

TC: TEMPERATURE COMPENSATION IN HUNGARY

Changes in legal metrology after EU entry

In order to ease readout, gas meters in Hungary are generally installed outside buildings. Until 1990, the end of Communism in Hungary, almost all of the meters were installed without a temperature compensation (TC) function. High metering accuracy was not absolutely necessary because gas, electricity and water were subsidised by the State and were often charged at a flat rate, as part of the rent, and very rarely according to consumption.

After 1990, the supply of energy was privatised. Many of the new investors came to Hungary from Germany and Austria. Both end-users and suppliers started to pay more attention to the exact measurement of the consumption in order to guarantee that the invoices were also accurate. A study commissioned by one utility showed that using meters without TC led to a loss of 4.5% a year for the gas suppliers compared with using meters including TC. This comes from the fact that in winter the consumption is much higher for heating purposes and, since the meters are installed outside, the gas temperature is much lower than the legally fixed billing temperature. A 4.5% discrepancy in the gas volume means a 12.5° discrepancy in the weighted gas temperature compared with the billing temperature. Only TC technology guarantees that the measurement is not dependent on the ambient or gas temperature of the consumed gas because the displayed volume has already been converted to the reference temperature of 15°C.

As a result of this, the traditional meters in Hungary were all replaced by meters including TC. The number of TC meters imported into Hungary increased year by year. At the beginning, the annual total amounted to 20,000 units and in the year 2001, the total exceeded 100,000 for the first time.

In accordance with Hungarian test regulations, the initial calibration of TC meters is currently carried out at the manufacturer's premises, for example by Kromschroder at their Lotte factory near Osnabrück. In the course of this initial calibration process the meters are badged with the Hungarian national badge.

Since Hungary joined the EU in May 2004, normal meters with an EU approval and EU badge can be imported into Hungary and used immediately for billing purposes. TC meters, however, must still be calibrated by the Hungarian calibration authorities at the place of manufacture. Since there is not yet

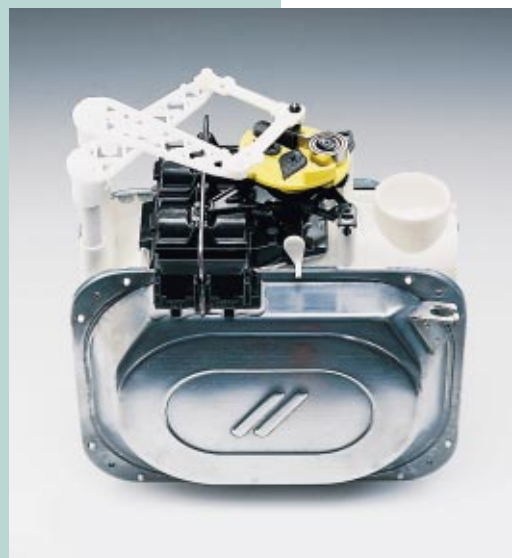


Fig. 1: TC bimetal element of the Kromschroeder BK-G4



Fig. 2: Measuring unit of a BK-G4 with TC

any EU directive in place covering TC meters, the approval and the initial calibration must be carried out in accordance with the relevant national regulations. This will change once the Measurement Instruments Directive (MID) has been introduced. This will pave the way for a pan-European approval system for TC meters, meaning that all of the 'named centres' will be able to issue approvals for TC meters. Gas meter manufacturers will then declare compliance with the MID regulations by attaching the CE sticker to their products and can then sell their meters in every EU member country.

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