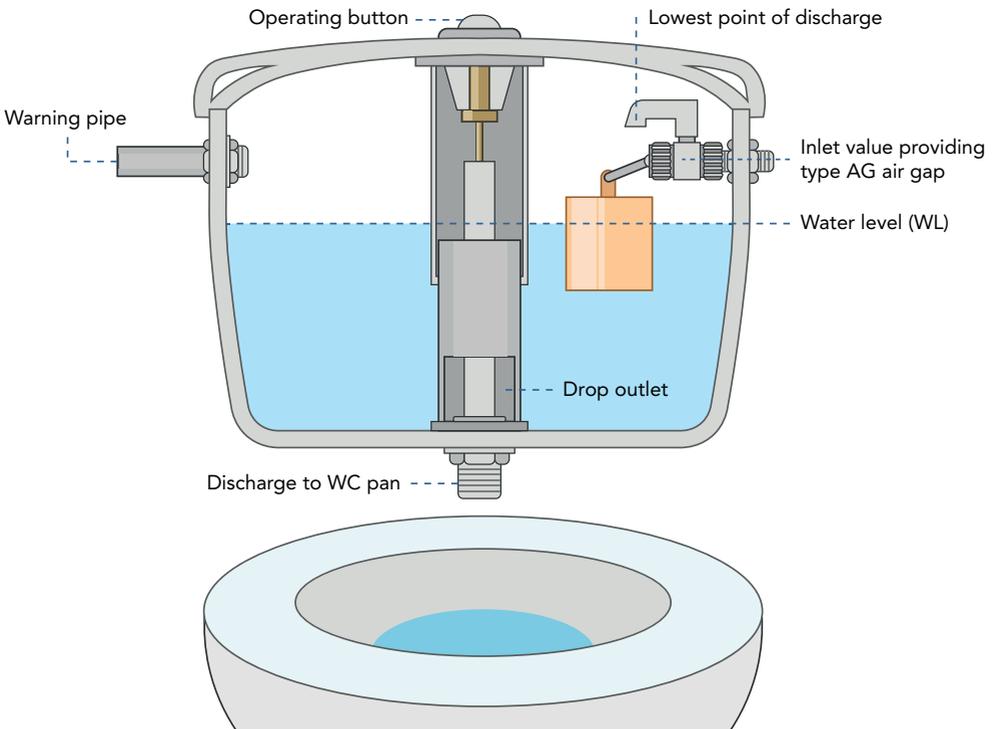


Toilet WC

If the water inlet within your toilet is configured incorrectly and does not incorporate a suitable air gap, water could backflow from the cistern to the water supply.

All WC cistern inlet pipes should have a suitable arrangement for a fluid category risk 5. If your cistern does not have a type AUK1 air gap, you should replace with a suitably compliant fitting.

Typical example of a WC cistern incorporating a type AUK1 air gap



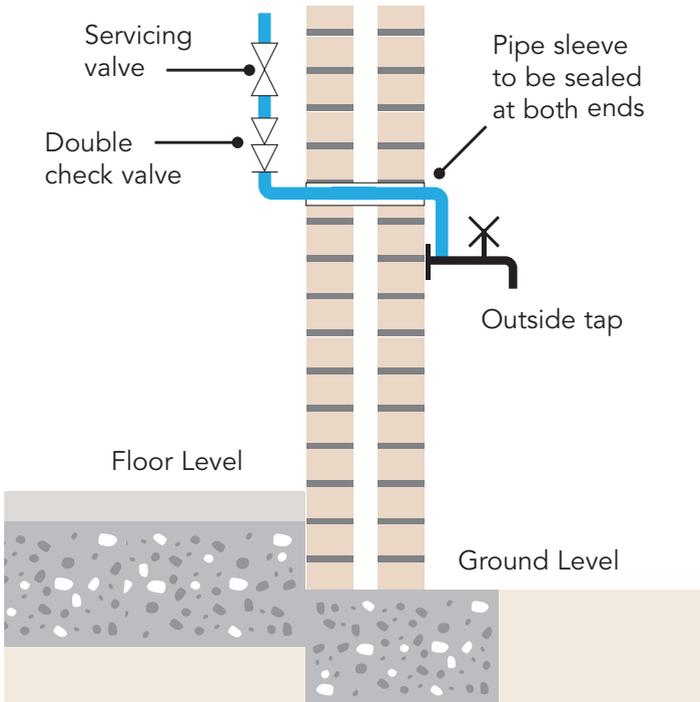
Domestic Hose Union Taps

To use your garden tap safely, you must never submerge the outlet of any hose used and ensure backflow protection is installed. In houses a double check valve should be suitable in most cases if used correctly, e.g. filling a watering can to water plants or filling a bucket to wash your car.

Please see our quick guide video on how to safely use your hose tap here: www.scottishwater.co.uk/helpingyoucomply or scan the QR code opposite.



Typical example of domestic hose union tap



Access to servicing valves and fittings

Being able to isolate the water to individual water fittings is extremely important if fittings are being repaired or replaced. Servicing valves remove the need to switch off the water to the whole of the property causing disruption.

Servicing valves should be located as close and as reasonably practical to the fitting or appliance and readily available at all times.

If the valve is not out in the open, it can be possible to locate within a duct, access chamber or cupboard as long as there is a hinged door or removable cover which is visible at all times.

The door or cover should not be covered with any decorative material that requires removal, such as carpet, wall or floor tiling or wallpaper.

Water Fittings

Water fittings and materials in your home must be made to an appropriate quality and standard. They must meet the requirements of Water Byelaw 4 and must have relevant UK or EU approval.

Please note, not all plumbing fittings and materials on sale in the UK meet these requirements. It is important that you check their suitability prior to purchase.

Remember, it is illegal to use fittings which do not have the relevant approvals.

Scottish Water always recommends using water fittings that have been tested and are certified to be Byelaw 4 compliant through a recognized testing house, e.g. KIWA, NSF or WRAS approvals. Certification is a way for manufacturers to easily demonstrate that their products – such as taps, valves and boilers comply.

Licensed Plumbers and Contractors

Scottish Water advises the use of professional plumbers and plumbing contractors who are members of recognised national licensing schemes. There are a number of benefits in using members of such schemes.

These include:

- Their work is certified as complying with Water Byelaws.
- Properly trained and qualified personnel are available.
- Members are audited/inspected on a regular basis.
- They hold public liability insurance.
- They must submit Financial Integrity Statements annually.

Scottish Water supports and promotes the WaterSafe scheme. WaterSafe is a dedicated online search facility to help customers to find the nearest qualified plumbing and heating professionals in their area. To find a licensed plumber in your area, visit the WaterSafe website at www.watersafe.org.uk.



Keeping up to date and getting in touch

We always have someone here to take your call, you can write to us or alternatively you can contact us through our website.

Visit



www.scottishwater.co.uk/byelaws

Follow us



facebook.com/scottishwater



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

Email



byelaws@scottishwater.co.uk

Call

Free Customer Helpline
(24 hours a day, seven days a week)



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 call our Customer Helpline.

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.