

Weights and Measures Bulletin No. 1005 Version 1 (May 2012)

Advice on Flow Monitoring Equipment for Beer or Cider

Flow monitoring equipment for beer or cider are flow meters which measure continuous flow and therefore do not include “beer meters” which deliver fixed quantities of liquid and which are prescribed under the Weights and Measures Act.

The Weights and Measures Act 1985 regulates equipment in use for trade. The Act sets out when equipment is considered to be in use for trade (meaning of “use for trade” Part II, Section 7). Determining whether equipment is in use for trade can be a complex matter and there is considerable case law on the subject. For the purposes of enforcement, it is the responsibility of the appropriate Local Weights and Measures Authority to determine whether equipment is in use for trade on a case by case basis.

In order to assist Local Weights and Measures Authorities in reaching such decisions, NMO has considered the possible range of transactions for which flow monitoring equipment may be used. These are:

- (a) Transactions for the purchase of beer from the brewery;
- (b) Individual transactions for the purchase of beer by consumers; and
- (c) The payment of sums by publicans for having sold beer sourced otherwise than from the brewery to which the pub is tied.

(a) Transactions for the purchase of beer from the brewery

It is the understanding of NMO that flow meters are not currently used for the purposes of, or in connection with, the purchase of beer from the brewery. In these circumstances therefore it is unlikely the flow meter is in ‘use for trade’ in relation to this kind of transaction.

(b) Individual transactions for the purchase of beer by consumers

Where beer is drawn from taps, even table taps, in the pub this will cause measurements to be made by the flow monitoring equipment. However, in practice the equipment is not being used to determine the fixed quantity of beer (e.g. ½ pint) dispensed to consumers as such measurements may only be made using capacity serving measures or beer meters which are regulated under SI 2006 No.1264 and SI 1983 No. 1656 respectively. Therefore, it is not lawful for flow monitoring equipment to be used for determining the quantity of beer dispensed in individual transactions and as such the equipment cannot be used for trade for this purpose.

(c) The payment of sums by publicans for having sold beer sourced otherwise than from the brewery to which the pub is tied.

Payment of sums by a publican in respect of the sales of beer made in breach of a contract with a brewery do not appear to be transactions which involve ‘the transferring or rendering of money or money’s worth in consideration of money or money’s worth’. The publican receives nothing in return for the payment and it is in effect a payment by way of damages for loss of the brewery’s profits arising out of the publican’s breach of contract. It is possible that a payment may qualify as a transaction on the basis that it is the making of a “payment in respect of any toll or duty”. However, it is the view of NMO that having regard to the normal usage of the words “toll” and “duty” neither is appropriate to cover payments that publicans are required to make in respect of sales of beer made outside the terms of their contract. The word ‘duty’ is more apt to describe payments in the nature of tax and, in modern usage, ‘tolls’ are usually payments that are made for the provision of a facility or service.

Therefore, NMO is of the opinion that it is unlikely that, in practice, that flow monitoring equipment is in use for trade within the meaning of section 7 of the Weights and Measures Act in any of the circumstances set out above. This is because it is our understanding that the flow monitoring equipment is not being used for transactions as set out in (a) and (b) and that the payment of sums by a publican in respect of the illicit sales of beer as set out in (c) is unlikely to be considered to be a transaction made on the basis of quantity which involves the transferring or rendering of money or money’s worth in consideration of money or money’s worth. This position can however only be conclusively established by the Courts.

Should circumstances be such that flow monitoring equipment is considered to be in use for trade then, as flow monitoring equipment is not prescribed by regulation i.e. there are no equipment specific regulations, it would need to meet the generic provisions of the Weights and Measures Act.

Under section 17(1) it would be an offence for equipment to be false or unjust. It states *“If any person uses for trade, or has in his possession for use for trade, any weighing or measuring equipment which is false or unjust, he shall be guilty of an offence and the equipment shall be liable to be forfeited.”* In addition to not being false or unjust its use must not give rise to fraud under Section 17(3). For technical advice on what may constitute ‘false or unjust or fraud’ please refer to Annex 1.

Home or Primary Authority agreement

Where a company has a Home or Primary Authority agreement in place then it is strongly advisable to liaise with that Home or Primary Authority before undertaking any tests.

Local Government Advice

Local Government Regulation, LGR (previously LACORS) have issued two pieces of advice on this issue. The advice title and date of issue are as follows:

- ‘In line metering systems in public houses’ issued 16/10/2009

- 'Testing on in line metering systems in pubs' issued 25/10/2010.

Local Government Metrology Group

This advice has been agreed with the Local Government National Metrology Focus Group which includes representatives from Local Authority Trading Standards and the Trading Standards Institute.

Annex 1 Technical advice on what may constitute ‘false or unjust or fraud’ where flow monitoring equipment has been determined to be in use for trade

It is very important to consider both the measurement itself and the management of the data it produces. This is because while the meter itself could be sufficiently accurate, it is possible that the measurement results produced by that meter could be corrupted or be fraudulently manipulated. In other words, any transfer of data within the measuring system must be secured.

What could constitute false or unjust equipment or fraud?

Factors to be considered include whether the equipment is inaccurate or has features likely to facilitate fraudulent use.

This ultimately would be for the courts to decide. However, although these instruments are not prescribed, the Measuring Instruments Directive (MID) – Annex MI-005 relating to ‘Dynamic measuring systems for liquids other than water’, and the UK regulations on beer meters and capacity serving measures could provide indicative guidance on the magnitude of errors that might be expected if flow monitoring equipment was legally controlled. In relation to dynamic measuring systems for liquids other than water, the instrument would be required to have a secure indication of the measurement result. The instrument must be such that influence factors such as temperature and humidity and electrical disturbances do not affect the metrological performance or corrupt metrological data. In addition the meter should only meter liquids and not gases (i.e. it should have an effective gas elimination device), and it should not be capable of measuring reverse flow unless any reverse flow was correctly detected, indicated and/or recorded so that any measurement could be corrected.

If the equipment were to be prescribed it would be covered by the MID under Annex MI-005 ‘Dynamic measuring systems for liquids other than water’ and the prescribed limits of error would be those in MI-005 section 2.1 table 2. The accuracy class for use in the UK would be defined by the (implementing) regulations, and would likely be class 0.5. The applicable limits of error are $\pm 0.5\%$. These limits of error apply to quantities of 2 litres or more. For smaller quantities the values determined under MI-005 section 2.2 table 3 would apply. As the MID does not specify in service limits, these would also be defined in the regulations, and are likely to be twice the initial limits of error. The initial limits of error are $\pm 1\%$ for a Pint delivery and $\pm 1.4\%$ for a $\frac{1}{2}$ Pint delivery so therefore the in service limits of error for a Pint delivery would be $\pm 2\%$ and $\pm 2.8\%$ for a $\frac{1}{2}$ Pint delivery.

In comparison, the UK regulations covering beer meters have in service limits of $+1\%$ and -0.5% .

For capacity serving measures, the limits of error for line measures are $\pm 3.38\%$ for 1 Pint and for brim measures are -0% and $+6.76\%$ for 1 Pint.

In addition to the basic accuracy, when determining whether equipment is ‘false or unjust’ due consideration should be given to whether the data, data transfer and

processing is secure and accurate and whether the meter will measure gases or reverse flow.

Testing method

Note: this method may not be required for flow monitoring devices that provide a local display or printout of volume.

Testing this type of equipment is extremely difficult as it is the totality of the operation which one is seeking to validate and not just the accuracy of the meter itself.

When testing is carried out, a person will be required on site where the meter is located to perform the deliveries and another person at the location where the readout is obtained. This is the only way to ensure the integrity of the results.

An easier check, without the need for the second person at the readout location, would be to make the deliveries and then afterwards contact the company to whom the equipment belongs, explain that testing has been carried out and request a copy of their readout for this time period without telling them what deliveries had been made. This method would not provide full integrity of results as it would rely on the company providing the correct results for the time period of the test. This test could be used to test the accuracy of the meter but would not assess fully any subsequent data handling.

A third way would be to contact the company prior to testing and request the results at the time of test prior to the event. This would of course alert the company to the fact that tests were about to be carried out so the integrity of the results could be impaired. Again this test could be used to test the accuracy of the meter but would also not assess fully any subsequent data handling.

All of the above testing methods will require the co-operation of the company to whom the meter belongs, or the use of enforcement powers, as the instrument read out is at their premises.

Document Control

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