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WELMEC

Informative Document

Project for market surveillance of water meters (2019 – 2020)

Prepared by
Working Group 5 Metrological Supervision

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Executive summary of the Project in Market Surveillance of Measuring Instruments 2019-2020 - Water meters

Participants

Coordinators:

- Emil Nikolov (State Agency for Metrological and Technical Surveillance (SAMTS) – Bulgaria - emil.nikolov@damtn.government.bg
- Jorge Iñesta (General Directorate for Industry, Energy and Mines (DGIEM) – Spain – jorge.inesta@madrid.org

Participants:

- Bulgaria
- Finland
- France
- Germany
- Norway
- Slovenia
- Spain

Justification of the project

- 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 eighteen million water meters are sold annually in the UE. This implies that this kind of instruments represents around 13.8 % share of the measuring instruments UE market.
- These meters are installed all around the UE and are mandatory for billing proposes in most of them, so the presence and installation of water 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.

Purposes of the project

- to gather knowledge on water meters on the market;
- to verify that the water meters put into the EU market fulfil the MID- requirements;
- to show the manufactures, importers, and different stakeholders involved that the Member States are taking coordinated actions of market surveillance in this particular field; to strengthen the confidence of the EU citizens in the national and European market surveillance systems

Methodology of the project

1) In general, two different types of water meters for residential use ($Q_3 \leq 25\ m^3/h$) in each country. In order to choose them, the following criteria were used:
   - number of meters sold annually;
   - complains received;
   - experience acquired in inspection in use actions;
   - experience acquired in past market surveillance projects.
2) At least one sample of each type was acquired in the premises of one or two of the following: Manufacturers; EU importers; national importers; wholesaler; retail; internet business; suppliers warehouse.

Methodology of the project

3) Each sample was object of the following tests and exams:

   a) Formal checks/documentation control.

   b) Check of the necessary seals and of the software version installed.

   c) Laboratory testing for determination of intrinsic errors (of indication), according to point 5.3 of EN 14154-3:2005+A2:2011

As some countries had difficulties acquiring the samples or testing them, it was also possible to join the project and perform only the exams described in paragraphs a) and b).

Rules and standards relevant to the project

Regulations:

- Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of measuring instruments.
- Regulation (EC) nº 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

Harmonised standards:

- EN 14154-1:2005+A2:2011 “Water meters - Part 1: General requirements”;
- EN 14154-3:2005+A2:2011 “Water meters - Part 3: Test methods and equipment”;

Rules and standards relevant to the project

Normative documents:

- R49-1 (Edition 2006) “Water meters intended for the metering of cold potable water and hot water - Part 1: Metrological and technical requirements”;
- R49-2 (Edition 2004) “Water meters intended for the metering of cold potable water - Part 2: Test methods”.

Guides and recommendations:

- WELMEC Guide 5.2 «Market Surveillance Guide (NAWI and MID)»
- WELMEC Guide 5.3 «Risk Assessment Guide for Market Surveillance: Weigh and Measuring Instruments»

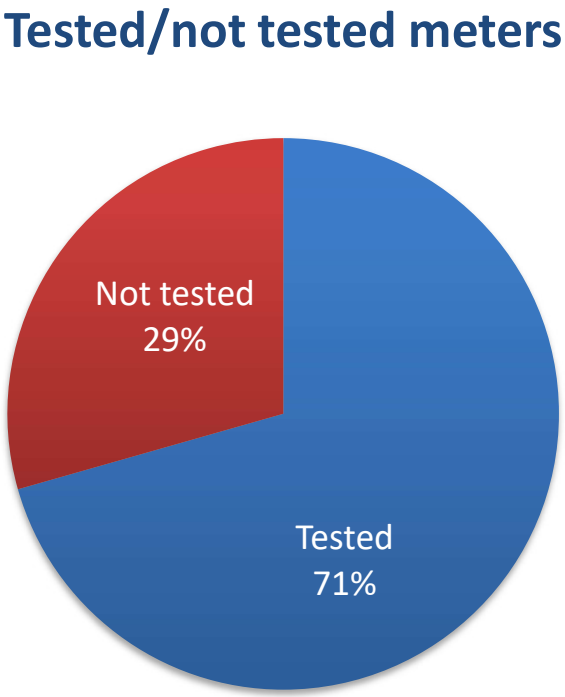
Timetable

16-17 May 2019:	Project presentation.
1 June 2019:	Project start.
June 2019 – Jan. 2020:	Carry out project.
February 2020:	Send results to the Project leader.
May meeting 2020:	Presentation of preliminary results.
May meeting 2021:	Final results and actions taken.

Situation in the different countries

Laboratory tests	
Country	**Performed**
Spain	Yes
Slovenia	Yes
Norway	Yes
Germany	Yes
France	2/5
Finland	Yes
Bulgaria	No

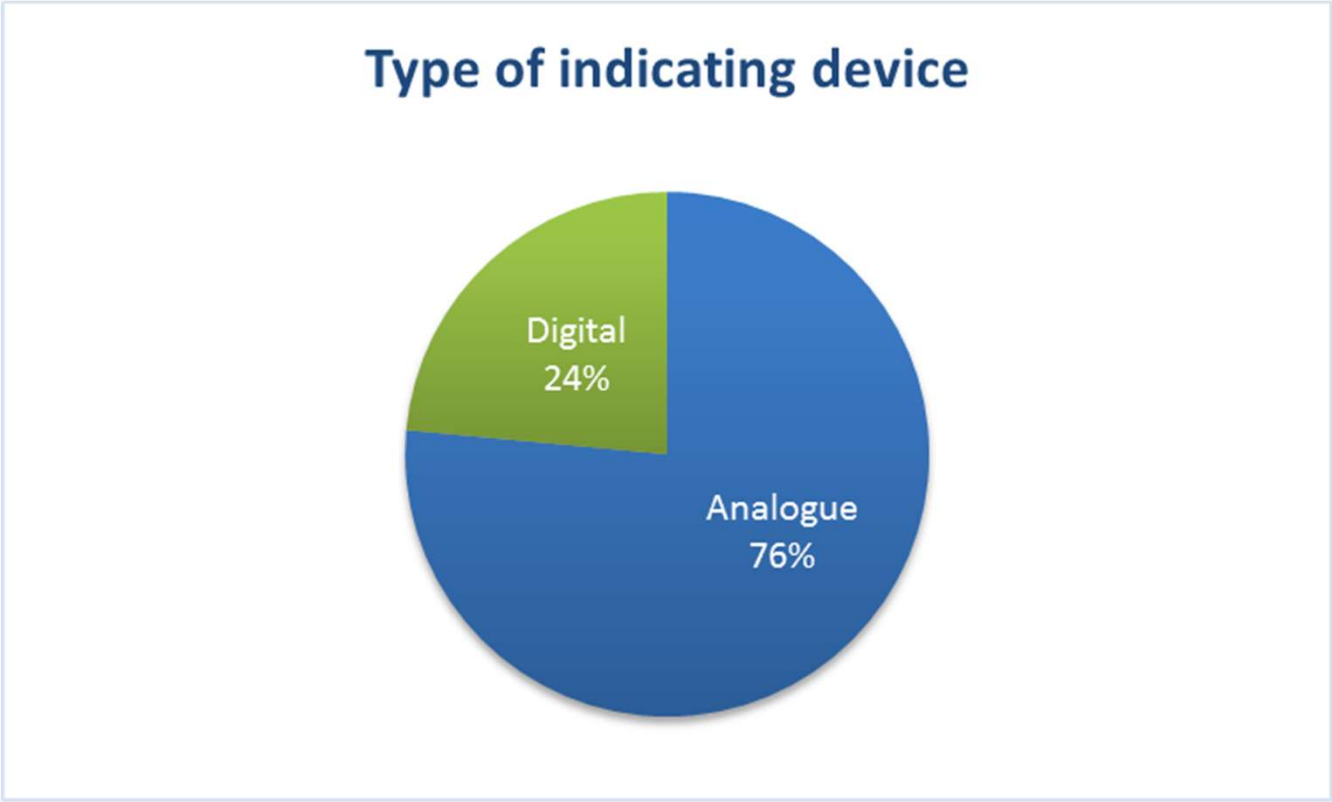
Laboratory tests



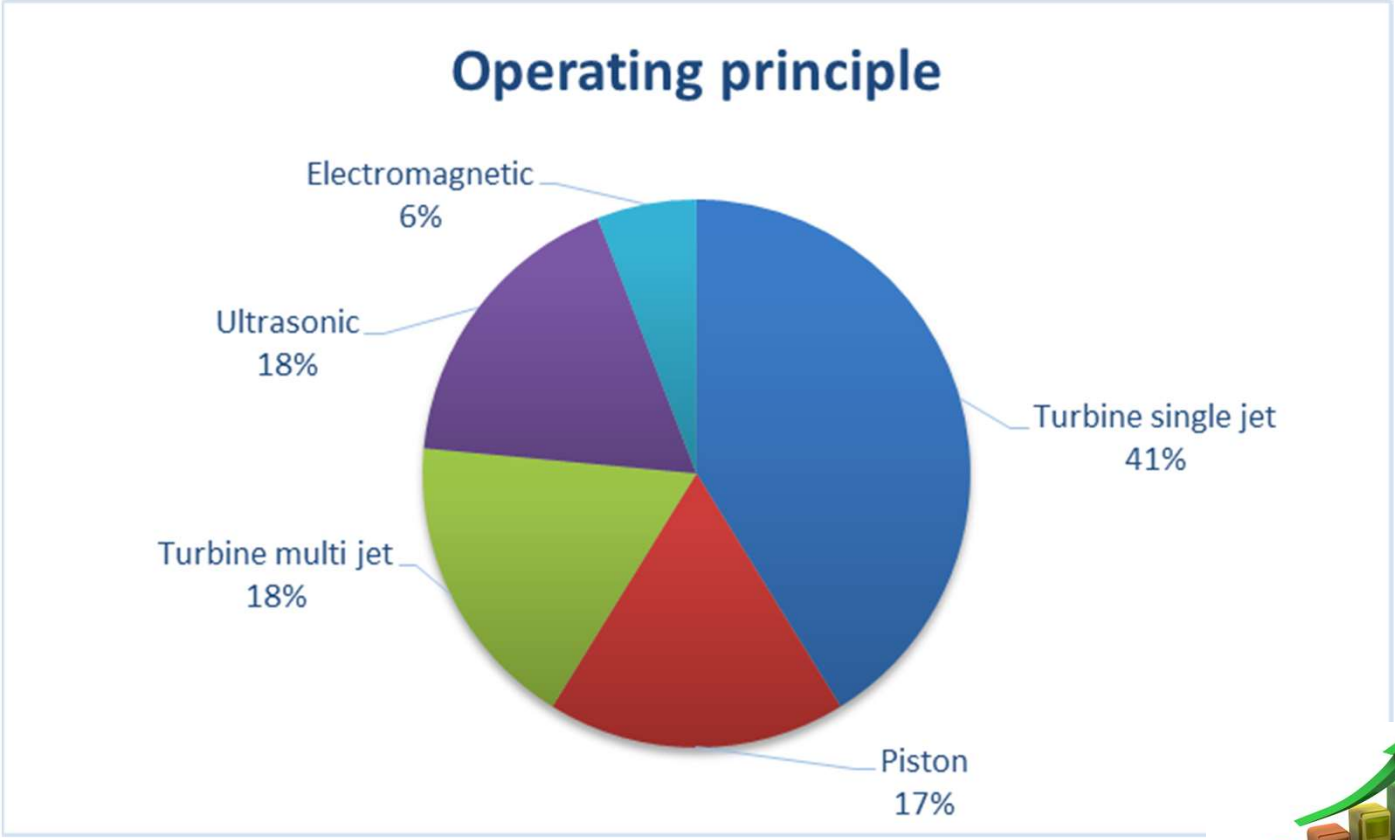
Type of meters under inspection

Permanent Flowrate (Q_3)	Total	%
2,5 m^3/h	7	41,2%
4 m^3/h	6	35,2%
10 m^3/h	2	11,8%
16 m^3/h	2	11,8%
TOTAL	**17**	**100%**

Type of meters under inspection



Type of meters under inspection



Manufacturers

Manufacturer	Total	%
Manufacturer 1	5	29,4%
Manufacturer 2	2	11,8%
Manufacturer 3	1	5,9%
Manufacturer 4	1	5,9%
Manufacturer 5	1	5,9%
Manufacturer 6	1	5,9%
Manufacturer 7	1	5,9%
Manufacturer 8	1	5,9%
Manufacturer 9	1	5,9%
Manufacturer 10	1	5,9%
Manufacturer 11	1	5,9%
Manufacturer 12	1	5,9%
TOTAL	**17**	**100%**

Notified bodies (Module B)

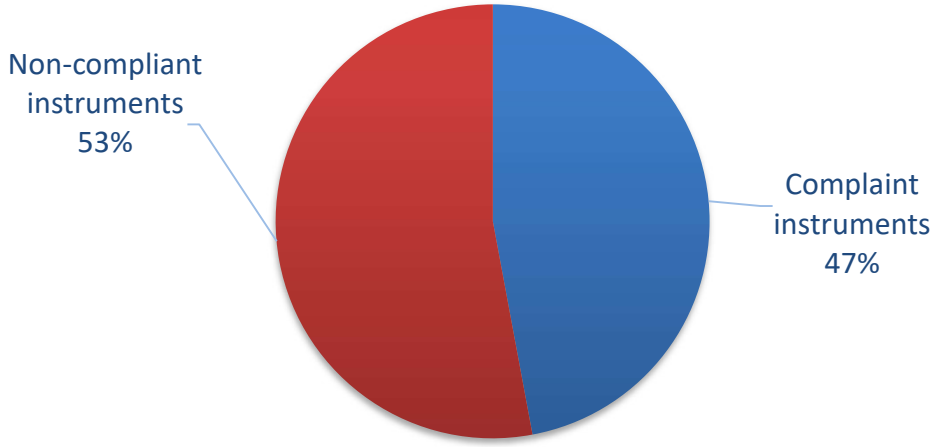
Notified Body	Total	%
Notified Body 1	5	29,4%
Notified Body 2	3	17,6%
Notified Body 3	2	11,8%
Notified Body 4	2	11,8%
Notified Body 5	2	11,8%
Notified Body 6	1	5,9%
Notified Body 7	1	5,9%
Notified Body 8	1	5,9%
TOTAL	**17**	**100%**

Notified bodies (Module D)

Notified Body	Total	%
Notified Body 1	5	29,4%
Notified Body 2	3	17,6%
Notified Body 3	2	11,8%
Notified Body 4	2	11,8%
Notified Body 5	1	5,9%
Notified Body 6	1	5,9%
Notified Body 7	1	5,9%
Notified Body 8	1	5,9%
Notified Body 9	1	5,9%
TOTAL	**17**	**100%**

Results

	Number	%
Instruments in the project	17	
Non-compliant instruments	9	52,9%
- Formal aspects	8	47,1%
- Functional aspects	1	5,9%
- Sealing aspects	1	5,9%



Formal non-conformities

Non conformity	Total	%
It is not specified whether or not water meter is designed to measure reverse flow (*)	5	29,4%
EU DoC is not supplied with the meter	4	23,5%
Formal defects in the EU DoC (NoBo of module D missing, incorrect versión of the harmonised standard or normative document referenced, not signed…)	4	23,5%
Instruction manual is not supplied with the meter	2	11,8%
CE marking in a removable sticker	1	5,9%

(*) Section 8.2, Annex III of MID:
"The manufacturer shall specify whether the meter is designed to measure reverse flow. In such a case, the reverse flow volume shall either be subtracted from the cumulated volume or shall be separately recorded. The same MPE shall apply to both forward and reverse flow".

Other non-conformities

Functional aspects:

- One of the meters failed the determination of intrinsic errors test at Q_1 and Q_2 in horizontal position.

Sealing aspects:

- The manufacturer of one of the meters had changed the way to seal it without previous communication and acceptance of the NoBo.

Actions taken

Formal aspects:

- All the Formal non-conformities were accepted by the affected manufacturers and corrected on a voluntary base. No mandatory action was needed in any of the cases.

Functional aspects:

- The manufacturer accepted to change the flowrate on a voluntary base. No mandatory action was needed.

Sealing aspects:

- The manufacturer took action to correct the non-conformity on a voluntary base. No mandatory action was needed.

Recommendations for manufacturers

According to the results of the joint project and the non-conformities found in some of the meters, the following recommendations are done to the manufacturers:

1) The EU Declaration of conformity of water meters must include all the information indicated in model structure set out in Annex XIII of MID. Please, stick to the template indicated in that annex and do not forget to include any information (e.g. NoBo participating in module D).
2) Manufacturers shall ensure that the measuring instrument which they have placed on the market is accompanied by a copy of the EU Declaration of conformity and by instructions and information in accordance with article 8 No. 7 and point 9.3 of Annex I of MID.
3) According to point 8.2, Annex III of MID, manufacturers should clearly inform the potential buyer of a water meter whether or not the meter is designed to measure reverse flow (e.g. a possible solution could be to include this information in the instruction/installation manual).

Recommendation for notified bodies

According to the results of the joint project and the non-conformities found in some of the meters, the following recommendation is done to the notified bodies:

1) According to point 8.2, Annex III of MID, manufacturers shall specify whether the meter is designed to measure reverse flow. To incorporate this information in the EU-type/EU-design examination certificates would be desirable.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