

OIML Member State
Slovakia



OIML Certificate N°
R49/2013-SK1-14.03

OIML CERTIFICATE OF CONFORMITY

Issuing Authority

Name Slovak Legal Metrology
Address Hviezdoslavova 31
974 01 Banská Bystrica, Slovakia
Person responsible Jaromír Markovič

Applicant

Name Ningbo Aimei Meter Manufacture Co., Ltd.
Address 68, West Town Road, Shangtian Town, Fenghua City
Zhejiang, 315511 P.R. of China

Manufacturer of the certified type

The applicant

Identification of the certified type

**Mechanical volumetric concentric water meter for metering
of cold water**

Type **CM, CM1**

For further characteristics see pages 2 and 4

This Certificate attests the conformity of the above identified type (represented by the sample or samples identified in the associated Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 49-1, edition 2013
Accuracy class 2

This Certificate relates only to the metrological and technical characteristics of the type of instrument covered by the relevant OIML Recommendation identified above.

This Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML Test Report: N° 2014/MI-001/B039/312.03, that includes 56 pages.


The Issuing Authority
Ing. Jaromír Markovič, PhD.

19 December 2014




The OIML Member
Dr.h.c. mult. prof. Ing. Jozef Mihok, PhD.

19 December 2014

Important note:

Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated Test Report is not permitted, although either may be reproduced in full.

1 Designation

The mechanical volumetric concentric (rotary piston) water meters type *CM* and *CM1* are designed to measure, memorise and display the volume at metering conditions of water passing through the measurement transducer. They are intended for the measurement of volumes of clean cold water in residential use. The mechanical water meters type *CM* and *CM1* are volumetric water meters with dry mechanical indication device.

The water meters types *CM* and *CM1* consist of a plastic body. The difference between *CM* and *CM1* is in the composition of the indication device. The water meters type *CM* and *CM1* shall be installed to operate in the horizontal position with the indication device positioned at the top. The water meters are intended to fit into a closed conduit by means of an intermediate fitting (manifold). The inlet and outlet passages of the meter and the manifold, at the interface between them, are coaxial. The connection of the meter to the manifold is arranged via thread size connection G 1 1/2 at the base of the meter body.

2 Description

Essential parts of the water meter:

- measuring mechanism – consisting of a measuring chamber assembled with the rotary piston and the top plate with the transmission shaft for the connection of the measuring part with the register;
- dry type mechanical register and indication device with
 - o 7 numbered drums (least significant drum moves continuously) and 2 continuously moving rotating pointers – water meter type *CM*;
 - o 8 numbered drums (least significant drum moves continuously) and 1 continuously moving rotating pointer – water meter type *CM1*;
- magnetic coupling for the connection of the register part with the measuring mechanism (rotary piston)
- housing of the water meter

Non-essential parts of the water meter:

2.1 Metrological functions

- Measuring, memorizing and displaying the volume of water passing through the water meter

2.2 Software

- not applicable

2.3 Integrated equipment and functions

- pulse output (optional).

3 Technical and metrological data

Type	-	CM / CM1				
Connection thread	-	G 1 ½				
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	L/h	6,25	7,9365	10	12,5	15,625
Transitional flowrate Q_2	L/h	10	12,6984	16	20	25

Overload flowrate Q_4	m^3/h	3,125				
Ratio Q_3/Q_1	R	400	315	250	200	160
Ratio Q_2/Q_1	-	1,6				
Installation orientation	-	H				
Water temperature range Θ	$^{\circ}C$	0,1 to 50 (T50)				
Maximum working pressure	bar	16				
Maximum permissible error in upper flow rates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^{\circ}C$) ± 3 (at $\Theta > 30^{\circ}C$)				
Maximum permissible error in lower flow rates range $Q_1 \leq Q < Q_2$	%	± 5				
Verification scale interval	m^3	0,00002				
Indication range of a water meter	m^3	99999				
Mechanical class	-	M1				
Climatic class	$^{\circ}C$	-10 to + 55				
Electromagnetic class	-	E1				

4 Interfaces and compatibility conditions

- not applicable

5 Marking and inscriptions

The following data shall be marked on the water meter:

- a) manufacturer's name or mark;
- b) type of water meter;
- c) year of production and serial number;
- d) flowrate Q_3 and ratio Q_3/Q_1 indicated as (R) followed by the ratio;
- e) maximum working pressure, indicated as MAP 16;
- f) maximum water temperature, indicated as T50;
- g) installation position of the water meter, horizontally (H);
- h) OIML Certificate of conformity number.

The flow direction shall be marked on a water meter's body in form of an arrow.
Markings on water meter must comply with the requirements OIML R 49.

Manufacturer can use following trademarks on its water meters:

AIMEI

ASM





6 Security measures

- 7 The measuring assembly of the concentric water meter *CM* and *CM1* is secured by locating the snap fit plastic cover to the plastic meter body. The plastic cover has integrally moulded clips and once fitted, unauthorised dismantling is not possible without leaving evidence of tampering.

7 Documentation used for assessment purposes

- Test report No 2014/MI-001/B039/312.03;
- Manufacturer's technical documentation stored in folder *Ningbo_CM_CM1_00*.

8 Standards and regulations used for assessment purposes

- OIML R 49-1, edition 2013 (E);
- OIML R 49-2, edition 2013 (E);
- OIML R 49-3, edition 2013 (E).

