

## AGRICULTURAL BOOKLET

The information provided in this booklet will help farmers and others working in the agricultural industry to understand their legal obligations. In this booklet the term 'farm' means any premises where the installations and activities described in this booklet can be found. The term 'farmer' means those responsible for complying with the water fittings regulations, byelaws in Scotland, at these premises. The term water undertaker includes Scottish Water.



Further information can also be found on the Water Regs UK website [www.waterregsuk.co.uk](http://www.waterregsuk.co.uk).



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## What are the water fittings regulations, byelaws in Scotland?

The water fittings regulations are national regulations in [England, Wales](#) and [Northern Ireland](#), [byelaws in Scotland](#), which protect drinking water by ensuring plumbing systems are designed, installed and used safely.

## When do they apply to farms?

If there is any form of mains water supply on site, even if it is only a back-up, these regulations/byelaws apply. They apply to all plumbing installations on site, including any which are temporary.

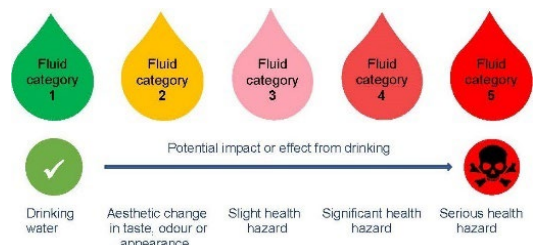
## What do farmers need to do?

1. Ensure proposed changes to plumbing installations are legal and safe by notifying the [local water undertaker](#) at least 10 working days before starting work.
2. Prevent drinking water supplies from becoming contaminated by knowing what are, and avoiding, all the contamination risks on the farm
3. Protect your plumbing installations from all forms of damage and maintain the quality of the water

## What is contamination?

Contamination occurs when there is a change in water quality. If the water supply on a farm were to be contaminated it would potentially pose a risk to the health and wellbeing of not only those on site but also, if it entered the public water supply, that of the wider community.

The regulations/byelaws identify five categories of contamination risk, reflecting the impact and risk to health. These range from no risk (fluid category 1) to serious health hazard (fluid category 5).



## What is backflow?

Contamination by backflow occurs when fluid in a plumbing system flows in the opposite to the intended or normal direction of flow. Backflow is not theoretical rather an ever present threat to people's health.

## What is backflow Protection?

To prevent backflow a barrier (backflow protection) which stops contaminated fluid flowing backwards is needed. The regulations/byelaws identify several different backflow prevention arrangements and devices, each having a rating based on fluid category and type of backflow.



# MAKE SURE YOUR FARM IS SAFE

To ensure the plumbing on site is legal and safe make sure you tell the local water undertaker in advance of any plumbing work you are planning to do.

It is very likely advanced notification of any proposed plumbing work, even that undertaken by an approved contractor, will require notification including the installation of boreholes, rainwater harvesting and any other alternative water sources.

## What is notification?

If a farm has any form of mains water supply, then the water fittings regulations/byelaws apply. These make it a legal requirement for the local water undertaker to be given advanced notice of any proposed plumbing work. This is an important simple and essential check to minimise the risk of waste and contaminating water supplies both on the site and in the wider community. It also provides an opportunity for the local water undertaker to give site specific advice.

The water undertaker has 10 working days to respond to a valid notification. The proposed work should not start until after the 10 days is up.

The water undertaker can either decline or grant consent. If consent is granted conditionally then these conditions must be met.

If no response is received consent is deemed to have been granted. The proposed plumbing work can proceed but the farmer has the legal obligation to ensure it is fully compliant.



## When and how to notify

Although broadly similar there are differences in the notification requirements in England, Scotland, Wales and Northern Ireland. Many water undertakers have their own notification forms and dedicated contact information which can be found on the water undertaker's website and [here](#). It is important to use the local water undertaker's form especially when submitting electronically.

Further information on the following topics can be found on the Water Regs UK website.

- What is notification?
- What work needs to be notified in advance?
- How to notify (England & Wales)
- How to notify (Scotland)
- How to notify (Northern Ireland)
- What is a material change of use?
- Notification by approved contractors (England & Wales)
- Notification by approved contractors (Scotland)
- Notification by approved contractors (Northern Ireland)
- Notification of a pump or booster

If there are any additional questions, please contact the local water undertaker for advice.

# MAKE SURE THE DRINKING WATER IS SAFE

## Contamination risks

Make sure the drinking water on the farm, and in the network, remains safe by identifying all possible sources of contamination and ensuring steps are taken to protect against the water supplies being contaminated by them.

There are various risks which might be found on site to be aware of, including:

- Alternative water sources, for example river and borehole water
- Manure /slurry
- Hydrocarbons (fuels & lubricants)
- Chemicals (herbicides, pesticides & insecticides)
- Pathogenic organisms



## Avoiding contamination

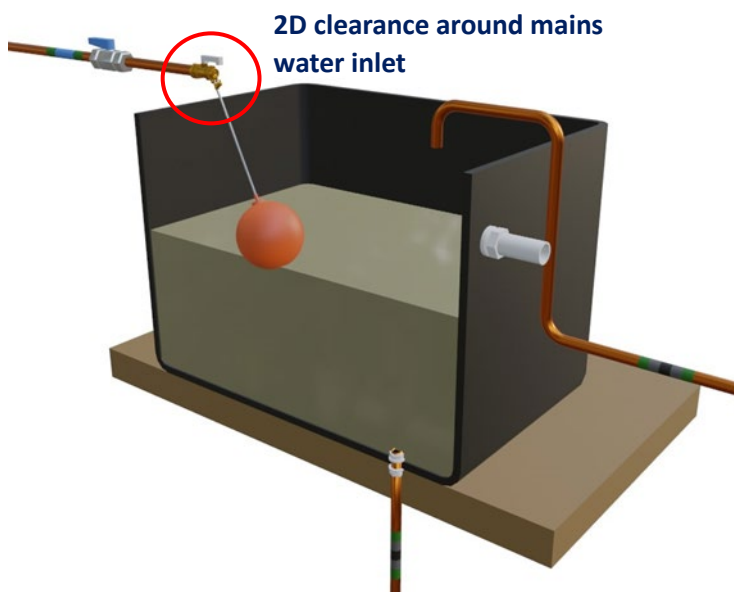
The best way to avoid contamination is to limit the risk of any potential sources of contamination coming into contact with drinking water, or the plumbing system supplying it. This will help to ensure that those who are living, working or staying on site as well as the wider community remain safe.

The information provided below will highlight some of the areas of risk on farms and help farmers to ensure the drinking water supplies remain safe.

## Alternative water sources

Where mains water and other water sources, such as rainwater, recycled water, river water and borehole supplies, combine it is essential to notify the relevant water undertaker to ensure adequate backflow protection arrangements are installed.

Alternative water supplies should never be directly connected to the mains drinking water. The only legal and safe way to combine mains and another source of water is to use an arrangement called a break tank which enables separation of supplies. Typically, this is done using a Type AA or AB air gap, the key features being:



- An unrestricted or weir spill over
- The pipework supplying the mains water must be external to the tank
- The mains water feed must discharge at a higher level than other sources of water and maintain a minimum clearance - twice the internal diameter (2D) of the supply pipework or 20 mm whichever is the greater
- The water in the tank should not come into contact with the mains water inlet for example as a result of splashing

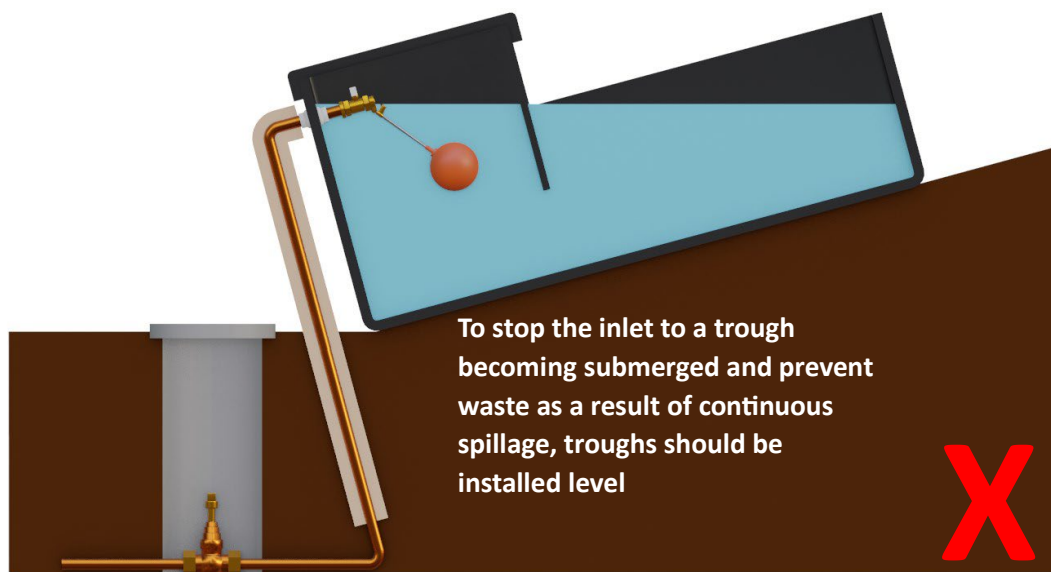
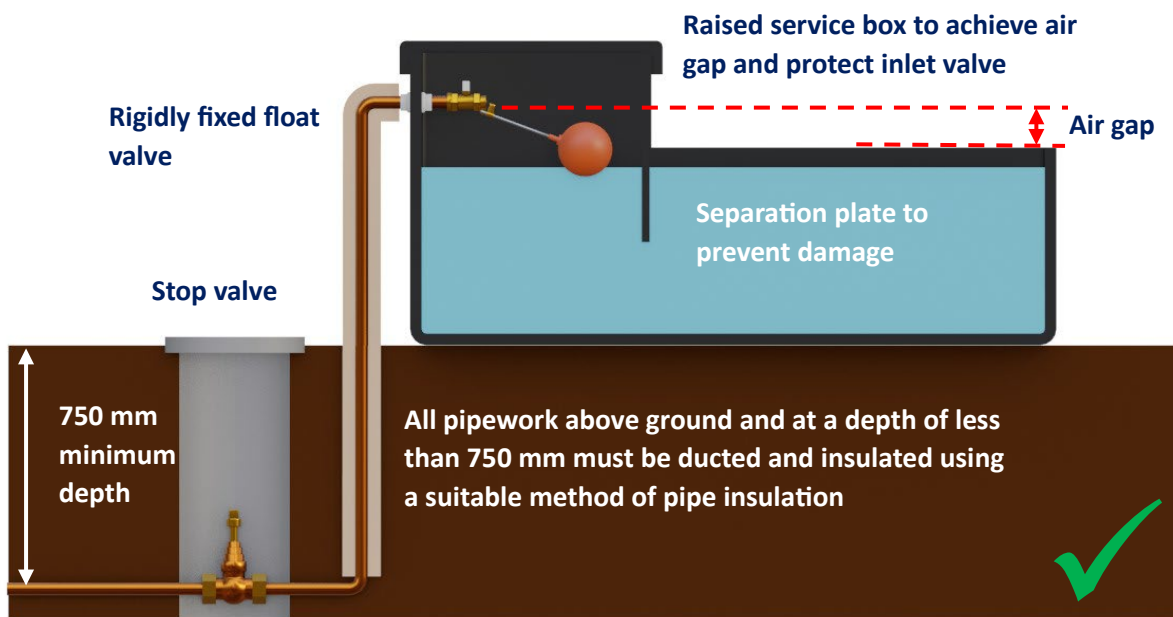
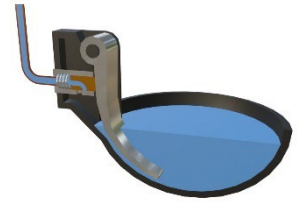
**Break tank arrangement: alternative water storage with mains back up supplied via a Type AA air gap**

## Troughs and drinking bowls

Drinking troughs and animal bowls connected to mains drinking water supplies are considered a high contamination risk.

This is because the water in the trough or drinking bowl is exposed to multiple sources of contamination, including animal matter, making them a fluid category 5 risk. The concern is should there be inadequate or no backflow protection this water could be back siphoned into not just the plumbing system on the farm, but potentially beyond that into the drinking water network placing not only those living and working on site at risk but their neighbours and wider community as well.

The easiest way to prevent backflow from happening is to ensure a suitable gap is maintained between the water inlet feeding the trough or drinking bowl and the overflow or spill over level. Alternatively, where multiple troughs or drinking bowls are supplied from the same distribution pipe, a break tank arrangement fed via a Type AA, AB or AD arrangement could be used to provide backflow protection.



## Hose union and bib taps

Hoses attached to hose union taps are a high contamination risk. Backflow via a hosepipe submerged in a bucket, trough, puddle, drain or pond is a very real possibility. If a hose pipe is being used on a farm it must either be supplied via a suitable backflow prevention arrangement providing fluid category 5 protection. Typically, a Type DC arrangement, break tank supplied via a Type AA or AB air gap, or an arrangement which maintains a Type AUK3 tap gap maintained at all times.

Bib taps, taps to which a hose cannot be connected, are a lower risk providing that a suitable gap between the tap outlet and the spill over level of whatever it is discharging water into is maintained at all times.

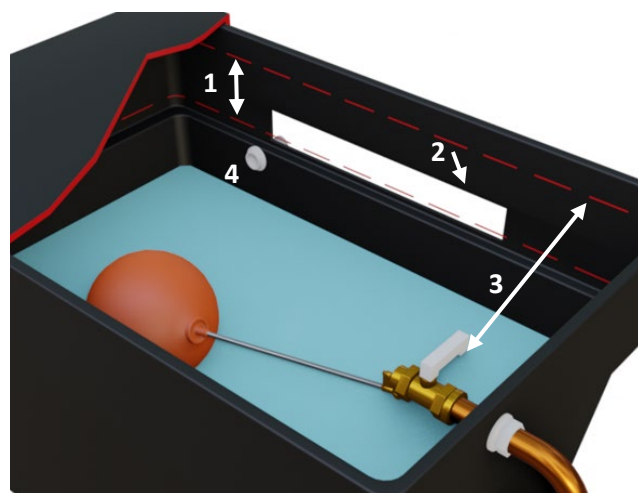
## Hose supplied via a break tank

One way to provide backflow protection to a hose union tap is to install a tank to 'break' an otherwise direct connection to the mains water supply. The level of backflow protection this provides will be dependent on how it is fed, but if this is via a Type AA, AB or AD air gap it will be fluid category 5.

If the gravity fed flow rate from a break tank is inadequate for the intended use a pump to booster the flow can be installed. Multiple hose union taps could be supplied from the same break tank.

Examples of break tank arrangements are given below.

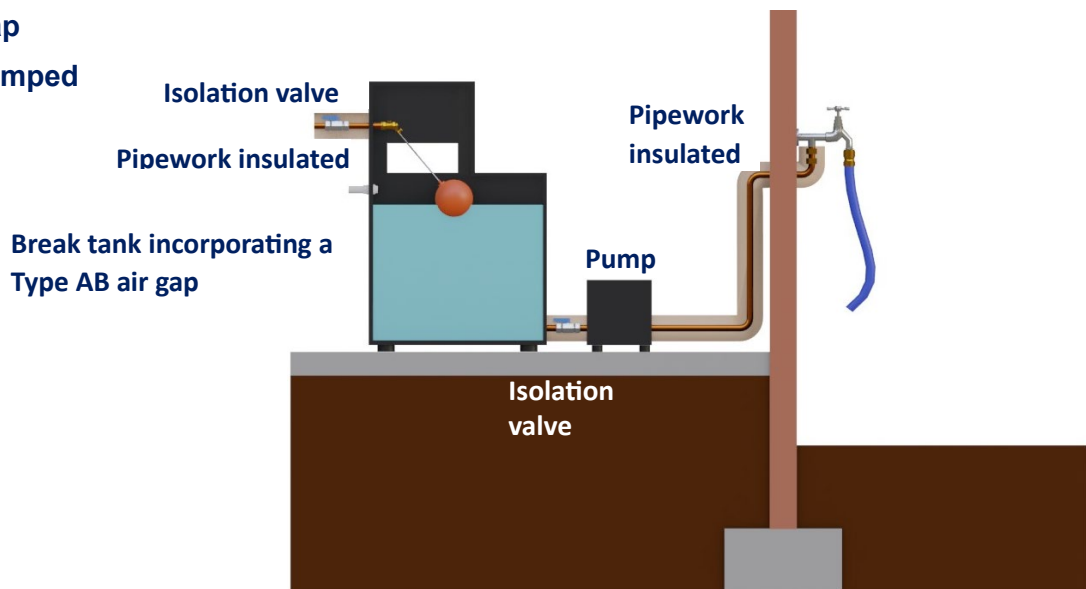
### Type AB air gap break tank



1. Air gap
2. Weir overflow
3. Lowest point of discharge
4. Warning pipe

## Type AB air gap

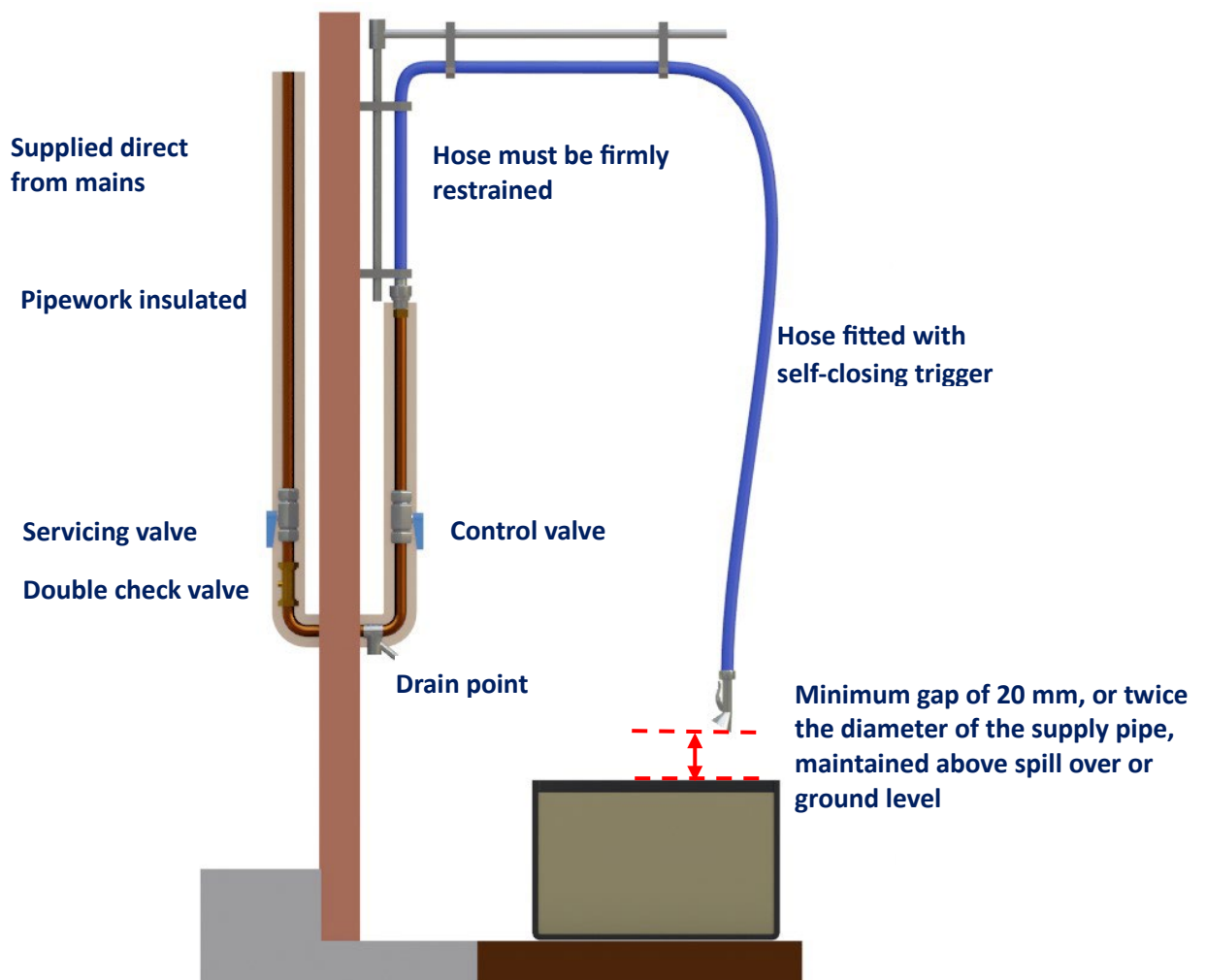
break tank: pumped



## Hoses protected by a tap gap

Another way to provide backflow protection is to maintain a minimal gap called a Type AUK3 (twice the internal diameter of the supply pipework or 20 mm whichever is the greater) between the hose outlet and ground or spill over level of whatever it is discharging into at all times.

One way to do this is to restrain the hose so it cannot be lowered compromising the gap. Installing an arm which can swing out will provide a greater reach.





# PROTECT YOUR PLUMBING INSTALLATIONS

Plumbing which is incorrectly installed or inadequately maintained poses a risk. The following advice should help those responsible for farms to prevent water quality being adversely affected, water being wasted and plumbing installations damaged.

## Environmental risks

For drinking water supplies to remain safe it is important they do not become contaminated with other fluids. There are various ways this could happen, such as by backflow, ingress or permeation.



Pipework should never be installed in a contaminated environment such as a sewer or cesspool.

Plastic plumbing fittings are at risk of permeation by diesel or heating fuel, pesticides, insecticides and similar organic substances or fluids, so should never be installed where they could come into direct contact these, including contact with any soil contaminated by them. To protect against damage resulting from accidental fuel spillage a suitable barrier pipe should be used when there is oil or fuel storage on site or there has been a spillage event.

Blue MDPE pipe should only be installed where light is excluded as exposure to light can result in it becoming brittle and breaking down.

To help reduce the risk of cross connections, such as connecting borehole supplies to mains water pipework marker tape which identifies the nature of the contents should be applied to all water fittings. Advice on how to do this can be found [here](#).



## Taps and hoses

Incorrectly installed or poorly maintained air gap arrangements may fail to protect against backflow. Good habits are as important as correct installation.

As naturally occurring bacteria and micro-organisms can grow both on the outside of taps and inside the lip of spouts tap hygiene is important. Taps should be cleaned regularly, a suitable gap between the tap outlet and the spill over level of whatever it is discharging water into should be maintained at all times. Spout outlets should never be submerged. Taps should be labelled as supplying drinking or not drinking water.



Unless part of a restrained hose arrangement, hoses should be removed when not in use. When in use a suitable gap between the hose outlet and the ground or spill over level of whatever it is discharging water into should be maintained at all times. A hose trigger with a self-closing mechanism is not a recognised form of backflow protection but will help to prevent waste.



## Above ground installations

Any above ground plumbing must be protected against environmental, accidental and animal damage. A regular inspection should be undertaken of pipework and water fittings to identify leaks or other issues. This will help to reduce waste, prevent contamination and save cost.





Mice and rats gnawing through pipework is a common cause of leaks. To prevent damage to property, avoid costly repairs, as well as the waste of water and risk of contamination, ensure pipework is ducted and seal off any rodent entryways.

If the supply to the trough is controlled by a ball valve to prevent damage caused by livestock think about fitting a raised service box this will protect the installation and help to ensure a big enough air gap is created.

## Insulation

All plumbing systems are at risk if exposed to freezing temperatures. To avoid damage all water fittings, including those supplying troughs and drinking bowls, laid at a depth of less than 750 mm need to be protected. This typically is done by insulation and/or trace heating.

## Waste

To enable them to be isolated all buildings and areas on the farm with a water supply should have a separate stop valve.

Routine inspection of troughs will help limit waste due to incorrectly set, leaking or damaged float valves. To prevent valve outlet becoming submerged and limit waste troughs should be installed level.

Regular meter readings will also help to identify unexplained increases in consumption which could be due to a burst pipe or other wastage. The installation of private submeters which enable water usage in particular areas on the farm to be monitored might help early detection of leakage.

Pipework or troughs not used in winter should be isolated and drained to prevent frost damage which could result in a leak when refilled.

Dry cleaning, such as using scrapers and brushes to remove solid waste prior to washing down will reduce both the amount of water consumed and entering the sewer.

