



Member state
Czech Republic

OIML Certificate No.
R49/2006-CZ-11.03

OIML CERTIFICATE OF CONFORMITY

Issuing Authority

Name: Czech Metrology Institute
Address: Okružní 31,
638 00 Brno, CZ
Person responsible: Jan Kalandra

Applicant

Name: Ningbo Water meter Co., Ltd.
Address: No. 99, Lane 268, Beihai Road
315033 Ningbo
China

Manufacturer of the certified type

Name: Ningbo Water Meter Co., Ltd.
Address: No. 99, Lane 268, Beihai Road
315033 Ningbo
China

Identification of the certified type

Multi jet water meter
Type: MJ-SDC

Further characteristics see page 3-4

This certificate attests the conformity of above identified type (represented by the sample or samples identified in the associated test report) with the requirements of the following Recommendation(s) of the International Organization of Legal Metrology (OIML):

R 49, edition 2006, for accuracy class 2

This certificate relates only to the metrological and technical characteristics of the type of instrument covered by the relevant OIML Recommendation(s) 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 Test report: No. 6015-PT-A0038-11 that includes 84 pages.

Measuring system description:

The water meters type MJ-SDC are multi jet rotary vane wheel water meters with dry mechanical indicating device (Plastic Can Calculator) or supper dry mechanical indicating device (Copper Can Calculator).

The water meters type MJ-SDC (E) consist of a brass, bronze, iron or plastic body with connecting threads or flanges and inlet strainer (optional), a adjusting screw, a wet measuring unit, a register chamber with magnetic protection ring and two agate bearings (there is only the top bearing for DN 15 and DN 20), a rubber gasket, a second magnetic protection ring, a dry or super dry mechanical indicating device, a rubber O-ring, a glass disc, a register holder ring, a rubber gasket and brass, bronze, steel or plastic head ring with a plastic cover.

The water meters type MJ-SDC (E5) consist of a brass, bronze, iron or plastic body with connecting threads or flanges and inlet strainer (optional), a adjusting screw, a wet measuring unit, a register chamber with magnetic protection ring and two agate bearings, a rubber gasket, a second magnetic protection ring, a dry or super dry mechanical indicating device, a register holder ring, a sliding gasket and brass, bronze, steel or plastic head ring with a plastic cover.

The water meters type MJ-SDC (G) consist of a brass, bronze, iron or plastic body with connecting threads or flanges and inlet strainer (optional), a adjusting screw, a wet measuring unit, a pressure plate with magnetic protection ring and two agate bearings (there is only the top bearing for DN 15 and DN 20), a second magnetic protection ring, a rubber O-ring, a sliding gasket, a brass, bronze, steel or plastic inner head ring, a dry or super dry mechanical indicating device with transparent plastic cover and a plastic cup with a clamp on plastic cover.

The water meters type MJ-SDC (Z) consist of a brass, bronze, iron or plastic body with connecting threads or flanges and inlet strainer (optional), a adjusting screw, a wet measuring unit, a register chamber with magnetic protection ring and one agate bearing, a rubber gasket, a second magnetic protection ring, a rotary dry or super dry mechanical indicating device, a register holder ring (not for DN 15 and DN 20), a rubber gasket and brass, bronze, steel or plastic head ring with a plastic cover cup.

The measuring unit consists of an internal strainer, a plastic distributor with tangential holes, a stainless shaft with plastic pivot, a rotary vane wheel with magnetic holder and plastic shaft.

There are two types of the mechanical indicating device.

The first one is formed by numbered rollers with five drums and four rotary pointers for water meters DN 15 to DN 32 and six drums and three or four rotary pointers for water meters DN 40 and DN 50.

The second one is formed by numbered rollers with eight drums and one rotary pointer for water meters DN 15 to DN 32 and eight drums and one or two pointers for water meters DN 40 and DN 50.

These calculators can be designated for inclined reading. There is star wheel with six arms which can be used for rapid testing in mechanical indicating device.

The water meters type MJ-SDC can be equipped by a reed impulse transmitter which can be used for remote reading.

The water meters type MJ-SDC shall be installed to operate in horizontal or vertical positions only, according to used meter body.


The Issuing Authority
Jan Kalandra




The OIML Member
Pavel Klenovský

27 July 2011

27 July 2011

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 the associated test report is not permitted although either may be reproduced in full.

Characteristics:

Basic technical data of water meters type MJ-SDC DN 15 to DN 25:

Nominal diameter (DN) [mm]:	15	20	25
Overload flowrate (Q_4) [m^3/h]:	≤ 3.13	≤ 5.00	≤ 7.88
Permanent flowrate (Q_3) [m^3/h]:	$\leq 2.50^1$	$\leq 4.00^1$	$\leq 6.30^1$
Transitional flowrate (Q_2) [m^3/h]:	≥ 0.0500	≥ 0.0800	≥ 0.126
Minimum flowrate (Q_1) [m^3/h]:	≥ 0.0313	≥ 0.0500	≥ 0.0788
Ratio Q_3 / Q_1 :	$\leq 80^2$		
Ratio Q_2 / Q_1 :	1.6		
Ratio Q_4 / Q_3 :	1.25		
Accuracy class:	2		
Maximum permissible error for the lower flowrate zone (MPE _l):	$\pm 5\%$		
Maximum permissible error for the upper flowrate zone (MPE _u):	$\pm 2\%$ for water having a temperature $\leq 30\text{ }^\circ\text{C}$ $\pm 3\%$ for water having a temperature $> 30\text{ }^\circ\text{C}$		
Temperature class:	T30 and T50		
Water pressure classes:	MAP 16		
Pressure-loss classes:	$\Delta P 63$		
Indicating range [m^3]:	99 999		
Resolution of the indicating device [m^3]:	0.00005		
Resolution of the device for the rapid testing [pulse/L]:	71.185	54.000	37.385
Flow profile sensitivity classes:	U0 D0		
Orientation limitation:	H or V according to used meter body		
Length of horizontal water meter L [mm]:	110 to 190	160 to 190	160 to 260
Length of vertical water meter L [mm]:	100 to 105		105 to 110
Connection type- Screw thread size:	G $\frac{3}{4}$ B or G1B	G1B	G1 $\frac{1}{4}$ B or G1 $\frac{1}{2}$ B
Reed switch power supply (U_{max} / I_{max}):	max. 24 V / 0.01 A		
Reed switch K-faktor [impulse / L]:	0.001, 0.01, 0.1 and 1		

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

² The ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 10.

Basic technical data of water meters type MJ-SD DN 32 to DN 50:

Nominal diameter (DN) [mm]:	32	40	50
Overload flowrate (Q_4) [m^3/h]:	≤ 12.5	≤ 20.0	≤ 31.3
Permanent flowrate (Q_3) [m^3/h]:	≤ 10.0 ¹	≤ 16.0 ¹	≤ 25.0 ¹
Transitional flowrate (Q_2) [m^3/h]:	≥ 0.200	≥ 0.320	≥ 0.50
Minimum flowrate (Q_1) [m^3/h]:	≥ 0.125	≥ 0.200	≥ 0.313
Ratio Q_3 / Q_1 :	≤ 80 ²		
Ratio Q_2 / Q_1 :	1.6		
Ratio Q_4 / Q_3 :	1.25		
Accuracy class:	2		
Maximum permissible error for the lower flowrate zone (MPE _l):	$\pm 5\%$		
Maximum permissible error for the upper flowrate zone (MPE _u):	$\pm 2\%$ for water having a temperature $\leq 30\text{ }^\circ\text{C}$ $\pm 3\%$ for water having a temperature $> 30\text{ }^\circ\text{C}$		
Temperature class:	T30 and T50		
Water pressure classes:	MAP 16		
Pressure-loss classes:	ΔP 63		
Indicating range [m^3]:	99 999	999 999	
Resolution of the indicating device [m^3]:	0.00005	0.0005 or 0.00005	
Resolution of the device for the rapid testing [pulse/L]:	23.143	10.542	
Flow profile sensitivity classes:	U0 D0		
Orientation limitation:	H		
Length of horizontal water meter L [mm]:	160 to 260	200 to 300	270 to 300
Connection type– Screw thread size:	G1½B	G2B	G2½B or Flange
Reed switch power supply (U_{max} / I_{max}):	max. 24 V / 0.01 A		
Reed switch K-factor [impulse / L]:	0.001, 0.01, 0.1 and 1		

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

² The ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 10.