

**ORDER No.77**  
**for approval of the Official List of Measuring Instruments subject to**  
**legal metrological control L.O. — 2022**

In accordance with Government Decision No 193/2002 on the organisation and functioning of the Romanian Bureau of Legal Metrology, as subsequently amended and supplemented, and Government Decision No 1016/2004 on measures for the organisation and exchange of information in the field of technical standards and regulations and the rules on Information Society services between Romania and the Member States of the European Union, as well as the European Commission, as amended,

According to Ordinance No 20/1992 regarding metrological activities, approved with amendments by Law No 11/1994, with its subsequent amendments and additions,

The Director General of the Romanian Bureau of Legal Metrology, appointed by Order No 1195/02.08.2021 of the Minister of Economy, Entrepreneurship and Tourism issues the following

**ORDER**

Article 1 The official list of measuring instruments subject to legal metrological control L.O. - 2022 as set out in the Annex forming an integral part of this Order is hereby approved.

Article 2 This Order shall be published in the Official Journal of Romania, Part I, and shall enter into force 90 days after the date of publication.

Article 3 On the date of entry into force of this Order, Order No 148/2012 of the Director General of the Romanian Bureau of Legal Metrology approving the official list of measuring instruments subject to legal metrological control L.O. - 2012, published in the Official Journal of Romania, Part I, No 361 of 29 May 2012, with subsequent amendments and additions, is repealed.

**DIRECTOR GENERAL,**

**Roberta TODOR**

Bucharest, issued today 15.03.2022

## OFFICIAL LIST of measuring instruments subject to legal metrological control L.O. — 2022

Article 1. - This document establishes, in accordance with the provisions of Government Ordinance no. 20/1992 on metrological activities, approved with amendments by Law no. 11/1994, as subsequently amended and supplemented, the categories and assortments of measuring instruments subject to legal metrological control presented in tabular form, the methods of legal metrological control applicable to them, as well as the maximum permissible intervals between two successive verifications.

Table  
Categories and assortments of measuring instruments subject to legal metrological control

Crt. No	Categories		Assortments		Control methods	Frequency (years) <sup>1)</sup>
	Pos.	Name	Pos.	Name		
0	1	2	3	4	5	6
1	L3	Electronic equipment for measuring round timber	L3-1	Electronic equipment for measuring round timber <sup>2)</sup>	AM;VI;VP	2
2	L7	Material measures of length <sup>3)</sup>	L7-1	Graduated rulers for measuring the length of fabrics <sup>4)</sup>	VP	2
			L7-2	Graduated rulers for measuring tank levels <sup>4)</sup>	VP	2
			L7-3	Measuring tapes and ribbons <sup>4)</sup>	VP	2
3	L14	Dimensional measuring instruments <sup>3)</sup>	L14-1	Length measuring instruments <sup>4)</sup>	VP	2
			L14-2	Area measuring instruments <sup>4)</sup>	VP	2
			L14-3	Multidimensional measuring instruments <sup>4)</sup>	VP	2
4	L15	Instruments for measuring the level of liquids	L15-1	Instruments for measuring the level of liquids in fixed storage tank <sup>5)</sup>	AM; VI VP	2
5	L21	Liquid volume measures <sup>3)</sup>	L21-2	Liquid volume measures used in direct liquid sales <sup>4)</sup>	VP <sup>6)</sup>	1
6	L25	Tanks	L25-1	Tanker trucks <sup>5)</sup>	AM; VI <sup>7)</sup> ;VP <sup>7)</sup>	6
			L25-2	Tank wagons <sup>5)</sup>	AM; VI <sup>7)</sup> ;VP <sup>7)</sup>	6
7	L28	Liquid storage tanks	L28-1	Liquid storage tanks, other than those for liquefied gas	VI <sup>7)</sup> ;VP <sup>7)</sup>	12
8	L30	Continuous and dynamic measuring systems of liquid quantities, other than water <sup>3), 8)</sup>	L30-1	Quantity measurement systems of liquids other than water up to DN 400 mm, including: - measurement systems installed on pipes - measurement systems installed on tanker trucks - measurement systems installed on tank wagons - measurement systems used in loading/unloading ships, tanker trucks and tank wagons - measurement systems for milk; - measurement systems for aircraft refuelling - measurement systems for liquefied combustible gases (other than fuel distribution devices) - measurement systems for AdBlue - measurement systems for alcohol quantities	VP	3
			L30-2	Meters for liquids, other than water, up to and including DN 400 mm	VP	3
			L30-3	(Flow) computers for liquid quantity measurement systems, other than water	VP	3
			L30-4	Fuel dispensers <sup>4)</sup>	VP	1
			L30-5	Pressure transducers for liquid quantity measurement systems, other than water	VP	3
			L30-6	Temperature transducers (heat resistance)/temperature adapters for liquid quantity measurement systems, other than water	VP	3
			L30-7	Flow transducers for measuring systems for liquid quantity measurement systems, other than water	VP	3
			L30-9	Density transducers for liquid quantity measurement systems, other than water	VP	3

0	1	2	3	4	5	6
9	L32	Water meters <sup>3)</sup>	L32-1	Clean cold water meters up to and including DN 200 mm <sup>9)</sup>	VP	7
			L32-2	Clean hot water meters up to and including DN 200 mm <sup>9)</sup>	VP	4
10	L33	Gas meters <sup>3)</sup>	L33-5	Volume conversion devices <sup>9)</sup>	VP	8
			L33-6	Gas meters with maximum flow up to and including 2500 m <sup>3</sup> /h, <sup>9) 10)</sup>	VP	8
11	L37	Measurement systems of gas fuel quantities <sup>8)</sup>	L37-2	Diaphragm measurement systems of gas fuel quantities, including their subassemblies <sup>11)</sup>	AM;VI;VP	2
			L37-11	Measuring systems of gas quantities, with a maximum flow rate up to and including 2500 m <sup>3</sup> /h, other than those in position L37-2, including their subassemblies <sup>12)</sup>	VP	8
12	L44	Traffic speed measuring devices of motor vehicles (Cinemometers)	L44-1	Traffic speed measuring devices of motor vehicles (Cinemometers)	AM;VI;VP	1
13	L45	Speed measuring installations of locomotives and metro frames	L45-1	Speed measuring installations of locomotives and metro frames <sup>13)</sup>	AM;VI;VP	1
14	L48	Taxi meters <sup>3)</sup>	L48-1	Electronic taximeters <sup>4)</sup>	VP	1
15	L49	Working weights	L49-1	Weight class E2, F1, F2, M1, M2, M3	VI/VI-EEC;VP	1
16	L51	Instruments for measuring the hectolitre cereal mass	L51-2	1 litre grain balance <sup>5)</sup>	AM;VI;VP	1
17	L52	Non-automatic weighing instruments <sup>14)</sup>	L52-1	Non-automatic weighing instruments <sup>15)</sup>	VP	1
18	L53	Automatic weighing instruments <sup>3)</sup>	L53-1	Automatic sorting - labelling instruments <sup>4)</sup>	VP	1
			L53-2	Continuous Totalisers <sup>4)</sup>	VP	1
			L53-3	Discontinuous Totalisers <sup>4)</sup>	VP	1
			L53-4	Automatic gravimetric dispensers <sup>4)</sup>	VP	1
			L53-5	Rail bridge scales with automatic operation <sup>4)</sup>	VP	1
19	L55	Running weighing installations for road vehicles	L55-1	Running weighing installations for road vehicles	AM;VI;VP	1
20	L59	Brake-testing equipment for road vehicles	L59-1	Brake-testing equipment for road vehicles	AM;VI;VP	1
21	L62	Manometers	L62-3	Manometers for measuring tyre pressure in motor vehicles	AM;VI/VI-EEC;VP	1
22	L73	Thermal energy meters <sup>3)</sup>	L73-1	Thermal energy meters, up to DN 200 mm	VP <sup>17)</sup>	4
			L73-2	Computers for thermal energy meters <sup>4)</sup>	VP	4
			L73-3	Heat resistance pairs for thermal energy meters <sup>4)</sup>	VP	4
			L73-4	Flow transducers for thermal energy meters up to DN 200 mm <sup>4)</sup>	VP	4
23	L75	Open circuit thermal energy meters <sup>9)</sup>	L75-1	Open circuit thermal energy meters up to DN 200 mm, including subassemblies <sup>18); 19)</sup>	AM;VI;VP	4
24	L79	Measuring transformers	L79-1	Voltage transformers for the measurement Speed measuring installations of locomotives and metro frames (U <sub>m</sub> ) up to and including 123 kV	AM; VI	-
			L79-2	Tension transformers for the measurement of equipment with the highest tension (U <sub>m</sub> ) up to and including 123 kV	AM; VI	-
25	L80	Instruments for measuring electrical resistance	L80-1	Instruments for measuring earth plug dispersion resistance <sup>20)</sup>	AM;VI;VP	2
26	L81	Active electricity meters <sup>21)</sup>	L81-1	Active electricity meters	AM <sup>22); VI <sup>23); VP</sup></sup>	15
27	L82	Reactive electricity meters	L82-1	Reactive electricity meters <sup>19)</sup>	AM;VI;VP	15
28	L88	Opacimeters	L88-1	Opacimeters for Diesel engines	AM;VI;VP	1
29	L89	Dioptimeters	L89-1	Dioptimeters <sup>24)</sup>	VP	2

0	1	2	3	4	5	6
30	L92	Instruments for measuring sound pressure level used in labour protection and environmental protection measurements	L92-2	Sound pressure level meter	VI;VP	1
			L92-4	Noise dosimeters	VI;VP	1
			L92-5	Individual sound exposure meters	VI;VP	1
31	L106	Refractometers and polarimeters to determine the sugar concentration	L106-1	Refractometers to determine the sugar concentration <sup>5)</sup>	AM;VI;VP	1
			L106-2	Polarimeters to determine the sugar concentration <sup>5)</sup>	AM;VI;VP	1
32	L108	Alcohol meters	L108-1	Alcohol meters	AM; VI/VI-EEC;VP	2
33	L112	Humidity meters	L112-1	Humidity meters for cereal grains and oilseeds <sup>5)</sup>	AM; VI;VP	1
			L112-2	Humidity meters for wood samples <sup>5)</sup>	AM;VI;VP	1
			L112-3	Humidity meters for tobacco <sup>5)</sup>	AM;VI;VP	1
34	L117	Gas analysers <sup>3)</sup>	L117-1	Exhaust gas analysers <sup>4)</sup>	VP	1
35	L119	Gas chromatographs <sup>25)</sup>	L119-1	Gas chromatographs	AM;VI;VP <sup>16)</sup>	1
36	L121	Ethylometers	L121-1	Ethylometers	AM;VI;VP	1
37	L124	Contaminometers	L124-1	Contaminometers	VI;VP	3
38	L125	Dosimeters/flow meters for radiation	L125-1	Dosimeters for radiation	VI;VP	1
			L125-2	Flow meters for radiation	VI;VP	1
			L125-3	Exhibitors for radiation	VI;VP	1

Notes:

<sup>1)</sup> Frequency, expressed in years, refers to the maximum permitted intervals between two successive verifications.

<sup>2)</sup> The measuring instruments of this assortment in use on 29.11.2012 are still accepted for periodical verification without having AM and VI.

<sup>3)</sup> The making available on the market and putting into service of measuring instruments in this category is carried out in accordance with Government Decision No 711/2015 establishing the conditions for making measuring instruments available on the market, as subsequently amended and supplemented (GD No 711/2015).

<sup>4)</sup> The measuring instruments of this assortment, in use, are subject to the applicable legal control methods if they have been placed on the market /made available on the market and put into service in accordance with the provisions of Government Decision no. 264/2006 on establishing the conditions for placing on the market and putting into service of measuring instruments, with subsequent amendments and additions (GD no. 264/2006), respectively the provisions of GD no. 711/2015 or in accordance with the provisions of the metrological legislation applicable prior to the entry into force of GD no. 264/2006.

<sup>5)</sup> The measuring instruments of this assortment that were placed on the market and put into service based on VI from 22.03.2010 to 29.11.2012 are still accepted for periodical verification without AM.

<sup>6)</sup> Glass volume measuring instruments shall not be subject to periodical verification (VP).

<sup>7)</sup> At the time of the initial verification or periodical verification, the calibration certificate is also mandatory.

<sup>8)</sup> Legal control shall only be exercised on component subassemblies if the specific legal metrology standards explicitly highlight them and provide for separate metrological and technical requirements for them.

<sup>9)</sup> The measuring instruments of this assortment, in use, shall be subject to the methods of legal control if they were placed on the market / made available on the market and put into service as provided for in Government Decision No 264/2006, Government Decision No 711/2015 or in accordance with the provisions of the metrology legislation applicable prior to the entry into force of Government Decision No 264/2006 and if used in the application of the specific annex to Government Decision No 711/2015 corresponding to the category to which this assortment belongs.

<sup>10)</sup> This assortment includes gas meters with deformable wall, rotary piston gas meters and turbine gas meters.

<sup>11)</sup> Diaphragms comprising part of measuring systems for quantities of combustible gas are not considered subassemblies and are evaluated as part of the whole.

The sub-assemblies of these measurement systems, which were placed on the market and put into service under VI in accordance with the legal provisions, are still accepted at periodical verification without having the AM.

<sup>12)</sup> The measuring instruments of this assortment refer to gas quantity measurement systems, in use, which consist of gas meters and which have been placed on the market and put into service in accordance with the provisions of the national legislation applicable before 29.11.2012, included in the Official List of measuring instruments subject to legal metrological control L.O. — 2010, approved by Order No 48/2010 of the Director General of the Romanian Bureau of Legal Metrology, as subsequently amended and supplemented, to range L 37-2.

Ultrasonic gas meters, which are part of the fuel gas quantity measurement systems, shall be assessed within the assembly on the basis of a calibration certificate issued by a national metrology institute or an approved/accredited laboratory, showing the conformity of the measuring instruments with the requirements regarding the classification of measurement errors within the limits of the maximum permissible errors provided for in point 5.3 of International Recommendation OIML R 137-1&2:2012 — Gas meters or point 5.3 of SR EN 14236:2012 Ultrasonic domestic gas meters.

<sup>13)</sup> The measuring instruments of this assortment that were placed on the market and commissioned from 22.03.2010 to 29.11.2012 are still accepted for periodic metrological verification without AM and VI.

<sup>14)</sup> Making available on the market and commissioning measurement instruments in this category is carried out in accordance with the provisions of Government Decision No 710/2015 on determining the conditions for making available on the market of non-automatic rendering, as amended (GD No 710/2015).

<sup>15)</sup> The measuring instruments of this assortment, in use, shall be subject to the legally applicable metrological control methods whether they were placed on the market / made available on the market and put into service as provided for in Government Decision No 617/2003 establishing the conditions of placing on the market and putting into service of non-automatic weighing instruments, republished, as amended (GD no. 617/2003), respectively the provisions of Government Decision No 710/2015 or in accordance with the provisions of the metrological legislation applicable prior to the entry into force of Government Decision No 617/2003.

<sup>16)</sup> The measuring instruments of this assortment that were placed on the market and put into service from 22.03.2010 to 29.11.2012 are accepted for periodical verification without AM and VI. Gas chromatographs in use will be presented for periodical verification within a maximum

permissible period of one year from the date of entry into force of this Official List. It is permissible to submit to the VP the gas chromatographs for which no AM has been issued by the date of entry into force of this Official List and for the function of calculating calorific value.

<sup>17)</sup> The control method applies to combined heat meters placed on the market and put into service as provided for in the national metrology legislation applicable before the entry into force of Government Decision No 264/2006 or placed on the market and put into service according to Article 24 of Government Decision No 264/2006 and complete heat meters.

<sup>18)</sup> The subassemblies within this assortment which complied with the provisions of Government Decision No 264/2006 or which correspond to the provisions of Government Decision No 711/2015 may be used in heat meters for open circuits without the need for AM and VI.

<sup>19)</sup> The measuring instruments of this assortment that were placed on the market and put into service from 22.03.2010 to 29.11.2012 are still accepted for periodical verification without AM and/or VI.

<sup>20)</sup> The measuring instruments of this assortment placed on the market and put into service from 22.03.2010 to the date of entry into force of this Official List without Type Approval and initial verification, will be presented directly for periodical verification within a maximum permissible interval of two years from the date of entry into force of this Official List.

<sup>21)</sup> The making available on the market and putting into service of the measuring instruments of this category except the ones referred to in Note 22 shall be carried out in accordance with the provisions of Government Decision No 711/2015.

<sup>22)</sup> The control method applies to instruments of this category that are intended for use in applications other than those set out in the specific Annex of Government Decision No 711/2015 corresponding to this category. The control method does not apply to measuring instruments which comply with the provisions of Government Decision No 711/2015.

<sup>23)</sup> The control method applies to measuring instruments referred to in Note 22.

<sup>24)</sup> Dioptrimeters shall be presented at the first periodical verification within 30 days from the date of putting them into service.

<sup>25)</sup> This category includes laboratory and process gas chromatographs to determine the composition of natural gas; the category does not cover gas chromatographs forming part of a gas volume converter placed on the market and put into service in accordance with Government Decision No 264/2006 and Government Decision No 711/2015.

Article 2. - For the purposes of this document, the following terms are defined as follows:

a) *category of measuring instruments* - group of measuring instruments on which one or more legal metrological regulations impose the same metrological and technical requirements. In general, a single specific legal metrology rule corresponds to a category of measuring instruments;

b) *assortment of measuring instruments* - a group of measuring instruments belonging to the same category of measuring instruments, associated on the basis of similarity of operating principles, design solutions, fields of use, operating conditions and/or measuring ranges/intervals. Generally, measuring instruments of the same type are subject to legal metrological control on the basis of the same test/verification procedures or on the basis of similar test/verification procedures.

Article 3. - The following methods of control shall be carried out on the measuring instruments subject to legal metrological control under the conditions laid down in legal metrological instructions and rules and in this document:

a) applicable to all types of measuring instruments:

- verification after repair or modification,
- inspection and unannounced testing;
- metrological monitoring of usage;

b) applicable in a differential manner to each assortment, according to column 5 of the table:

- type approval (AM);
- EEC type approval (AM-EEC),
- initial verification (VI);
- initial verification EEC (VI/EEC);
- periodical verification (VP).

Article 4. – The measuring instruments of the categories and types specified in table 1 are subject to legal metrological control if they are used in the following public interest measurements:

a) measurements made to ensure effectiveness of fiscal surveillance:

- measurements by the staff of the authorities, public institutions and competent bodies, for the establishment of taxes, duties, fines, penalties or similar types of payments;

b) measurements carried out to ensure the fairness of commercial transactions and consumer protection:

- measurements carried out in commercial transactions carried out by suppliers of electricity, gas, heat or water;
- measurements carried out as part of the direct marketing of products and goods to the public;
- mass measurements in commercial transactions;

measurements made for the purpose of manufacturing pre-packages,

- measurements made in order to establish payments due for the transport of people and goods;
- measurements made to determine the sugar concentration in juices and syrups;
- measurements made in order to determine the hectolitre mass of cereals;
- measurements to determine the moisture content of cereal grains, oilseeds, wood or tobacco samples;
- measurements made to determine the alcohol concentration of beverages;
- measurements made in order to determine the amounts to be paid for postal items;

c) measurements made to ensure protection of the environment:

- measurements made by staff of the public institutions and competent bodies, in surveillance activities of important ranges for environment protection;

- measurements carried out by the staff of the competent authorities, public institutions in activities to establish contraventions and infringements of environmental protection legislation;

d) measurements made for the purpose of security insurance:

- measurements by the staff of the authorities, the public institutions and the competent bodies, in activities of supervising important sizes for labour protection;

- measurements carried out on the occasion of inspections of the technical condition of road vehicles;

- measurements carried out by traffic officers for the purpose of applying traffic regulations on public roads;

- measurements taken to ensure safety conditions for road, railway and underground transport;

- measurements carried out by staff of the bodies competent for protection on public roads;

e) Population Health Measurements:

- determination of mass for the preparation of medicinal products in pharmacies, according to the prescription, and for performing analyses in medical and pharmaceutical laboratories.

- determination of mass in medical practice in relation to the weighing of patients for the purposes of monitoring, diagnosis and medical treatment,

- measurements of vision correction lenses.

Article 5. – The measuring instruments subject to legal metrological control, as well as the concrete public interest measurements for which they are used, are defined under legal metrology standards or, where applicable, under EEC legal metrology standards.

Article 6. – For metrological checks of measuring instruments, reference documents other than those referred to in Article 5 may be used, but only in the situations and for periods of time explicitly set out in the orders for approval of legal metrology norms.

Article 7. – In the case of EEC type approved measuring instruments in use, periodical verification or verification after repair or modification shall be carried out by checking compliance with the requirements of the appropriate national legal metrology norm.

Article 8. - Periodicity set out in column 6 of the table, is the maximum permissible interval between two successive metrological verifications, whatever they may be (initial verification, EEC initial verification, periodical verification or verification after repair or modification).

Art. 9.- On measuring instruments placed on the market and put into service as provided for in Government Decision No 1055/2001 on the conditions of placing on the market of measuring instruments, as subsequently amended and supplemented, of Government Decision No 617/2003, Government Decision No 264/2006, Government Decision No 710/2015 and Government Decision No 711/2015 or the corresponding European directives, the first periodical verification shall be carried out within the maximum time interval set out in column 6 of the table, calculated from the date of putting into service the respective instrument.

Art. 10.- In the case of equipment that performs the functions of several measuring instruments listed in the table, legal metrological control shall be exercised separately for each measurement function.