OIML Member State
Slovakia

OIML Certificate N°
R49/2006-SK1-14.02
Revision 1

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 for metering of cold water

Type **MD-A; MD-AP**

For further characteristics see pages 2 - 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 2006
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° 2013/MI-001/B075/001 having 64 pages and 2014/MI-001/B041/312.03 having 56 pages.

The Issuing Authority
Ing. Jaromír Markovič, PhD.

5 November 2014

The CIML 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

Mechanical multi-jet dry dial water meter type ***MD-A; MD-AP*** intended for metering the volumes (consumption) of clean cold water in residential (households) and commercial use. It is installed into pipe lines in horizontal installation positions.

2 Description

Essential parts of water meter:

- measuring mechanism - consisting of impeller with an axle perpendicular to the flow direction, lower and upper tightening plates with bearing hubs;
- mechanical register – dry type, digital drum with gearing mechanism for all figures, 5 digits indication, 4 pointers of analog device(for DN40 and DN50 (6 digits and 4 pointers);
- housing meter - brass body (for type *MD-A*) or plastic body (*MD-AP*);
- adjustment device if any (adjustment is enabled by hinge plug screw – to regulate flow);
- magnetic coupling.

Non-essential parts of water meter:

- strainer in the inlet of the water meter;
- non-return valve (optional).

2.1 Metrological functions

- measuring and displaying the volume of water passed through meter.

2.2 Software

- not applicable

2.3 Integrated equipment and functions

- pulse output with reed sensor switch (optional).

3 Technical and metrological data

Type	-	***MD-A / MD-AP***							
Nominal diameter *DN*	mm	15				20			
Permanent flowrate Q_3	m^3/h	2,5				4			
Minimum flowrate Q_1	m^3/h	0,03125	0,025	0,02	0,015625	0,05	0,04	0,032	0,025
Transitional flowrate Q_2	m^3/h	0,05	0,04	0,032	0,025	0,08	0,064	0,0512	0,04
Overload flowrate Q_4	m^3/h	3,125				5			
Ratio Q_3/Q_1	R	80	100	125	160	80	100	125	160
Ratio Q_2/Q_1	-	1,6							
Nominal diameter *DN*	mm	25				32			
Permanent flowrate Q_3	m^3/h	6,3				10			

Minimum flowrate Q_1	m^3/h	0,07875	0,063	0,0504	0,039375	0,125	0,1	0,08	0,0625
Transitional flowrate Q_2	m^3/h	0,126	0,1008	0,0864	0,063	0,2	0,16	0,128	0,1
Overload flowrate Q_4	m^3/h	7,875				12,5			
Ratio Q_3/Q_1	R	80	100	125	160	80	100	125	160
Ratio Q_2/Q_1	-	1,6							
Nominal diameter *DN*	mm	40				50			
Permanent flowrate Q_3	m^3/h	16				25			
Minimum flowrate Q_1	m^3/h	0,2	0,16	0,128	0,1	0,3125	0,25	0,2	0,15625
Transitional flowrate Q_2	m^3/h	0,32	0,256	0,2048	0,16	0,5	0,4	0,32	0,25
Overload flowrate Q_4	m^3/h	20				31,25			
Ratio Q_3/Q_1	R	80	100	125	160	80	100	125	160
Ratio Q_2/Q_1	-	1,6							
Nominal diameter *DN*	mm	15	20	25	32	40	50		
Connection thread	-	G ¾ B	G 1B	G11/4B	G11/2B	G2B	G2 1/2B / Flange ISO7005		
Construction length *L*	mm	165/190	190	225/260	230/260	245/300	280/300		
Installation orientation	-	H							
Water temperature range Θ	°C	0,1 to 50							
Maximum working pressure	bar	16							
Maximum permissible error in upper flow rates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30°C$) ± 3 (at $\Theta > 30°C$)							
Maximum permissible error in lower flow rates range $Q_1 \leq Q < Q_2$	%	± 5							
Scale interval	m^3	0,000 05							
Capacity of calculator	m^3	99999,99995							
Mechanical class	-	M1							
Climatic class	°C	- 10 to + 55							

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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, *(R);*
e) maximum working pressure;
f) OIML Certificate of conformity number;
g) temperature class

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 used 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 connection of the water meter head with the screw cap of adjustment device

7 Documentation used for assessment purposes

- Test report No 2013/MI-001/B075/001;
- Test report No 2014/MI-001/B041/001;
- Manufacturer`s technical documentation stored in folder *Ningbo_MD_A_00.*

8 Standards and regulations used for assessment purposes

- OIML R 49-1, edition 2006 (E);
- OIML R 49-2, edition 2006 (E);
- OIML R 49-3, edition 2006 (E).

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