

**Regulation of the Central Bureau of Weights and Measures
Regarding Rules, Procedures and Conditions in relation to Inspection and Verification of
Water Meter by Licensee Acting as Inspector and Providing Verification of Water Meter
Being Manufactured or Repaired by Licensee
B.E. 2562 (2019)**

Whereas the Central Bureau of Weights and Measures already issued the Regulation of the Central Bureau of Weights and Measures Regarding Rules, Procedures and Conditions in relation to Inspection and Verification of Water Meter by Licensee Acting as Inspector and Providing Verification of Water Meter B.E. 2550 (2007) dated 29 January B.E. 2550 (2007).

Whereas the Minister of Commerce, at the recommendation of the Committee for Weights and Measures, issued the Notification of the Ministry of Commerce Regarding Prescription of Type and Characteristic of Water Meter, Detail of Materials Used for Manufacture and Maximum Permissible Error dated 26 September B.E. 2561 (2018), prescribing the type and characteristic of the water meter to be consistent with the current situation. Therefore, in order that the licensee acting as the inspector and providing the verification of the water meter can inspect and verify the water meter accurately in the same way and to be consistent with the aforesaid Notification, by virtue of Section 6 (5) and Section 42 of the Measurement Act, B.E. 2542 (1999), the Director-General of the Department of Internal Trade therefore issues this Regulation, as follows.

Article 1. This Regulation is called the “Regulation of the Central Bureau of Weights and Measures Regarding Rules, Procedures and Conditions in relation to Inspection and Verification of Water Meter by Licensee Acting as Inspector and Providing Verification of Water Meter Being Manufactured or Repaired by Licensee B.E. 2562 (2019)”

Article 2. This Regulation shall come into force as from the day following the date of its publication in the Government Gazette.¹

¹ Published in the Government Gazette, Volume 136, Special Part 260 d, Page 8, dated 21 October B.E. 2562 (2019).

Article 3. The Regulation of the Central Bureau of Weights and Measures Regarding Rules, Procedures and Conditions in relation to Inspection and Verification of Water Meter by Licensee Acting as Inspector and Providing Verification of Water Meter B.E. 2550 (2007) dated 29 January B.E. 2550 (2007) shall be repealed.

Article 4. The Director-General of the Department of Internal Trade shall have charge and control of the execution of this Regulation.

Chapter 1

Inspection of Water Meter

Article 5. The licensee acting as the inspector and providing the verification of the water meter shall proceed with the inspection and verification of the water meter pursuant to the following rules and procedures.

(1) The water meter to be applied for inspection and verification shall have the right characteristics according to the Measurement Act, B. E. 2542 (1999), as amended by the Measurement Act (No. 3), B.E. 2557 (2014), and the Notification of the Ministry of Commerce Regarding Prescription of Type and Characteristic of Water Meter, Detail of Materials Used for Manufacture and Maximum Permissible Error dated 26 September B.E. 2561 (2018). In addition, the licensee shall declare the details of the water meter in accordance with Form ChorVor.TorRor.4201 as attached to this Regulation to the Central Bureau or the branch bureau together with an application.

The water meter shall provide the details comprising an identification mark, a name or a trademark, a model which is specified the form of an instrument, a series number of an instrument, the accuracy class of measurement, a year of manufacture, the permanent flowrate, the minimum flowrate or a ratio between the permanent flowrate and the minimum flowrate, a sign of direction of water flow, and the maximum admissible pressure if it exceeds 1,000 kPa.

(2) Test of Pressure Durability

A. To take a sampling of 1% of the water meters of each size and the accuracy class of measurement which are applied for inspection and verification. In the case where the number of the water meters is less than 100 ones, it shall be deemed that there are 100 ones.

B. To test the water meters under A. to discover that the water meters can be durable throughout the working pressure range and continuously for not less than 1 minute by not reducing the efficiency of operation, not causing the outflow of water along the water meters, and not changing the shape of the water meters, whereby:

1) the water meter of diameter less than 50 centimetres shall be durable under the pressure at least 1,000 kPa.;

2) the water meter of diameter starting from 50 centimetres upward shall be durable under the pressure at least 600 kPa.

C. In the case where all the water meters under A. pass the test, it shall be deemed that the water meters as applied for inspection and verification pass the test. In the case where anyone of the water meters under A. does not pass the test, it shall be deemed that the water meters as applied for inspection and verification do not pass the test. The test of every one of the water meters as applied for inspection and verification is then required.

D. The outcome of the test of pressure durability shall be recorded in accordance with Form ChorVor.TorRor.4202 as attached to this Regulation.

(3) Test of Loss of Pressure Drop

A. To take a sampling of 1 per 1,000 of the water meters of each size and the accuracy class of measurement which are applied for inspection and verification. In the case where the number of the water meters is less than 1,000 ones, it shall be deemed that there are 1,000 ones.

B. To test the water meters under A. to discover the loss of pressure drop of the water meters by taking the following steps:

1) to install two pressure gauges, the distance between two gauges equals the length of the water meter at least;

2) at the time when the water meter has not been installed yet, it is required to discover the loss of pressure drop of water which flows through the pipes having the distance between them being equal to the distance under 1) at the minimum flowrate and the permanent flowrate of the water meter to be tested;

3) when the water meter has already installed, it is required to discover the loss of pressure drop of water which flows through the water meter at the minimum flowrate and the permanent flowrate;

4) to discover the difference between the loss of pressure drop under 2) and the loss of pressure drop under 3);

5) the difference between the loss of pressure drop through the water meter shall not be greater than 63 kPa. upon operation between the minimum flowrate and the permanent flowrate.

C. In the case where all the water meters under A. pass the test, it shall be deemed that the water meters as applied for inspection and verification pass the test. In the case where anyone of the water meters under A. does not pass the test, it shall be deemed that the water meters as applied for inspection and verification do not pass the test. The test of every one of the water meters as applied for inspection and verification is then required.

D. The outcome of the test of the loss of pressure drop shall be recorded in accordance with Form ChorVor.TorRor.4203 as attached to this Regulation.

(4) Test of Preventive Capability for Magnetic Field

A. To take a sampling of 1% of the water meters of each size and the accuracy class of measurement which are applied for inspection and verification. In the case where the number of the water meters is less than 100 ones, it shall be deemed that there are 100 ones.

B. To test the water meters under A. by installing a magnet that has the intensity of magnetic field in the amount of 5,000 lines of forces per square centimeter. Each meter shall be installed the magnet in one position only by alternately putting in the left position or the right position or the top position or the bottom position. Subsequently, there shall be the test of the accuracy of water transmission of the water meter according to a size, the specified flowrate, the transitional flowrate and the minimum flowrate by using the volume as tested and the size of a volume measuring tank which is the prototype and has the volume to be equal to or greater than 1.5 times of the volume of real transmission through the water meter as to be inspected and verified within 1 minute.

C. The accuracy of water transmission of the water meter as compared to the volume measuring tank which is the prototype shall have the wrong outcome not exceeding the maximum permissible error both positive and negative sides under (6). This shall be deemed to pass the test.

D. In the case where all the water meters under A. pass the test, it shall be deemed that the water meters as applied for inspection and verification pass the test. In the case where anyone of the water meters under A. does not pass the test, it shall be deemed that the water meters as applied for inspection and verification do not pass the test. The test of every one of the water meters as applied for inspection and verification is then required.

E. The outcome of the test of preventive capability for magnetic field shall be recorded in accordance with Form ChorVor.TorRor.4204 as attached to this Regulation.

(5) Test of Accuracy

A. To test all the water meters.

B. To test the water meters under A. by testing the accuracy of water transmission of the water meter according to a size, the specified flowrate, the transitional flowrate and the minimum flowrate by using the volume as tested and the size of a volume measuring

tank which is the prototype and has the volume to be equal to or greater than 1.5 times of the volume of real transmission through the water meter as to be inspected and verified within 1 minute.

C. The accuracy of water transmission of the water meter as compared to the volume measuring tank which is the prototype shall have the wrong outcome not exceeding the maximum permissible error both positive and negative sides under (6); and the deviation of the meter in every flowrate that deviates in the same side shall have at least any one value not exceeding the half of the maximum permissible error under (6). This shall be deemed to pass the test.

D. The outcome of the test of accuracy shall be recorded in accordance with Form ChorVor.TorRor.4205 as attached to this Regulation.

(6) The maximum permissible errors for providing the initial verification and the subsequent verification of the water measurement system shall have both positive and negative sides as follows:

Accuracy Classes	Maximum Permissible Errors Compared to Volume as Tested (V)	
	Lower Flowrate Zone	Upper Flowrate Zone
Class 1 Entrance Temperatures to Water Meter - from 0.1 to 30 Degree Celsius - more than 30 but not exceeding 50 Degree Celsius	3 % V 3 % V	1 % V 2 % V
Class 2 Entrance Temperatures to Water Meter - from 0.1 to 30 Degree Celsius - more than 30 but not exceeding 50 Degree Celsius	5 % V 5 % V	2 % V 3 % V

(7) Anyone of the water meters which does not pass the inspection as specified under (1) – (5) shall be made improvements before reapplying for inspection and verification.

Chapter 2
Providing of Verification

Article 6. The water meter which passes the inspection of the water meter under Chapter 1 shall be stamped a verification mark on the meter in the position which can prevent revision or change to the accuracy of the water meter. In addition, there shall be the issuance of a document indicating the providing of the verification of a measurement gauge according to Form ChorVor.3002 as attached to the Notification of the Central Bureau of Weights and Measures Regarding Prescription of Form of Document Indicating Providing of Verification B.E. 2559 (2016) dated 8 September B.E. 2559 (2016). In case of using a document indicating the providing of the verification of the measurement gauge according to Form ChorVor.3004 as attached to the Notification of the Central Bureau of Weights and Measures Regarding Prescription of Form of Document Indicating Providing of Verification B.E. 2559 (2016) dated 8 September B.E. 2559 (2016), it is required to arrange a series number from minimum to maximum in the same manner as a series number of the measurement gauge.

Article 7. The licensee acting as the inspector and providing the verification shall present the report on the outcome of inspection and verification of the water meter in accordance with Form ChorVor.TorRor.4201, Form ChorVor.TorRor.4202, Form ChorVor.TorRor.4203, Form ChorVor.TorRor.4204 and Form ChorVor.TorRor.4205 as attached to this Regulation. In addition, it is required to present the report on the outcome of the performance of the licensee acting as the inspector and providing the verification of the measurement gauge to the Central Bureau or the branch bureau.

Given on the 4th Day of September B.E. 2562 (2019)

Whichai Phochanakij

Director-General of the Department of Internal Trade