

Thames Water – multi occupancy building meter options



Sensus 640 concentric and in-line
15mm & 20mm water meters



Sensus iPerl small commercial
meters 25mm & 40mm



Sensus MeiTwin bulk or large
commercial meter 50mm, 80mm,
100mm & 150mm

Thames Water Policy

- The water industry requirement for companies to read all meters physically once a year (known as DG8) is no longer in existence. However, most water companies still use this as a best operating practice, as the vast majority are still 'dumb' meters.
- As companies move towards fixed network remote reading systems (AMR) this will diminish and instead will rely on better accuracy of meter data.
- The preferred location for domestic meters in multi occupancy dwellings will remain in a communally accessible location.
- Thames Water (TW) are reluctant to offer a “no questions” acceptance of meters being installed in apartments as this could set a precedent that will ultimately lead to increased TW O&M costs (e.g. fixed customer appointments, out of hours work etc.).
- Each project will have to be agreed with TW on its own merit. TW will be looking for individual metered supplies to individual houses, even if sprinklers are required with elevated pressures and flow rates so shared boosted cold water systems may not be accepted.

Strategies for meters in apartments

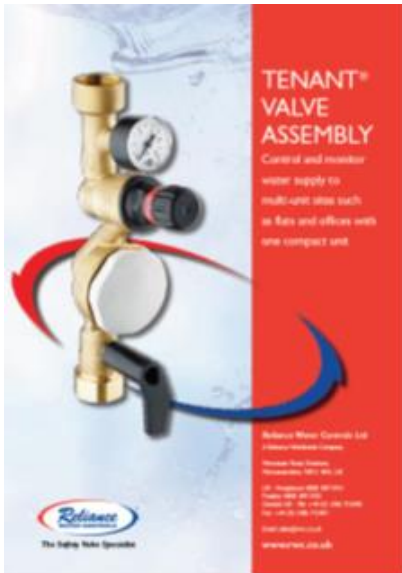
- TW are willing to assess a strategy where meters are within an apartment. This could be based on reasons such as:-
 - a. reduced amount of customer pipework by running bulk supplies up risers and then along corridors
 - b. better reticulation of the internal water network with less opportunities for pipes to over-heat or long dead-legs should a customer take a long holiday
 - c. better water quality
 - d. less chance of the meter being damaged by an unknown 3rd party
 - e. opportunity for the customer to physically read their own meter and easily cross check it with the data provided by TW

If in doubt, regarding water meter strategies on your projects, consult with Premier Energy Services Ltd for further advice on all aspects water metering.

Call us on **01403 740240** or visit our website at
www.premierenergy.co.uk

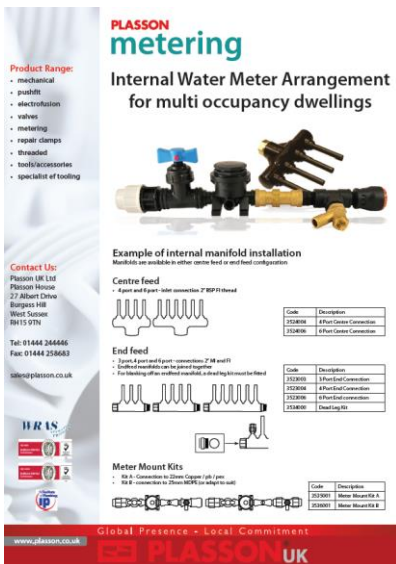


Figure 1: Typical TVA for use with a concentric meter



Source: Reliance Water Controls website

Figure 2: Alternative TVA / products for use with in-line or concentric meter



Source: Plasson UK website

Technical requirements

- TW need to ensure that proper consideration of the meter location, especially within the apartment, is factored in at design stage. The following criteria needs to be met for the meters:-
 - f. located at a min. height of 300mm from F/L to a max. height of 1500mm from F/L and 150mm clearance each side from each side of the meter.
 - g. installed in a position that will not easily be damaged or obscured by the customer or their possessions.
 - h. easy access must be provided for installation, reading, maintenance and exchange.
 - i. auxiliary equipment given the same consideration. For AMR meters a communication box is required but more details are required on these.
 - j. due consideration for other equipment e.g. electrical equipment which could suffer from water leaks / damage or heat sources.
- Where meters are allowed to go inside an apartment, TW encourage the use of a concentric meter (although flow rates are lower than the 20mm in-line meters). This ensures adequate space can be provided for future maintenance, mitigates against potential pipework alteration and ensures exchange of the meter quickly without causing too much disruption to the customer.
- A concentric meter requires the use of a Tenants Valve Assembly such as the one provided by Reliance Water Controls which is purchased by the developer.
- Alternative options can be provided by Plasson UK although these are better suited in the riser cupboards. Again these are to be purchased by the developer.
- For in-line meters TW will provide a BS1010 stop tap for use prior to the meter and ball valve plus drain off for use after the meter as part of the package.

Types of meters

- TW are working in partnership with Arqiva (a communications company) to develop an advanced metering network across their area. The current meter supplier chosen to support this is Sensus who will be providing all meters for new developments.
- The Sensus 640 15mm in-line and concentric meters are the standard default model of meter TW provide and can deliver a permanent flow rate of 2.5m³/hr but can rise to 3.125m³/hr for shorter periods. The Sensus 640 20mm in-line meter can provide a flow rate of 4m³/hr rising to 5m³/hr for short periods.
- For small commercial units the Sensus iPERL is the specified meter.
- For bulk meters or larger commercial supplies the Sensus MeiTwin meter is specified.



- See Sensus technical details for further information.
www.sensus.com
- Once the developer has installed the meter TW need to be advised so the process of “pairing” the meters to the data network can be undertaken by TW.
- For multiple meters in riser cupboards all meters will be “paired” via a communication box, installed by TW. This small communication box, like the meter, is battery powered and needs to be located near the meter.
- Until the full fixed network solution is in place (this will take many years to complete) the meters may still be read on a walk-by basis. Some developers may wish to explore the use of a local communication transmitter. This will mean some space planning and power supply requirements need to be considered at design stage.

Other useful information

Figure 3: Sensus 640 domestic meter

Performance Data

Metrological characteristics
Directive 2004/22/EC (MID) & EN 14154:2007

				Coaxial Manifold	Inline	
Nominal Size	DN	mm	#	15	20	
Permanent flowrate	Q ₃	m ³ /h	2.5	2.5	4	
Ratio “R”	Q ₃ /Q ₁	R	40 / 80 / 160 / 315 / 400			
Maximum flowrate ⁽¹⁾	Q ₄	m ³ /h	3.125	3.125	5.0	
Minimum flowrate ⁽¹⁾ (tolerance ±5%)	Q ₁	l/h	6.25	6.25	10.0	
Transitional flowrate ⁽¹⁾ (tolerance ±2%)	Q ₂	l/h	10.0	10.0	16.0	

⁽¹⁾ Values for R=400

Figure 4: iPERL small commercial meter

Technical data

Nominal size	DN		DN (mm)				
			15	20	25	30	40
Permanent flowrate	Q ₃	m ³ /h	2.5	4	6.3	10	16
Starting flowrate		l/h	1	1.6	2.5	4.0	6.4
Ratio “R”	Q ₃ /Q ₁	R	800				
Maximum flowrate	Q ₄	m ³ /h	3.125	5	7.875	12.5	20
Minimum flowrate	Q ₁	l/h	3.13	5	7.88	12.5	20
Transitional flowrate	Q ₂	l/h	5	8	12.6	20	32

Source: Sensus leaflets