

OIML Member State  
Slovakia



OIML Certificate N°  
R49/2013-SK1-17.02



## 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*

**Family of mechanical volumetric (rotary piston) water meters  
for metering of cold and hot water**

Type **PD-A..., PD-AP...**

For further characteristics see pages 2 to 6

This Certificate attests the conformity of the above identified type (represented by the sample or samples identified in the OIML Basic Type Evaluation 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 Basic Type Evaluation Report No: 2017/CV007 having 17 pages.

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

21 September 2017



**The CIML Member**  
Ing. Pavol Pavlis

21 September 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 OIML Basic Type Evaluation Report is not permitted, although either may be reproduced in full.



## 1. Designation

Mechanical volumetric (rotary piston) water meters types *PD-A...* and *PD-AP...* intended for metering the volumes (consumption) of clean cold water in residential (households) and commercial use. It is installed into pipe lines in all installation positions.

## 2. Description

Essential parts of water meter:

- measuring chamber - included chamber, rotary piston and top plate with transmission shaft for connection of measuring part with register;
- mechanical register - digital drum with gearing mechanism for all figures, semi-dry-dial counter with glycerine; 8 digits indication;
- housing - *PD-A...* brass body, *PD-AP...* plastic body
- non return valve.

Non-essential parts of water meter:

- sieve in the inlet of the water meter

### 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 with reed sensor switch (optional), K-factors 2 impulse/L).



### 3. Technical and metrological data

#### 3.1 Technical and metrological parameters of the water meters types *PD-A* and *PD-AP*, DN15, DN20

Type		<i>PD-A / PD-AP</i>							
Nominal diameter DN	mm	15				20			
Permanent flowrate $Q_3$	m <sup>3</sup> /h	2,5				4			
Minimum flowrate $Q_1$	m <sup>3</sup> /h	0,025	0,02	0,015625	0,0125	0,040	0,032	0,025	0,020
Transitional flowrate $Q_2$	m <sup>3</sup> /h	0,040	0,032	0,025	0,020	0,064	0,0512	0,040	0,032
Overload flowrate $Q_4$	m <sup>3</sup> /h	3,125				5			
Ratio $Q_3/Q_1$	-	100	125	160	200	100	125	160	200
Ratio $Q_2/Q_1$	-	1,6							
Connection thread	-	G ¾ B				G 1B			
Construction length L	mm	115 / 165				130 / 165 / 190			
Installation position	-	All positions							
Water temperature range	°C	0,1 to 50							
Meter temperature class	-	T30/T50							
Maximum working pressure	bar	16							
Pressure loss $\Delta P$	bar	0,63							
Maximum permissible error in upper flowrates 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 flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5							
Scale interval	m <sup>3</sup>	0,00002							
Capacity of calculator	m <sup>3</sup>	9999							
Number of digits	-	0000,0000							
Mechanical class	-	M1							
Climatic class	°C	-10 to +55							
Electromagnetic class	-	E1							
Flow profile sensitivity class	-	U0D0							

3.2 Technical and metrological parameters of the water meters types PD-A, DN25, DN40

Type		PD-A							
Nominal diameter DN	mm	25				32			
Permanent flowrate Q <sub>3</sub>	m <sup>3</sup> /h	6,3				10			
Minimum flowrate Q <sub>1</sub>	m <sup>3</sup> /h	0,063	0,0504	0,039375	0,0315	0,05	0,0625	0,08	0,1
Transitional flowrate Q <sub>2</sub>	m <sup>3</sup> /h	0,1008	0,08064	0,063	0,0504	0,08	0,1	0,128	0,16
Overload flowrate Q <sub>4</sub>	m <sup>3</sup> /h	7,875				10			
Ratio Q <sub>3</sub> /Q <sub>1</sub>	-	100	125	160	200	200	160	125	100
Ratio Q <sub>2</sub> /Q <sub>1</sub>	-	1,6							
Connection thread	-	G 1 ½ B				G 1 ½ B			
Construction length L	mm	199				200			
Installation position	-	All positions							
Water temperature range	°C	0,1 to 50							
Meter temperature class	-	T30/T50							
Maximum working pressure	bar	16							
Pressure loss ΔP	bar	0,63							
Maximum permissible error in upper flowrates range Q <sub>2</sub> ≤ Q ≤ Q <sub>4</sub>	%	± 2 (at Θ ≤ 30°C) ± 3 (at Θ > 30°C)							
Maximum permissible error in lower flowrates ranges Q <sub>1</sub> ≤ Q < Q <sub>2</sub>	%	± 5							
Scale interval	m <sup>3</sup>	0,0002							
Capacity of calculator	m <sup>3</sup>	99999							
Number of digits	-	00000,000							
Mechanical class	-	M1							
Climatic class	°C	-10 to +55							
Electromagnetic class	-	E1							
Flow profile sensitivity class	-	U0D0							



Type		PD-A			
Nominal diameter DN	mm	40			
Permanent flowrate $Q_3$	m <sup>3</sup> /h	16			
Minimum flowrate $Q_1$	m <sup>3</sup> /h	0,16	0,128	0,1	0,08
Transitional flowrate $Q_2$	m <sup>3</sup> /h	0,256	0,2048	0,16	0,128
Overload flowrate $Q_4$	m <sup>3</sup> /h	20			
Ratio $Q_3/Q_1$	-	100	125	160	200
Ratio $Q_2/Q_1$	-	1,6			
Connection thread	-	G 2B			
Construction length L	mm	300			
Installation position	-	All positions			
Water temperature range	°C	0,1 to 50			
Meter temperature class	-	T30/T50			
Maximum working pressure	bar	16			
Pressure loss $\Delta P$	bar	0,63			
Maximum permissible error in upper flowrates 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 flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5			
Scale interval	m <sup>3</sup>	0,0002			
Capacity of calculator	m <sup>3</sup>	99999			
Number of digits	-	00000,000			
Mechanical class	-	M1			
Climatic class	°C	-10 to +55			
Electromagnetic class	-	E1			
Flow profile sensitivity class	-	U0D0			

#### 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;
- measuring unit  $m^3$ ;
- 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;
- 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 unauthorised manipulation by one seal securing the connection of the water meter head with the water meter body.

## 7. Documentation used for assessment purposes

- Manufacturer's technical documentation stored in folder *Ningbo\_PD-A\_AP\_00, 01 and 02*.

## 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-SK1-17.02	21.09.2017	First issue

