

# The Kent Range of Domestic Meters

## V100, V110 & V200

### Volumetric in-line cold water meters

All Elster water meters are manufactured and tested in accordance with either BS5728 or BSEN14154 according to the appropriate type approval and comply with the relevant UK Weights and Measures regulations. The meters are suitable for cold potable water up to a temperature of 30°C and working pressure of 16 bar (10 bar only for V110).

If the meter has been provided with an encoded register, please refer to the appropriate additional instructions:

1. Electronic Meter Reading (EMR) Installation Instructions  
ref. 8593D9791.
2. Electronic Meter Reading (InVISION EMR) Installation Instructions  
ref. 8505A2750.

The meter must be fully flooded with clean cold water at all times. No air or water/air mixtures should be allowed to flow through the meter, otherwise errors and damage may result.



## Handling

Water meters are accurate measuring devices and although of robust construction should be treated with due care. The meters should remain within their protective packaging until the point of installation.

## Storage

Storage temperatures should remain within a range of 5 to 10°C, avoiding direct sunlight and heat.

## Installation

The meter may be connected to horizontal, vertical or inclined pipes. The installation should comply with BS5728 or BSEN14154, according to the appropriate meter type approval and respect all relevant local by-laws. Only approved sealing materials should be used for making pipe connections. The meter should be installed in a position to ensure it is fully flooded with clean cold water at all times, in a frost protected area. The meter should be accessible for ease of reading and should not be subjected to installation induced stresses or vibration. Failure to do so may result in meter damage and leakage occurring.

### **Earthing caution:**

National legislation and local rules in force concerning the use of water pipes for earthing shall always be consulted and adhered to. Where the meter installation forms part of the electrical earthing, in order to minimise the risk to operational staff, there shall be a permanent shunt for the water meter and its associated fittings.

To enable the meter to be removed it is recommended valves be fitted upstream and downstream of the meter, together with a drain cock between the meter and downstream valve.

## Meter Installation Instructions

1. Prior to installation of the meter, new or existing inlet and outlet pipework must be thoroughly flushed free of foreign material, using a make-up piece of pipe where the meter is to be fitted.
2. Install the meter with the flow direction arrow pointing in the direction of flow.
3. Tighten all meter couplings.

## Start-up procedure

### Commissioning:

The meter's measuring device may be damaged if subjected to full flow conditions prior to expelling air from the pipeline.

4. With the downstream valve open, slowly open upstream valve, until all air is expelled from the meter. Fully open the upstream valve once all the air has been expelled.
5. Observe that the register is responding to water throughput.
6. Close downstream outlet, (meter register should stop).
7. Check all connections for leaks.

## Installation Leakage

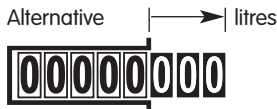
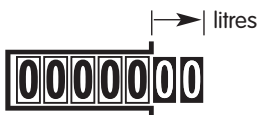
If the connections and fittings show signs of leakage, carry out start-up procedure again.

## How to read your meter

### Mechanical register:

The reading is from left to right.

Black numbers on white rollers denote cubic metres. White numbers on red rollers (or white numbers on black rollers, as is the case with InVISION) denote litres. (1000 Litres = 1 Cubic Metre).



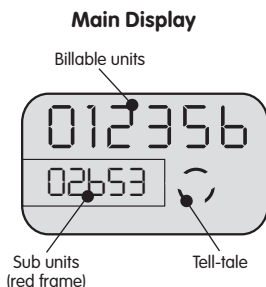
## Electronic register:

The reading is from left to right.

The main display of large digits indicates billable units in cubic metres.

The smaller digits, in the red frame, indicate sub-units.

(1000 Litres = 1 Cubic Metre)

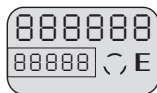


The Tell-tale signals that the meter is in measurement mode and can be activated by manual rotation of the register without water flowing.

The Tell-tale will continue to display for a short period after activation.

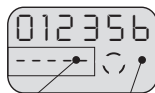
During normal operation, the display will periodically show a self-checking and alert status mode.

### Display: Self-checking mode



All of the display segments are temporarily activated for self-checking.

### Display: Alert status mode



An alert is signalled by an "E" in the alert flag field. The type of alert can be identified by the alert code. Refer to the operating instructions.

In the absence of an alert, the five dashes will be seen in the alert code field, as shown.

## Special installation and maintenance instructions for polymer bodied meters

In addition to the instructions given in this document, special consideration is required when installing and maintaining polymer bodied meters.

1. The meter installation site should be protected from frost, direct sunlight and away from heat sources.
2. The installation type and position should minimise the risk of chemical contamination through flooding or soil contact, or by run-off from adjacent surfaces or fittings.
3. Care must be taken to ensure that any chemicals used during the installation process, such as cleaning fluids or jointing fluxes, are not permitted to come into contact with the meter.
4. It is essential that stresses due to poor installation methods should not act across the meter body. Ensure the correct gap is provided in the pipework to fit the meter length. Ensure the upstream and downstream pipe connectors are aligned and sealing faces are parallel. Ensure upstream and downstream pipework is firmly anchored.
5. Polymer pipe connection pieces should be used. If brass connection pieces have to be used, they should be of a dezincification resistant (DZR) grade.
6. Only the provided connector seals should be used. The use of PTFE tape or sealing fluids may damage the meter.
7. For V110 and V200 polymer meters it is important that the foam washers, provided at the end of both connection threads, remain in place after installation.
8. The pipe connectors should be carefully threaded onto the meter by hand to avoid cross threading. The final tightening with a spanner should not exceed 20Nm, avoiding damage to, or loading across the meter body.

9. The meter connections must be completely water tight when the system is pressurised.
10. Once installed, the meter should not be painted or come into contact with chemicals such as household cleaning fluids.
11. When making repairs to pipework near to the meter installation, care should be taken to prevent damage to the meter, especially when using a heat source.

## **Health and Safety at Work Act 1974**

1. We wish to inform you that in accordance with Section 6 of the above Act, we take every care, as far as is reasonably practicable to ensure that our products are safe without risk to health when properly handled, transported, installed, used, maintained and disposed. However, as manufacturers and suppliers of a wide range of products, we would advise you that related information for these products will be found in the following literature.
  - Regulations (such as the COSHH Regulations, Manual Lifting Regulations, Personal Protective Equipment Regulations), British Standards and other applicable ISO and European Specifications and Codes of Practice, as applicable to the intended application of the products.
  - Regulations for electrical equipment of buildings (published by the Institution of Electrical Engineers).
  - Catalogues and product leaflets of this Company or literature which may be obtained by specific request to the Company.

2. It is important that the products concerned should be installed, handled, transported, commissioned and maintained by, or under the supervision of, competent persons in accordance with good engineering practice and:
  - IEE Regulations for the electrical equipment of buildings.
  - Regulations, British, European, ISO and other standards, specifications and Codes of Practice, as applicable to the intended application of products, i.e. Water Supply By-Laws.
  - Statutory Requirements.
  - Any instructions specifically advised by the Company and, where appropriate, with particular reference to information marked on the product. The product must only be used in the condition supplied or specified by the Company, without modification, and for the purpose for which it was designed.
3. In accordance with your statutory duties to employees and other persons, you are therefore requested to take such steps as are necessary to ensure that any appropriate information relevant to our products is made available by you to everyone concerned. The Company takes no responsibility for any failure to comply with the above guidelines.

## **Pressure equipment directive 97/23/EC**

This product is applicable in networks for the supply, distribution and discharge of water and associated equipment and is therefore exempt.

# Measuring instruments directive 2004/22/EC

This Declaration of Conformity applies to meters verified according to the directive and bearing the relevant CE verification mark.

## DECLARATION OF CONFORMITY

We, Elster Water Metering Limited, 130 Camford Way, Sundon Park, Luton, Bedfordshire, LU3 3AN hereby declare that the meter type:

**V100, V110 & V200**

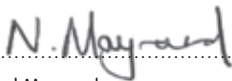
conforms, where applicable, to the following directives:-

**Measuring Instrument Directive 2004/22/EC**

**Electromagnetic Compatibility (EMC) Directive 2004/108/EC**

**RoHS2 DIRECTIVE 2011/65/EU**

**Signature:** .....



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**Date:** August 2014

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The Company's policy is one of continuous improvement and the right is reserved to modify the specifications without notice.

Leaflet ref. 8593C9780 Issue 9