

Working Group 5 - Joint Project 2021

## **Household gas meters**

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### **Public version**

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## 1. Justification of the project

Market surveillance is vital to the smooth functioning of the Single Market. It is essential in protecting European consumers and workers against risks presented by non-compliant products. In addition, market surveillance helps to protect responsible businesses from unfair competition by unscrupulous economic operators who ignore the rules or cut corners. It should also act as a powerful deterrent.

But market surveillance in a context like the European one, needs a coherent and common approach from all Member States, and coordination between the different enforcement authorities to detect, identify and remove from the market any non-compliant product, regardless of in which Member State that product is found. If that is not the case, the “faulty” products will inevitably end up in markets where the Member State’s market surveillance is less strong and efficient.

This approach is applicable to all products with a harmonised European legislation, and among them, the measuring instruments regulated by Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (MID).

Aware of this, the national legal metrology authorities gathered at WELMEC (European Cooperation in Legal Metrology) created a specific Working Group (WG5 Metrological Supervision) inside this WELMEC organization concerning market surveillance.

One of the main objectives of this group is to coordinate market surveillance and surveillance activities, to improve the coordination of the practical enforcement work, and to promote equivalent, effective and sufficient levels of metrological supervision across Europe, and thus achieve a level playing field for economic operators and an equal level of consumer protection across the EU.

With this goal in mind, encouraged by the European Commission, the WELMEC Committee and their national authorities, the members of WELMEC WG5 decided in 2020 to design and implement a European joint action concerning household gas meters.

The reason for this choice was that, according to the “*Report on the implementation of the Measuring Instruments Directive 2004/22/EC pursuant to its Article 25*”, elaborated by the Commission for the European Parliament and the Council in June 2011 (COM(2011) 357 final), around 6,9 million gas meters are sold annually in the EU. This implies that this kind of instruments represents around 12.6 % share of the measuring instruments EU market.

These meters are installed all around the Common Market and are mandatory for billing proposes so the presence and installation of gas meters that don’t comply with the MID could have a tremendous impact on the consumer confidence in the control system, severely damaging the regional, national and European institutions involved in consumer protection and market surveillance.

Aware of the importance of this kind of actions and the fact that the project included the performance of tests in an external facility, the WELMEC Committee decided to give an important financial support to the initiative, meeting the costs of these tests.

## 2. Objectives of the project

The main objectives of the project were as followed:

1. To carry out a joint enforcement action in the participant Member States to verify that the utility meters put onto the EU market comply with the provisions of Directive 2014/32/EU.
2. To enhance the efficiency and effectiveness of the market surveillance system concerning measuring instruments in Europe.
3. To improve the coordination of the practical enforcement work carried out in relation to measuring instruments in Europe to promote equivalent, effective and sufficient levels of metrological supervision across Europe, and thus achieve a level playing field for economic operators and an equal level of consumer protection across the EU.
4. To strengthen the confidence of EU citizens in the national and European market surveillance systems.

5. To promote and organise the exchange of information and guidance on market surveillance concerning measuring instruments in Europe, especially emphasising the use of the internet-supported information and communication system for the pan-European market surveillance application (ICSMS).
6. To show manufacturers, importers and different stakeholders involved in the energy sector that Member States are taking coordinated actions of market surveillance in this particular field.
7. To demonstrate the usefulness and applicability of the guidance documents published by WELMEC and encourage their use in order to establish a common interpretation of market surveillance provisions included in the MID.
8. To promote the use of risk assessment in the definition and implementation of market surveillance programmes in Member States.
9. To promote consistency of interpretation and application of normative documents in Europe and propose actions to facilitate implementation.
10. To identify specific technical or legal problems that can arise while carrying out a market surveillance project concerning measuring instruments and propose solutions to those problems.

### 3. Participants

The following eight market surveillance authorities participated in the project, which was coordinated by Slovenia, Spain and Switzerland:

Participant name	Country	Population affected (MMp)
Bundesamt für Eich- und Vermessungswesen	Austria	8,9
DG Quality and Safety	Belgium	11,6
Czech Trade Inspection	Czech Republic	10,7
Directorate of Technical Industrial Legislation	Greece	10,7
Radiocommunications Agency, Ministry of Economic Affairs and Climate Policy	The Netherlands	17,5
Metrology Institute of the Republic of Slovenia	Slovenia	2,1
Consejería de Economía, Hacienda y Empleo de la Comunidad de Madrid	Spain	47,4
Federal Institute of Metrology	Switzerland	8,7
		117,6

### 4. Description of the project

A market surveillance action can consist of different levels of control depending on the approach the enforcement authority wants to apply. This can vary from a formal check or documentary control to a full evaluation.

In this particular case, the market surveillance action consisted in a full evaluation control including the performance of some tests in a laboratory.

In order to design and implement the joint action, the following regulations, guidelines and harmonised standards were used:

1) Regulations:

- Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments.

- Regulation (EC) N° 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93.
  - Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011
- 2) Harmonised standards and normative document of MID-Annex MI-002:
- EN 1359:1998/A1:2006 - "Gas meters - Diaphragm gas meters".
  - OIML R137 (2012) – "Gas meters".
- 3) Guides and recommendations:
- WELMEC Guide 5.2 "Market Surveillance Guide (NAWI and MID)" (2015 edition).
  - WELMEC Guide 5.3 "Risk Assessment Guide for Market Surveillance: Weigh and Measuring Instruments".
  - The 'Blue Guide' on the implementation of EU product rules (2016 edition).

In general, the action was to be carried out choosing two different types of gas meters for residential use in each participant's country, even though, in some cases, it was not possible to choose more than one instrument. The reason for this situation was that some of the initially selected gas meters were on the common market under different brands and so that led to a situation where the same type was selected by more than one participant. It was not until those participants have examined the EU-Declaration of Conformity that they were able to detect that type was already chosen by someone else. That provoked that some participants could only test one type as one of the basic rules was that double testing (testing the same type by more than one participant) should be avoided.

For every selected type of meter, each participant acquired three samples that were the object of the general controls and instrument-specific test listed below:

- I. General controls:
  - Formal checks/documentation control.
  - Check of the suitable securing of the instrument, the necessary markings and inscriptions and the software version installed (if applicable).
- II. Tests:
  - Determination of accuracy error, according to point 5.1 of EN 1359:1998/A1:2006.

The scope of each control and test was uniform for all participants, this being guaranteed by the definition of a common protocol approved by all the participants and by the selection of the same laboratory to perform all the tests, the Laboratory of the Landesbetrieb Mess-und Eichwesen NRW in Dortmund, Germany.

The results from all these tests were put together and discussed with the rest of the participants that helped each other to determine if the selected instruments presented a non-conformity.

In a case where non-conformities were detected, the affected participant handled the issue using its national legal procedures, but was able to share information and ask for advice to other participants.

The joint project took place between October 2020 and May 2022, when this final report was presented to the members of WELMEC WG5.

## 5. Results

Nine different types of meters of eight different manufacturers were examined and tested in the Landesbetrieb Mess-und Eichwesen NRW laboratory. Eight of them were size G4 and the other one was G6. Their accuracy class was, in all cases, 1,5. Seven of the meter types examined measured the volume at metering conditions, while the other two did that with temperature and pressure conversion.

Concerning the conformity assessment procedure used to put them into the market, all of them had undergone a module B + module D.

	<b>Number</b>
Participants	8
Instruments in the project	9
Manufactures	8
Notified Bodies for module B	5
Notified Bodies for module D	5
Test laboratories	1

*Table 1: General figures*

Of the nine gas meter types that were examined, only two presented some non-conformity and, in both cases, it was a formal one. In the first case, the information about the maximum admissible gauge pressure was missing in the instrument. In the second, the EU Declaration of conformity did not include the EU-type examination certificate number and the maximum working pressure ( $p_{max}$ ) marked on the meter was not the same as the one declared in the EU-type examination certificate. On the other hand, all the meters tested passed the metrological tests in the laboratory successfully, so no mayor problems were detected during the project.

It must be mentioned that even though the nine meter types examined were produced by eight different manufacturers (see table below) and had different EU-type examination certificates, some of this EU-type examination certificates had exactly the same images and drawings. This suggests that some of them are exactly the same meter type produced by only one original manufacturer but put into the market under different brands.

<b>Manufacturer</b>	<b>Meters examined</b>	<b>%</b>
Manufacturer 1	2	22,3%
Manufacturer 2	1	11,1%
Manufacturer 3	1	11,1%
Manufacturer 4	1	11,1%
Manufacturer 5	1	11,1%
Manufacturer 6	1	11,1%
Manufacturer 7	1	11,1%
Manufacturer 8	1	11,1%
<b>Total</b>	<b>9</b>	

*Table 2: Manufacturers of the examined meters*

Concerning the five notified bodies involved in the conformity assessment procedures used by the manufacturers of the examined meters, the following tables show that nearly 50% of the EC-type examination certificates were issued by the same notified body, leading the ranking in the nine cases examined. On the other hand, modules D were being supervised by six notified bodies, with notified body number 1 performing again an important proportion of meters (33,3%).

<b>Notified Body</b>	<b>Meters examined</b>	<b>%</b>
Notified body 1	4	44,5%
Notified body 2	2	22,2%
Notified body 3	1	11,1%
Notified body 4	1	11,1%
Notified body 5	1	11,1%
<b>Total</b>	<b>9</b>	

*Table 3: NoBo involved in modules B*

<b>Notified Body</b>	<b>Meters examined</b>	<b>%</b>
Notified body 1	3	33,3%
Notified body 2	2	22,2%
Notified body 3	1	11,1%
Notified body 5	1	11,1%
Notified body 6	1	11,1%
Notified body 7	1	11,1%
<b>Total</b>	<b>9</b>	

*Table 4: NoBo involved in modules D*