

Domestic fire sprinklers

Our guide to the regulation





In February 2011, the Welsh Government implemented the Domestic Fire Safety (Wales) Measure 2011 which phased in the mandatory installation of fire suppression systems into new or converted properties. Since April 2014, the regulation has applied to high-risk properties such as care homes, new and converted student halls of residence, boarding houses and certain hostels, and since January 2016, to all new and converted houses and flats.

STEP 1

Designing your system

When designing your fire sprinkler system, there are key codes of practice that you need to keep in mind.

It must be designed, installed and tested in line with BS 9251:2014 (Fire Sprinkler Systems for Domestic and Residential Occupancies – Code of Practice) or BS 8458:2015 (Fixed Fire Protection Systems – Residential and Domestic Water Mist Systems – Code of Practice for Design and Installation). When doing this you must make sure you consider head losses between the existing water main and the property itself.

We do not design domestic fire sprinkler systems, so it's up to you to design your system and this must be undertaken by a suitably qualified and competent person.

We also don't assess the efficiency, appropriateness or compliance of a fire sprinkler system in relation to any Building Control Regulations, British Standards or Codes of Practice.



STEP 2

Our role

Our statutory role is mainly to provide water supplies for domestic usage such as for drinking, washing or cleaning. We are required to provide a minimum operational pressure of 1.5 Bar at the main and 10 metres head and a minimum flow rate of 9 litres/min at the boundary box for domestic usage.

Even with these minimum requirements, they do not result in us being able to guarantee a water supply will be available at all times given operational issues that can occur such as water main bursts or the need to shut-off the water network for short periods of time to undertake essential works safely.



Single properties

For new or renovated single properties we provide a standard 25mm connection with a mechanical meter. We are also able to provide a larger 32mm connection with an electro-pulse meter when requested by the customer. This is the typical option selected where the fire sprinkler designer has advised for you to install a direct mains-fed sprinkler system. If you ask for this larger connection type, we will provide a 32mm polyethylene communication pipe from the water main to the boundary box (boundary boxes are normally on the public footpath and are often where your water meter is found).

The boundary box includes an inline meter achieving a maximum flow of 5.0m³/h (where the network allows). The design of the fire sprinkler system must consider both head loss and pressure changes across the boundary box and the fire sprinkler supply system as a whole to ensure it meets the required standards.



Multiple occupancy premises (such as apartments and flats)

Depending on the layout of your buildings, there are many different options that you can choose when it comes to designing your fire sprinkler system for multiple occupancy premises.

It's important to note if you need a water supply connection for a dedicated fire sprinkler system or a combined domestic water/fire sprinkler system greater than 63mm, then you need to opt for the 'large diameter and fire sprinkler connection' when filling in our new water connection application form.



Dedicated fire mains for two or more properties

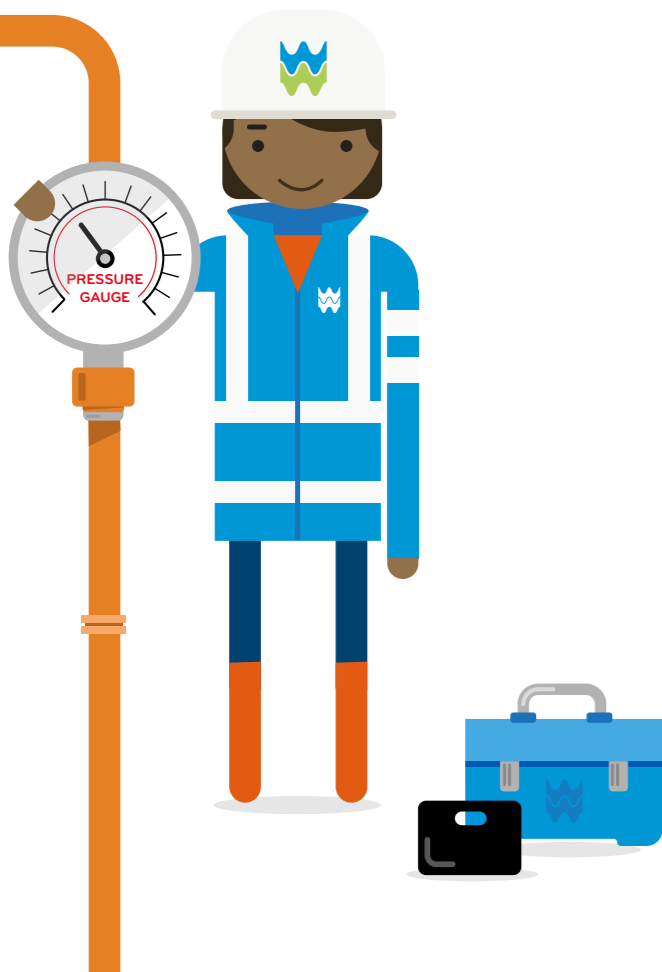
If you need a dedicated fire main connection for two or more properties, then we'll provide an unmetered bulk supply. Our engineers will design and install the new connection to meet your specific requirements. In respect of the pipes and other fittings required for the fire sprinkler system, this will be the responsibility of your designer and arrangements should be put in place by you for its future maintenance, testing and replacement.

STEP 3

Installing and testing your system

All of your pipework and fittings must comply with the Water Supply (Water Fittings) Regulations 1999 and we will inspect the system to ensure it is compliant. This compliance check does not relate to meeting the fire sprinkler performance requirements as this is outside of our scope of responsibility and competency.

In terms of testing, you should carry out a recognised testing regime as set out in BS 9251:2014, using a suitable, calibrated test rig.



Things to bear in mind

Our water pressure can't be guaranteed

We can't guarantee a water supply or a particular pressure or flow in the water supply distribution system due to a range of circumstances which can be beyond our control (for example, low or temporarily reduced pressure/flow may be caused by high customer demand, bursts or leaking mains/services and private supply pipes).

Water supply networks are subject to fluctuating operational pressures. We work hard to achieve a minimum operational pressure of 1.5 Bar and minimum flow rate of 9 litres/min in accordance with regulatory Level of Service requirements.

We can provide an indication of the typical operating pressure in the area of the development on request. It's worth bearing in mind that we retain the right to reconfigure the water network and operating pressures, subject to regulatory Level of Service requirements, at any time without letting you know first.

These are some of the factors that your fire sprinkler designer has to consider when designing a system to meet the requirements and comply with the various Health & Safety duties placed upon them.

Water used for firefighting won't incur charges

We don't charge for any water that's used by domestic fire sprinklers for firefighting purposes. Instead, we'll issue a rebate for any water that is used for firefighting. Water supply connections for dedicated fire mains serving two or more properties will not be metered for billing purposes unless illegal use is detected.



Frequently asked questions

- Q. Can a private pump be incorporated within the fire sprinkler system to boost water pressure for the fire supply?**
- A.** Yes, you can do this. However you'll need our written approval first, as we need to confirm the pump specification and that it complies with the Water Supply (Water Fittings) Regulations 1999.
- Q. How do I apply for a connection?**
- A.** You need to fill out our new water connection form which is available on our website. Just be sure to clearly state if your application is for individual or multiple occupancy dwellings, or for a dedicated fire main as it's important we know this from the beginning.
- Q. Can the flow and/or pressure of the water network be increased to suit my fire sprinkler system needs?**
- A.** Unfortunately not, as we operate our water network to meet the Levels of Service set by the water industry regulator Ofwat, which is 1.5 Bar pressure at the water main and flow of 9 litres/min.
- Q. Where is the check valve located?**
- A.** The check valve must be located within a maximum of 100mm of the branch connection point of the fire sprinkler supply with the domestic water supply pipework. This is to prevent backflow or backsiphonage of any stagnant water into the domestic water supply or the wider water supply network.
- Q. Whose responsibility is it to maintain the check valve?**
- A.** It's the owner of the check valve's responsibility to maintain it.



Still have more questions or need further info?

If you've got any more questions
about domestic fire sprinkler systems,
the following organisations may be
able to help:

BAFSA (British Automatic Fire Sprinkler Association)
Richmond House
Broad Street
Ely
CB7 4AH

Tel: 01353 659187
Email: info@bafsa.org.uk
Web: www.bafsa.org.uk

The Residential Sprinkler Association
Park Court
Brimpton
RG7 4ST

Tel: 0118 971 2322
Fax: 0118 971 3015
Email: info@firesprinklers.org.uk
Web: www.firesprinklers.org.uk

