



Member state  
Czech Republic

OIML Certificate No.  
R49/2006-CZ-11.02

## 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-LFC and MJ-WDC**

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-A0037-11 that includes 159 pages.

**Measuring system description:**

The water meters type MJ-WDC are multi jet rotary vane wheel water meters with wet mechanical indicating device.


The water meters type MJ-LFC are multi jet rotary vane wheel water meters with semi dry (Liquid Filled Calculator) indicating device mechanical indicating device with protected registered drums.

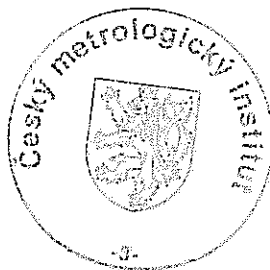
The water meters type MJ-LFC and MJ-WDC consist of a brass, bronze, iron or plastic body, an inlet strainer, a wet measuring unit with a plastic distributor with tangential holes, a rotary vane wheel and gears, a mechanical indicating device with pointers and registered drums, a glass and a brass or plastic head ring with a plastic cover. The numbered drums are installed in capsule filled by special liquid. The adjustment is realized by adjusting screw. The access to the adjusting screw is protected by sealed screw.

The mechanical indicating device is formed by numbered rollers with five drums for water meters DN 15 to DN 32 and six drums for water meters DN 40 and DN 50 and four pointers.

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

The water meters type MJ-LFC and MJ-WDC shall be installed to operate in horizontal or vertical position only with the indicating device positioned at the top, according to used meter body.

  
**The Issuing Authority**  
Jan Kalandra



  
**The CIML 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-LFC and MJ-WDC DN 15 to DN 25:

Nominal diameter (DN) [mm]:	15	20	25
Overload flowrate ( $Q_4$ ) [ $m^3/h$ ]:	$\leq 3.13$	$\leq 5.00$	$\leq 7.88$
Permanent flowrate ( $Q_3$ ) [ $m^3/h$ ]:	$\leq 2.50^1$	$\leq 4.00^1$	$\leq 6.30^1$
Transitional flowrate ( $Q_2$ ) [ $m^3/h$ ]:	$\geq 0.0200$	$\geq 0.0320$	$\geq 0.0504$
Minimum flowrate ( $Q_1$ ) [ $m^3/h$ ]:	$\geq 0.0125$	$\geq 0.0200$	$\geq 0.0315$
Ratio $Q_3 / Q_1$ :	$\leq 200^2$		
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 <sub>l</sub> ):	$\pm 5\%$		
Maximum permissible error for the upper flowrate zone (MPE <sub>u</sub> ):	$\pm 2\%$ 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		
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		

<sup>1</sup> The value of  $Q_3$  shall be chosen from the R5 line of ISO 3:1973.

<sup>2</sup> 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-LFC and MJ-WDC DN 32 to DN 50:

Nominal diameter (DN) [mm]:	32	40	50
Overload flowrate ( $Q_4$ ) [ $m^3/h$ ]:	$\leq 12.5$	$\leq 20.0$	$\leq 31.3$
Permanent flowrate ( $Q_3$ ) [ $m^3/h$ ]:	$\leq 10.0$ <sup>1</sup>	$\leq 16.0$ <sup>1</sup>	$\leq 25.0$ <sup>1</sup>
Transitional flowrate ( $Q_2$ ) [ $m^3/h$ ]:	$\geq 0.0800$	$\geq 0.128$	$\geq 0.160$
Minimum flowrate ( $Q_1$ ) [ $m^3/h$ ]:	$\geq 0.0500$	$\geq 0.0800$	$\geq 0.100$
Ratio $Q_3 / Q_1$ :	$\leq 200$ <sup>2</sup>		$\leq 250$ <sup>2</sup>
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 <sub>l</sub> ):	$\pm 5\%$		
Maximum permissible error for the upper flowrate zone (MPE <sub>u</sub> ):	$\pm 2\%$ 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	999 999	
Resolution of the indicating device [ $m^3$ ]:	0,00005	0,00005	
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-faktor [impulse / L]:	0,001; 0,01; 0,1 and 1		

<sup>1</sup> The value of  $Q_3$  shall be chosen from the R5 line of ISO 3:1973.

<sup>2</sup> 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.