



ESSENTIAL
FOR ALL
CONDENSING
BOILERS

British Standards guide

for external condensate discharge



10 YEAR
WARRANTY

CalSoakaway

Purpose made traditional
soakaway neutraliser

CONFORMS TO
BS6798:
2014
STANDARD



12 MONTH
GUARANTEE

CalDensate

CalDensate's white in-line neutraliser ensures it
blends in with traditional white overflow pipes, inside the
property, giving an aesthetically pleasing appearance.

AN EFFECTIVE, ECONOMICAL WAY TO KEEP CONDENSING BOILERS OPERATING. **CONFORMS TO BRITISH STANDARDS**

Combination boilers

The environmental problems

There are an estimated 17 million gas boilers in the UK, with around **1.5 million new boilers** installed each year.

Following the Government's decision to require virtually all new boilers to be SEDBUK A rated boilers, as a result of the changes to Part L of the Building Regulations, these boilers are of a condensing nature.

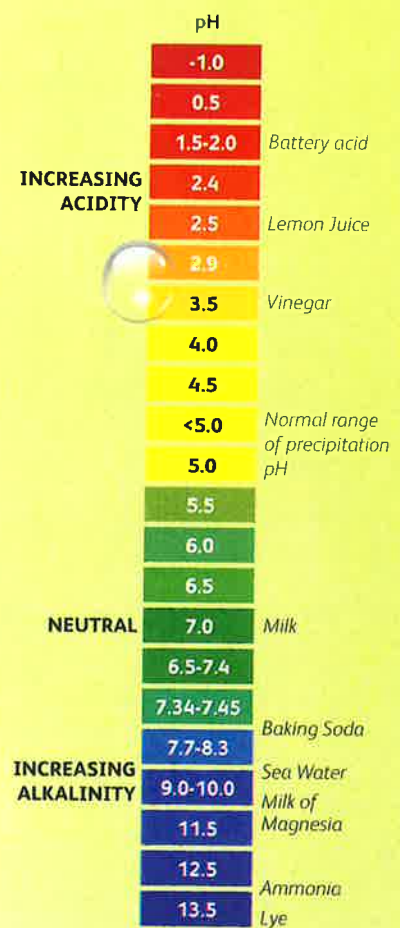
A condensing boiler is a high efficiency modern boiler, incorporating an extra heat exchanger, so that hot exhaust gases lose much of their energy to pre-heat the water in the boiler system. When working at peak efficiency, the water vapour produced in the combustion process condenses back into liquid form, releasing the latent heat of vaporisation.

The water, known as condensate, is produced as a side-effect and is usually **acidic**, containing dissolved oxides of sulphur, nitrogen, and has to be piped away to a drain.

A condensing boiler from an average household will produce approximately 800 litres of acid per year* at pH4. This is not a problem for the odd house or two but the amount of acid condensate put down the drain is thought to be growing at a rate in excess of **half a million of litres per week** as more and more condensing boilers are installed.

It's conservatively thought that in 2 years time we could be adding in the region of **50 million litres** of acid at pH4 to our drains each week. The environmental consequences are potentially huge and, until now, little interest has been shown in addressing the problem.

As a reputable company we have worked alongside the BSI to identify the solution to this area which has progressed to the addition of an in-line condensate neutralising device to BS 6798:2014, named **CalDensate** (see page 4), or alternatively through a purpose-designed soakaway - **CalSoakaway** (see page 6).



* See table 1 for guideline condensate production

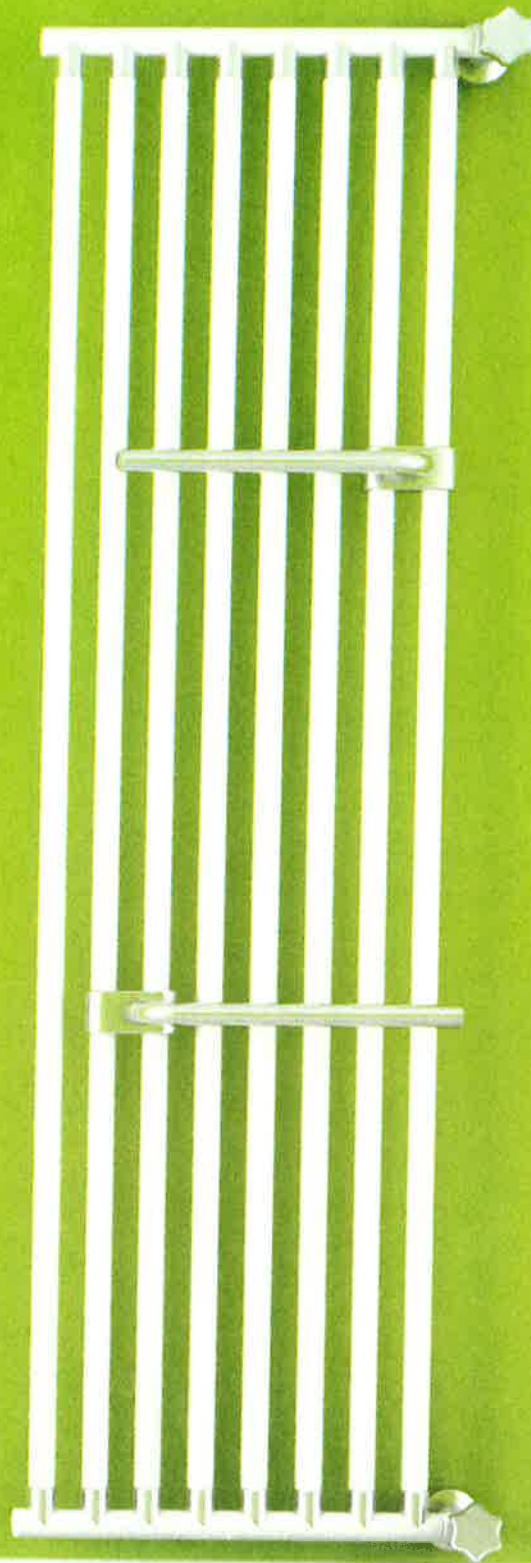
Extract from BS6798 and Domestic Heating Design Guide: Condensate drainage pipe shall be positioned and terminated such that it discharges the condensate safely, away from the building. Where an inline neutraliser device is fitted the installation instructions shall include advice on the effective life, temperature limitations and method of replacement.

The effects of acidic water

- Degrades copper – pin holes in pipes, cylinders etc
- Damages stone, metals, paint
- If drawn into the water systems it can kill off small organisms that aquatic life depend on
- Can have unhealthy effects on humans, mostly through absorption into the lungs
- Damages plants dependent on the soil.

Table 1:
Guideline condensate production

BOILER SPECIFICATION	GUIDELINE CONDENSATE PRODUCTION
10KW	1 litre per hour
15KW	1.5 litres per hour
20KW	2.0 litres per hour
25KW	2.5 litres per hour
30KW	3.0 litres per hour
35KW	3.5 litres per hour
40KW	4.0 litres per hour



Please note that in most installations the removal of condensate can be achieved through gravity although in certain circumstances the use of a boiler condensate pump may be necessary. This will still require the condensate to be neutralised and therefore the **CalDensate** or **CalSoakaway** should be used alongside the condensate pump. If a pump is fitted the **CalDensate** should be installed before the pump, whereas the **CalSoakaway** will be installed after the pump outside the property.

CalDensate

Calmag's money-saving solution

There are a number of problems which occur when acidic water enters the water system. Simply installing the **CalDensate** will ensure that the **pH is neutralised** by means of the specially formulated media which is included in the product.

This easy to fit in-line unit is a bi-product of our own successful commercial products. The **CalDensate** is effective, economical and environmentally friendly due to the fact that the throw away cartridge is biodegradable and the housing never needs replacing and therefore does not harm the environment in terms of waste in landfill sites – a **product on the market place with this unique feature.**

CONFORMS TO
BS6798:
2014
STANDARD

Benefits include:

- ✓ Total acid protection
- ✓ Environmentally friendly
- ✓ Easy to replace cartridge
- ✓ 12 month life
- ✓ Fits all condensing boilers
- ✓ Simple connections
- ✓ Slimline product
- ✓ Fits all condensate piping
- ✓ Suitable for high temperature

12 MONTH
GUARANTEE

THE OPTIMUM
PUSH FIT
IN-LINE DEVICE
ON THE MARKET

CalDensate's white in-line neutraliser ensures it blends in with traditional white overflow pipes, inside the property, giving an aesthetically pleasing appearance.

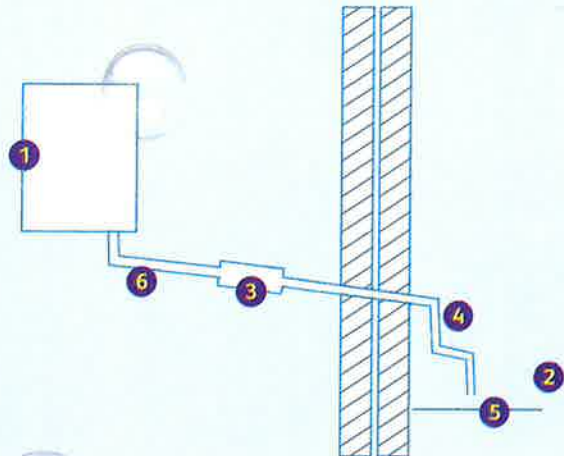
Advantage of using CalDensate

Advantages of using the **CalDensate**. No need to worry about:

- **Underground cables**
- **Listed buildings**
- **Flower beds ruined**
- **Space restrictions**
- **Hard ground, ie. frost**
- **Replacement**
- **Time**
- **Weather constraints**
- **Planning permission**
- **Paving stones**

Typical CalDensate Installation

- 1 Boiler
- 2 Ground
- 3 In line acidic neutraliser with replaceable cartridge:- CalDensate
- 4 External length of pipe 3m maximum
- 5 Open end of condensate drainage pipe
- 6 Nominal diameter 22mm



New improved cartridge

Through extensive research and tests we have manufactured a new cartridge which has been designed and calculated to hold the maximum amount of calcium carbonate to ensure maximum condensate discharge.

This is achieved by the purpose-designed holes within the cartridge which allows for maximum and effective flow of condensate and will not result in any blockages that may cause the boiler to shut down.

Benefits include:

- ✓ Fits neatly into the CalDensate unit
- ✓ Maximum performance
- ✓ Optimum flow rate



**NEW
AND
IMPROVED
CARTRIDGE**

CalSoakaway

Calmag's money-saving solution

The use of an **externally run** condensate drainage pipe, terminating at a purpose-designed soakaway may be considered to be the optimum discharge solution. **Conforms to BS6798: 2014.**

The **CalSoakaway** has been designed to fully conform to the latest regulations and has been manufactured to the highest possible standards using the latest material that will not degrade when in contact with acidic waste.

The durable housing has the recommended number of outlets for the acidic waste to disperse from the calcium carbonate whilst the universal cap provides installations to cope with **22mm, 35mm and 42mm** condensate pipe.

This ensures that the product is **easy to install**, saving time and money, whilst providing the confidence to installers that they are meeting the current regulations.

**THE OPTIMUM
BELOW GROUND
DEVICE
ON THE MARKET**

**10 YEAR
WARRANTY**

Benefits include:

- ✓ Total acid protection
- ✓ 10 year warranty
- ✓ No replacement needed
- ✓ Lasts the lifetime of the boiler*
- ✓ Simple to install
- ✓ Easy discharge
- ✓ Compatible with 22mm, 35mm and 42mm condensate pipe

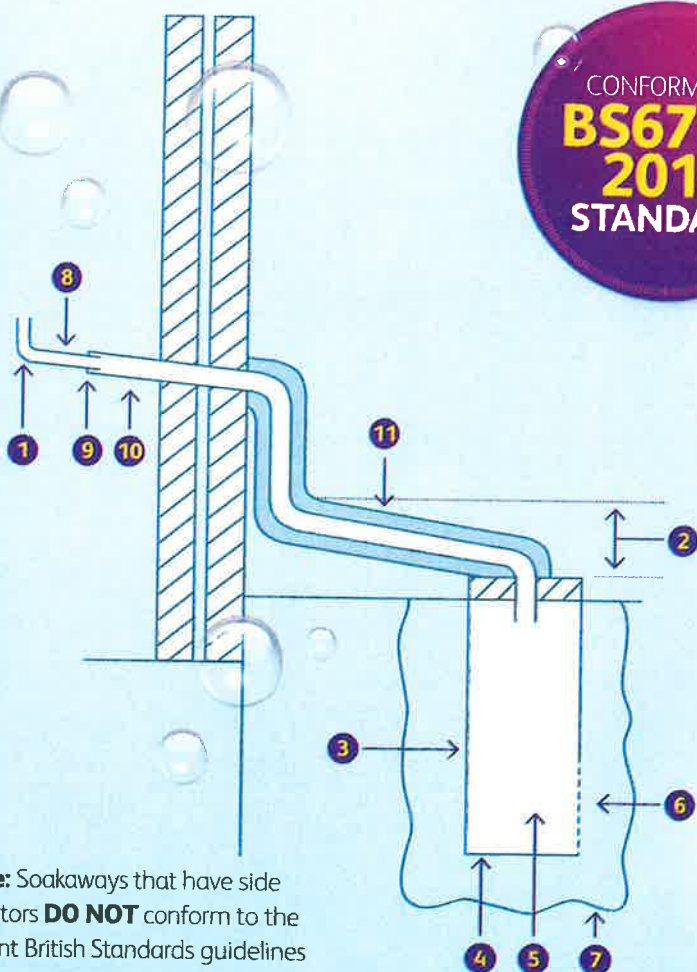
*Based on a replacement boiler scheme

Typical CalSoakaway installation

Purpose made to British Standards for condensate discharge from a boiler

Instructions

- 1 Condensate discharge pipe from boiler
- 2 Ground (this section of the condensate drainage pipe may be run either above or below ground); end cut at 45°
- 3 Diameter 100mm min. plastic tube
- 4 Bottom of tube sealed
- 5 Limestone chippings, both inside and outside the soakaway tube
- 6 Two rows of three 12mm holes at 25mm centres, 50mm from bottom of tube and facing away from house
- 7 Hole depth 400mm min. by 300mm diameter
- 8 Minimum internal diameter 19mm
- 9 Pipe size transition point
- 10 Minimum internal diameter 30mm
- 11 Insulation



CONFORMS TO
**BS6798:
2014**
STANDARD



Note: Soakaways that have side adaptors **DO NOT** conform to the current British Standards guidelines of BS6798:2014

Guaranteed confidence in water quality

Calmag's **fresh, innovative approach** to water quality has led to the development of the most extensive and effective range of water treatment solutions within the UK water treatment industry – our products are designed with the **needs of our customers** in mind – the merchant, installer and consumer. Calmag's philosophy is based on providing products and services to meet the real needs of all our customers – we don't simply produce what we think you should buy - Calmag have the **unique design** and production capabilities to produce what you want - when you want it!

Beware of imitations!

There have been a number of instances when customers have been under the impression that they have bought a Calmag product but, in reality, have been supplied with an alternative and inferior product that fails to match the industry-leading performance and aesthetic appeal of ours. So we strongly advise customers to **ask for our product by name**. Other products may seem to offer similar qualities, but if it isn't Calmag, it simply won't perform to our standards.

There are **two key ways to check** that you've purchased a genuine Calmag product: they carry the **WRAS approval** on scale inhibitors, and **BuildCert** and **ESTr** approvals on a range of chemical inhibitors.

Calmag is a member of and in partnership with:



**QUALITY
ASSURED
AND TESTED**



For more information regarding all Calmag products and services please go to **www.calmagltd.com**

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* All figures are taken from various published figures