



Water meter installation policy for property developers

May 2019

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Introduction

Every day we provide more than 9 million customers with around 2.6 billion litres of water. But much of our region is 'seriously water stressed'.

As the population grows and our climate changes – bringing less summer rainfall and potentially more droughts – the pressure on water resources will increase.

Installing water meters is at the centre of our plan to reduce demand. We believe meters are the fairest way to charge our customers, as their bill is based on what they use, just like gas and electricity.

Under the Water Industry Act 1991, we require the supply pipe into all new or converted properties to be metered. Where this isn't possible (as in converted large apartment blocks), we may consider whether a common supply pipe feeding all properties is more suitable.

A meter must be fitted to the pipe supplying each property and any landlord supplies (such as garden taps and bin stores), to ensure all water use is recorded. We may also require a bulk meter to be fitted at the source of the supply pipe, to help prevent any misuse and to aid us in detecting leaks.

Where to locate your meters

Our policy is that meters are located externally or – where this isn't possible, such as in large blocks of flats – in communally accessible areas. This is to:

- Increase leakage detection
- Ensure we can access the meter to read, repair or replace it, and
- Reduce unnecessary disturbance to customers

For new developments, please follow our hierarchy of preferred locations for meters:

Houses

1. Externally in boundary box in public footpath
2. Externally in boundary box on private property, if it isn't possible to fit in the footpath

Small apartment blocks (up to three floors or 12 apartments)

1. Externally in boundary box in public footpath
2. Externally in boundary box on private property, if it isn't possible to fit in the footpath
3. Internally in a communally accessible location (such as a riser cupboard), if it isn't possible to fit externally

Large apartment blocks (more than three floors or 12 apartments)

1. A bulk meter at the point of supply (if required by us), and individual meters fitted internally in a communally accessible location (such as a riser cupboard)

Developments of existing buildings (conversions)

1. Externally in boundary box in public footpath
2. Externally in boundary box on private property, if it isn't possible to fit in the footpath
3. Internally in a communally accessible location (such as a riser cupboard)
4. Internally inside the customer's property, if the building structure doesn't allow meters to be fitted in a communally accessible area

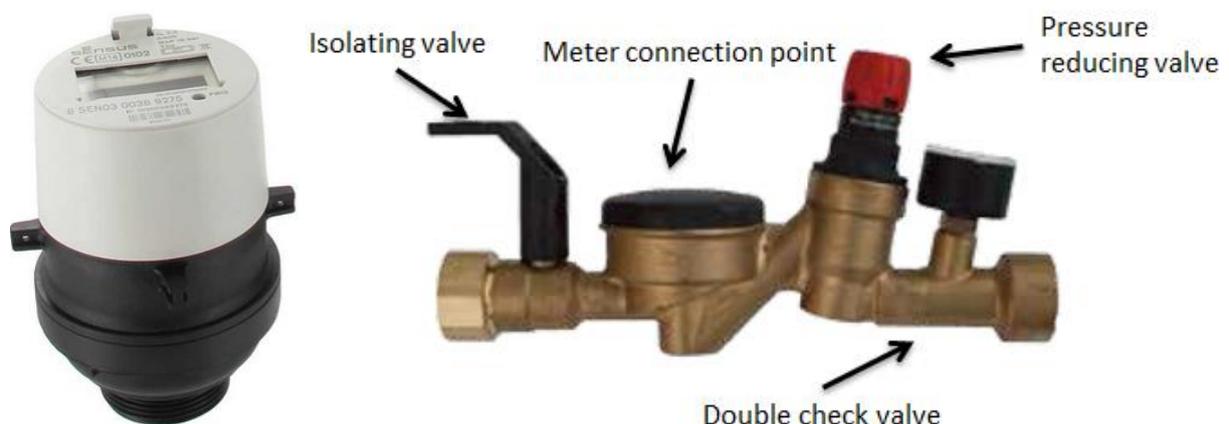
Meter options and fittings

There are two different types of meters depending on the configuration of your pipework: concentric or inline.

Concentric meters

- If you require a concentric meter we'll provide a mechanical Sensus 640 with digital display
- These meters don't come with any additional fittings. The housing/manifold required to screw these meters in needs to be sourced separately.
- We require you to use a stop tap prior to the meter, a meter manifold and a stop tap with a drain-off after the meter.
- The illustration shows an example of a combination valve assembly (concentric meter valve assembly) approved by the Water Regulations Advisory Scheme (WRAS). It consists of a ball-type isolating valve, pressure reducing valve, double check valve and a connection point for the meter. Other available combination valve assemblies can also be used.
- For the only available meter size (15mm), the performance rating is Q3 – a permanent flow rate of 2.5m³/hour.
- Please be aware that the meter connection point in some concentric valve assemblies might require an adaptor to allow for a Sensus 640 meter to be fitted.

Concentric Sensus 640 with a digital display (left), example of a concentric meter valve assembly (right)



Inline meters

- If you require inline meters, we'll provide a control kit which includes:
 - BS1010 stop tap prior to the meter
 - The water meter – an inline Sensus 640 (as shown)
 - Secondary control valve plus drain-off after the meter
- For the recommended meter size (15mm), the performance rating is Q3 – a permanent flow rate of 2.5m³/hour.
- Once the meter and kit are connected, the length of the unit is 400mm.
- If you need larger meters please let us know.

Inline Sensus iPerl (left), stop tap and secondary control valve with drain-off (right)



New inline meter to become available

A new meter, the Sensus iPerl (shown below), will be available from April 2020. The Local Communication Equipment (see below) which allows us to read the meter remotely will be integrated within the meter, so there will be no need to leave additional space. It will initially be available only as a 20mm inline meter.

The Sensus iPerl has no moving parts, which means silent operation, higher accuracy, better performance (especially at low flows), and less flow restriction and pressure loss, compared to the existing Sensus 640.

We intend eventually to phase out use of the inline Sensus 640, but at present it is up to the developer which inline meter they install.

Integrated Sensus iPerl



Meter connectivity

Please note that Sensus digital meters don't have a pulse output, so can't be connected to loggers.

If you wish to connect a meter to a building management system in order to obtain real-time data about water usage, you can install a secondary meter of your choice downstream of our meter.

Locating and installing your meters

General requirements

A single meter must measure all water supplied to each property, and the developer must ensure each occupier knows the location of their meter.

Meters must be safely accessible to us and to the occupier at all times. If installed in a cupboard, access should not be impeded by locked doors. If riser cupboards are locked, the locks used should be accessible by Fire Brigade 1 and 2 (FB1 and FB2) keys.

Pipework and meters must be insulated if the location is susceptible to unusually warm or cold conditions.

The register must face upwards or outwards, and the meter must be easy and safe to read.

It should have adequately supported pipework, to prevent vibration and excessive strain on the fittings.

You should install two stop valves – one on either side of the meter and no more than 50cm from it. You must also fit a drain valve immediately after any inline meters.

Fittings must comply with the Water Regulations 1999 and be approved by the Water Research Centre (WRC).

Meter must be fitted with tails to enable them to be easily exchanged, and be tagged or labelled, detailing which unit they supply. The same applies to LCEs (see below).

Internal meters: allowing room for LCEs

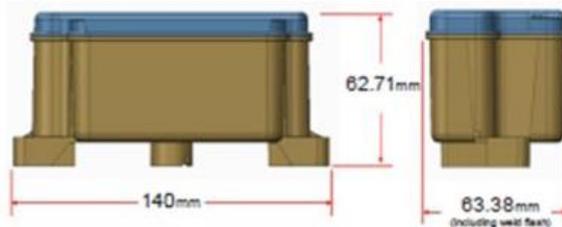
If you're installing a meter internally, please leave space for us to fit the Local Communication Equipment (LCE). This is a smart device that allows us to take readings remotely, using a fixed network of radio masts.

The radio mast network has been installed within the M25, and we plan to expand this to cover our region outside London.

Each meter will have a single LCE connected to it. We'll fit the LCE within two metres of the meter, to a permanent surface (optional bracket). We'll be unable to install LCEs close to a metal cabinet, as these could interfere with the signal. The LCE, which can be installed horizontally or vertically, measures 140mm long x 63.38mm wide x 62.71mm high.

We'll either fit the LCE when we prove the new meters or return to install it at a later day – so we'll require developers to leave sufficient room when they design and install the pipework.

Local Communication Equipment (LCE) with optional mounting brackets (left) and dimensions (right)

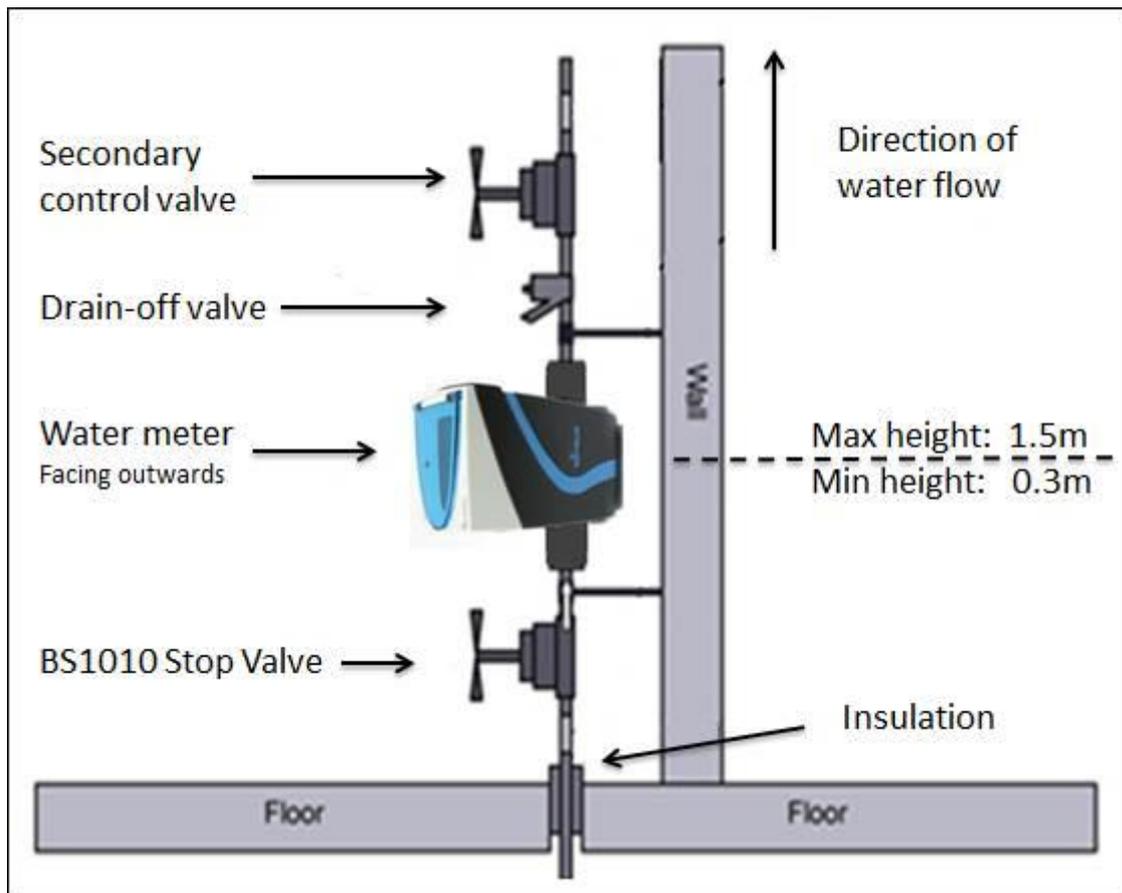


Locating internal meters

Internal meters must be located to meet the following requirements:

- The centre line of a horizontally or vertically orientated meter must be between 30cm and 150cm above floor level.
- There must be enough clearance space for us to exchange the meter without reconfiguring the pipework. There should be at least 3cm between the outer edge of the meter and any fixed installation including pipework, and at least 15cm between connecting pipework.
- The meter must be installed on the same floor as the apartment. However, in smaller buildings (three floors or fewer) meters may be grouped together on the ground floor or alternate floors. The meter pipework must be clearly labelled to show which apartment the meter belongs to.
- Meters should not be installed in ceiling voids or under floors, or in a location where a leak may affect electricity meters or electrical appliances.

Typical internal installation of an inline (Sensus iPerl) meter – not to scale



Typical installation of inline meters (Sensus 640) in a riser cupboard



BS1010 Stop valve

Meter tag

Drain-off valve

Water meter

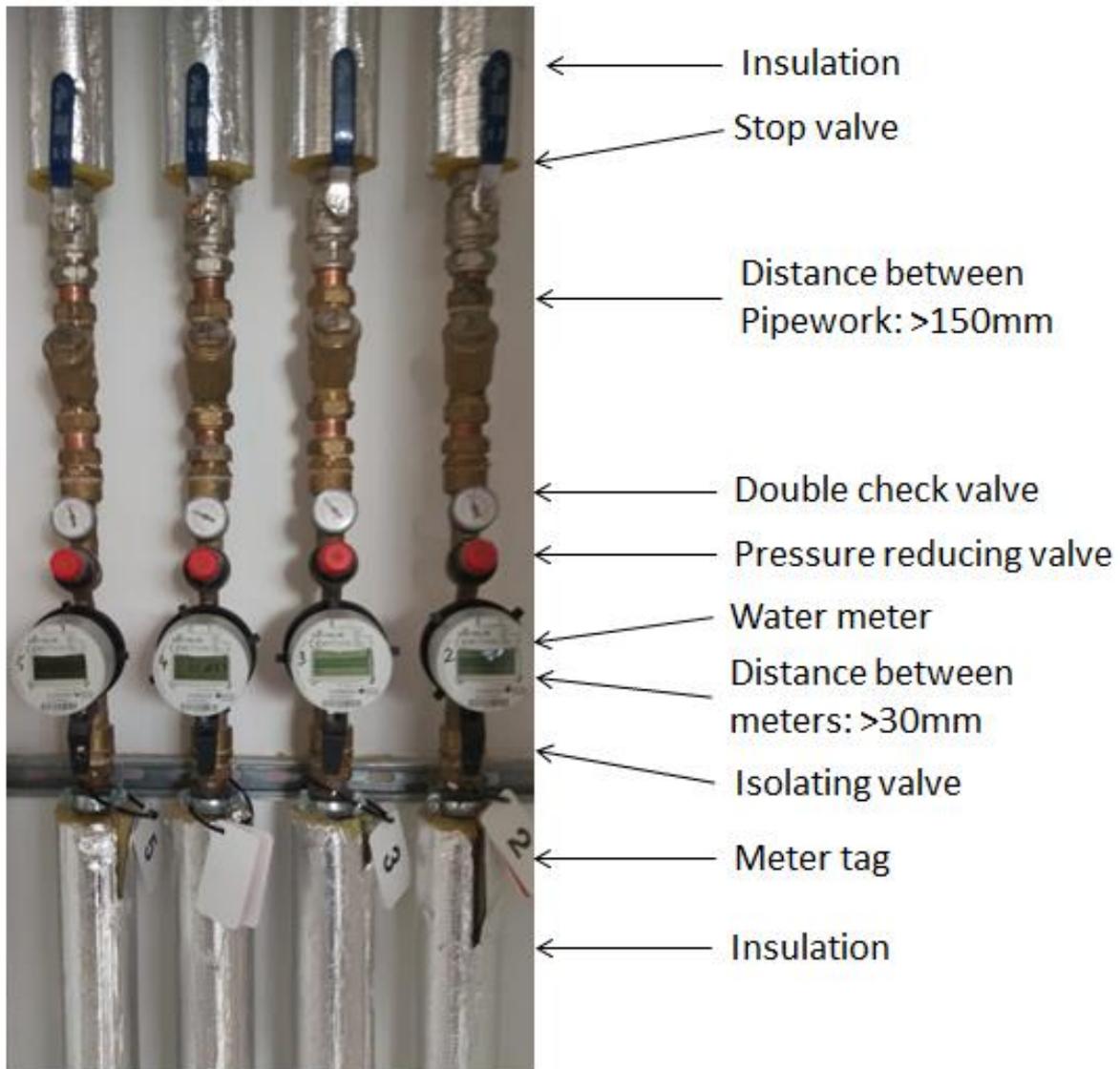
Distance between
meters: >30mm

BS1010 Stop valve

Distance between
Pipework: >150mm

Insulation

Typical installation of concentric meters (Sensus 640) in a riser cupboard



Ordering your meters

All meters must be provided by Thames Water to ensure they're compatible with our remote reading system and to the correct specifications.

You can apply for a new main and/or water connections [here](#). We'll provide a quote including the cost of your new meters.

- If you require a bulk supply for a large number of apartments, let us know how many meters you need.
- We'll provide a quote for you to sign and return.
- Please note, meters can't be ordered until the quote has been signed and paid for.
- When you're ready to order your meters, please call us on 0800 009 3921. Once you've placed your order, delivery usually takes up to four weeks.

Delivering and fitting your meters

Your meters will be delivered via a courier and need to be signed for by a site representative as proof of delivery.

Once delivered, the meters and any fittings are your responsibility. If you lose or damage them, you'll need to place a new order and pay for the replacement meters.

The meters must be installed as part of the building fit-out and in place before any water is run through the system.

Once the bulk supply is connected to our network, we'll need to visit the site to confirm the meters have been fitted correctly, check they're tagged with an apartment number, and add any additional kit for smart meter enablement.

We'll use this information to create a new account in the developer's name. Please contact us once the building has been handed over so we can take your name off the account.

If any meters are lost or damaged, or if a change of meter type is required, we'll charge for additional delivery costs.