

OIML Member State
Slovakia



OIML Certificate N°
R49/2013-SK1-16.02
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 single - jet dry dial water meter type for metering
of cold and hot water**

Type **SD-B, SD-B1, SD-BP, SD-BP1**

For further characteristics see pages 2 to 5

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 Reports No: 2015/CV010/312.03 having 61 pages and 2016/MI-001/B038/312.03 having 76 pages.

The Issuing Authority
assoc. prof. Ing. Jaromír Markovič, PhD.

16 August 2017

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.



The OIML Member
Ing. Pavol Pavlis

16 August 2017



1. Designation

The mechanical single-jet dry dial water meter of types *SD-B*; *SD-B1*; *SD-BP* and *SD-BP1* are designed to measure, memorize 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 and hot water in household or a residential use. The water meters of type *SD-B*; *SD-B1*; *SD-BP* and *SD-BP1* shall be installed to operate in horizontal position with the indication device positioned at the top or in vertical position as is given in Table 1 and Table 2.

2. Description

Essential parts of water meter:

- measuring mechanism - consisting of the rotary vane wheel with an axle perpendicular to the flow direction, lower and upper tightening plates with bearing hubs;
- dry type mechanical register (the register chamber casing can be made from the plastic or copper material) with 6 numbered drums and 2 continuously moving rotating pointers;
- housing of the water meter with inlet and outlet connections – brass body (for type *SD-B* and *SD-B1*) or plastic body (*SD-BP* and *SD-BP1*);
- adjustment device – the adjustment of the water meter is enabled by using the external regulating;
- magnetic coupling for the connection of the measuring mechanism with the mechanical register.

Non-essential parts of the water meter:

- inlet strainer (optional);
- non-return valve (optional).

2.1 Metrological functions

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

2.2 Software

- not applicable

2.3 Integrated equipment and functions

- pulse output module (optional).



3. Technical and metrological data

Table 1: Technical and metrological parameters of the water meters type *SD-B*; *SD-B1*; *SD-BP* and *SD-BP1*, DN 15

Type	Unit	<i>SD-B / SD-B1 / SD-BP / SD-BP1</i>				
Nominal diameter <i>DN</i>	mm	15				
Connection thread	-	G ¾ B				
Construction length <i>L</i>	mm	115/130/165				
Water temperature range Θ	°C	T30, T50, T90 / <i>SD-B</i> ; <i>SD-B1</i> T30, T50 / <i>SD-BP</i> ; <i>SD-BP1</i>				
Maximum working pressure	bar	16				
Pressure loss class	class	Δ <i>p</i> 63				
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	m³	0,000 05				
Capacity of calculator	m³	9999,99995				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0D0				
Range of flows at $Q_3 = 1,6 \text{ m}^3/\text{h}$						
Installation orientation	-	H				
Permanent flowrate Q_3	m³/h	1,6				
Minimum flowrate Q_1	m³/h	0,016	0,02	0,0254	0,032	
Transitional flowrate Q_2	m³/h	0,0256	0,032	0,0406	0,0512	
Overload flowrate Q_4	m³/h	2				
Ratio Q_3/Q_1	R	100	80	63	50	
Ratio Q_2/Q_1	-	1,6				
Range of flows at $Q_3 = 2,5 \text{ m}^3/\text{h}$						
Installation orientation	-	H				V
Permanent flowrate Q_3	m³/h	2,5				
Minimum flowrate Q_1	m³/h	0,03125	0,025	0,02	0,0156	0,0625
Transitional flowrate Q_2	m³/h	0,05	0,04	0,032	0,025	0,1
Overload flowrate Q_4	m³/h	3,125				
Ratio Q_3/Q_1	R	80	100	125	160	40
Ratio Q_2/Q_1	-	1,6				



Table 2: Technical and metrological parameters of the water meters type *SD-B*; *SD-B1*; *SD-BP* and *SD-BP1*, DN 20

Type	Unit	<i>SD-B / SD-B1 / SD-BP / SD-BP1</i>				
Nominal diameter <i>DN</i>	mm	20				
Connection thread	-	G 1 B				
Construction length <i>L</i>	mm	130/165/190				
Water temperature range Θ	°C	T30, T50, T90 / <i>SD-B</i> ; <i>SD-B1</i> T30, T50 / <i>SD-BP</i> ; <i>SD-BP1</i>				
Maximum working pressure	bar	16				
Maximum working pressure	bar	0,63				
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	0,000 05				
Capacity of calculator	m ³	9999,99995				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0D0				
Range of flows at $Q_3 = 2,5 \text{ m}^3/\text{h}$						
Installation orientation	-	H			V	
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	m ³ /h	0,025	0,03125	0,0397	0,05	0,0625
Transitional flowrate Q_2	m ³ /h	0,04	0,05	0,0635	0,08	0,1
Overload flowrate Q_4	m ³ /h	3,125				
Ratio Q_3/Q_1	R	100	80	63	50	40
Ratio Q_2/Q_1	-	1,6				
Range of flows at $Q_3 = 4 \text{ m}^3/\text{h}$						
Installation orientation	-	H			V	
Permanent flowrate Q_3	m ³ /h	4				
Minimum flowrate Q_1	m ³ /h	0,05	0,04	0,032	0,025	0,1
Transitional flowrate Q_2	m ³ /h	0,08	0,064	0,0512	0,04	0,16
Overload flowrate Q_4	m ³ /h	5				
Ratio Q_3/Q_1	R	80	100	125	160	40
Ratio Q_2/Q_1	-	1,6				

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) measuring unit m³;
- d) year of production and serial number;
- e) flowrate Q_3 and ratio Q_3/Q_1 indicated as (R) followed by the ratio;
- f) maximum working pressure, indicated as MAP 16;
- g) maximum water temperature, indicated as T30 or T50 or T90;
- h) indication that the meter must be installed horizontally (H or V according to tables in point 3);
- i) type approval sign according to national regulations.

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 unauthorized 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 2016/MI-001/B 038/312.03;
- Manufacturer's technical documentation stored in folder *Ningbo_SD-B_01*.

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).

9. Certificate history

Issue No	Certificate No	Date	Description of modification
1	R49/2013-SK1-16.02	08.02.2016	-
2	R49/2013-SK1-16.02 Rev. 1	14.07.2017	- add. T90 - add for DN15: Q3=1,6 - add for DN20: Q3=2,5