

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 multi - jet dry dial water meter type for metering
of cold water**

Type **MD-K, MD-K1, MD-KP, MD-KP1**

For further characteristics see pages 2 to 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.

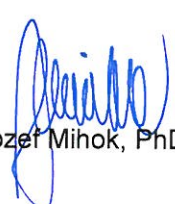
This Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML Test Report: N° 2014/MI-001/B045/312.03, that includes 81 pages.


The Issuing Authority
Ing. Jaromír Markovič, PhD.

5 November 2014




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

5 November 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 multi-jet water meters type *MD-K*, *MD-K1*, *MD-KP* and *MD-KP1* 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 *MD-K*, *MD-K1*, *MD-KP* and *MD-KP1* are multi jet rotary vane wheel water meters with dry mechanical indication device.

The water meters types *MD-K* and *MD-K1* consist of a brass body. The water meters types *MD-KP* and *MD-KP1* consist of a plastic body. The difference between *MD-K* and *MD-K1* and between *MD-KP* and *MD-KP1* is a shape and composition of the register. The water meters type *MD-K*, *MD-K1*, *MD-KP* and *MD-KP1* shall be installed to operate in horizontal position only with the indication device positioned at the top.

2 Description

Essential parts of the water meter:

- measuring mechanism - consisting of a chamber and the rotary vane wheel (impeller) with an axle perpendicular to the flow direction;
- dry type mechanical register and indication device with 6 numbered drums (least significant drum moves continuously) and 2 continuously moving rotating pointers;
- magnetic coupling for the connection of the register with the measuring part (impeller)
- housing of water meter with inlet and outlet connections;
- adjustment device – an adjustment screw regulates the internal by-pass flow of the meter
- magnetic shield protection .

Non-essential parts of water meter:

- sieve in the inlet of the meter (optional);
- non-return valve in the outlet of the meter (optional).

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	-	<i>MD-K / MD-K1 / MD-KP / MD-KP1</i>							
Nominal diameter <i>DN</i>	mm	15				20			
Permanent flowrate <i>Q₃</i>	m ³ /h	2,5				4			
Minimum flowrate <i>Q₁</i>	m ³ /h	0,03125	0,025	0,02	0,015625	0,05	0,04	0,032	0,025
Transitional flowrate <i>Q₂</i>	m ³ /h	0,05	0,04	0,032	0,025	0,08	0,064	0,0512	0,04
Overload flowrate <i>Q₄</i>	m ³ /h	3,125							

Ratio Q_3/Q_1	R	80	100	125	160	80	100	125	160
Ratio Q_2/Q_1	-	1,6							
Connection thread	-	G ¾ B				G 1 B			
Construction length L	mm	165/190				190			
Installation orientation	-	H							
Water temperature range Θ	°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 $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)							
Maximum permissible error in lower flow rates range $Q_1 \leq Q < Q_2$	%	± 5							
Scale interval	m ³	0,00005							
Indication range of a water meter	m ³	9999							
Mechanical class	-	M1							
Climatic class	°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:

- manufacturer's name or mark;
- type of water meter;
- year of production and serial number;
- flowrate Q_3 and ratio Q_3/Q_1 indicated as (R) followed by the ratio;
- maximum working pressure, indicated as MAP 16;
- maximum water temperature, indicated as T50;
- indication that the meter must be installed horizontally (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

The water meter shall be protected against unauthorised manipulation by one seal securing the water meter head with the screw cap of adjustment device.

7 Documentation used for assessment purposes

- Test report No 2014/MI-001/B045;
- Manufacturer`s technical documentation stored in folder *Ningbo_MD-K_MD-KP_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).

