



OIML Member State

Czech Republic

OIML Certificate No.

R49/2013-A-CZ1-2020.03

OIML CERTIFICATE ISSUED UNDER SCHEME A

OIML Issuing Authority

Name: Czech Metrology Institute

Address: Okružní 31

638 00 Brno

Czech Republic

Person responsible: Jan Kalandra

Applicant

Name: Lianyungang Lianli First Meter Co., Ltd.

Address: 9# Yuzhou South Road

Haizhou Development Zone

Lianyungang, Jiangsu

China

Manufacturer

Name: Lianyungang Lianli First Meter Co., Ltd.

Address: 9# Yuzhou South Road

Haizhou Development Zone

Lianyungang, Jiangsu

China

Identification of the certified type *(the detailed characteristics will be defined in the additional pages)*

water meter – Woltmann, type LXLGC DN40 – DN500

Designation of the module *(if applicable)*

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This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

OIML R 49

Edition (year): 2013

For accuracy class (if applicable): 2



This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML 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 type evaluation report:

- No. 0511-ER-0006-20 dated 15 October 2020 that includes 79 pages including annexes.
- Test report No. 6015-PT-P5004-20 issued by CMI dated 30 September 2020 that includes 113 pages including annexes.

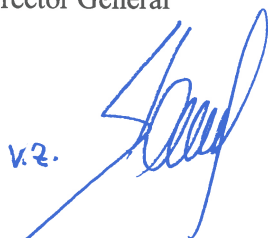
The technical documentation relating to the identified type is contained in documentation file:
0511-UL-V106-18

OIML Certificate History

Revision No.	Date	Description of the modification
Addition 0	16 October 2020	Issuing certificate

The OIML Issuing Authority

RNDR. Pavel Klenovský
Director General

V.č.




Date: 16 October 2020

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 type evaluation report(s) is not permitted, although either may be reproduced in full.

Measuring system description

The water meters type LXLGC are designed to measure, memorise and display the volume at metering conditions of water passing through the measurement transducer.

The water meters type LXLGC are horizontal woltmann meter. The water meters type LXLGC consist of a cast iron body with connecting flanges, an interchangeable wet measurement unit with adjusting device and a dry mechanical indicating device or super dry mechanical indicating device (Copper Can Calculator). There is water meter flange cover connected by screws and sealed by o-ring or rubber gasket on the measuring unit.

The measurement unit consists of a inlet flow straightener with stainless steel shaft with tungsten carbide end or tungsten steel shaft, a plastic turbine with two composite axial bearings and two radial sapphire bearings, an outlet flow straightener with stainless steel shaft with tungsten carbide end or tungsten steel shaft, a transmission shaft with a magnetic coupling formed by two or four cube shape magnets protected by shaft tube, water meter flange cover, an adjusting screw(DN100~DN500) sealed by silicon o-ring with adjusting slide or an adjusting copper plate(DN40~DN80) sealed by silicon o-ring, a dry indicating device (Plastic or Copper Can Calculator), a steel cap with an aluminium lid.

The water meters type LXLGC are equipped with a dry (Plastic Calculator) or super dry (Copper Can Calculator) indicating device formed by:

- Numbered rollers with six drums and two rotary pointers
- Numbered rollers with seven drums and three rotary pointers

There is star wheel with six arms which can be used for rapid testing in mechanical indicating device.

The water meters type LXLGC can be equipped by reed impulse transmitter which can be used for remote reading.

The water meters type LXLGC shall be installed to operate in horizontal position only with the indicating device positioned at the top.

Marks and inscriptions

The water meters type LXLGC shall be clearly and indelibly marked with the following information:

- Water meter type
- Unit of measurement (m^3)
- Numerical value Q_3 in m^3/h ($Q_3 \times \times$) and the ratio Q_3 / Q_1 ,
- Type approval sign according to national regulations
- Manufacturer's name, registered trade name or registered trade mark
- Year of manufacture, two last digits of the year of manufacture, or the month and year of manufacture
- Serial number (as near as possible to the indicating device)
- Direction of flow, by means of an arrow (shown on both sides of the body or on one side only provided the direction of flow arrow is easily visible under all circumstances)
- Maximum admissible pressure ($\text{MAP} \times \times$)
- Letter H↑ (horizontal position with the indicating device at the top)
- The temperature class ($\text{T} \times \times$)
- The pressure loss class ($\Delta P \times \times$)
- The installation sensitivity class ($\text{U} \times \text{D} \times$)

These markings shall comply with the requirements of OIML R 49 and shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use.

Table 1 Technical and metrological characteristics DN40 – DN125

Manufacturer:	Lianyungang Lianli First Meter Co., Ltd. 9# Yuzhou South Road, Haizhou Development Zone, Lianyungang, Jiangsu, China					
Model number:	LXLGC					
Nominal diameter:	40	50	65	80	100	125
Type details:						
Q_1 [m³/h]:	flowrates are shown in Table <i>Basic metrological data (flowrates)</i>					
Q_2 [m³/h]:						
Q_3 [m³/h]:						
Q_4 [m³/h]:						
Q_3/Q_1 :	50	50; 80				
Q_2/Q_1 :	1.6					
Q_4/Q_3 :	1.25					
Measuring principle:	Water meter - woltmann					
Accuracy class:	2					
Maximum permissible error for the lower flowrate zone (MPE _l):	±5 %					
Maximum permissible error for the upper flowrate zone (MPE _u):	±2 % for water having a temperature ≤ 30 °C ±3 % for water having a temperature > 30 °C					
Temperature class:	T30; T50; T90					
Water pressure class:	MAP16					
Pressure loss class:	ΔP40					
Environmental class:	O					
Electromagnetic environment:	E1					
Maximum admissible temperature [°C]:	30; 50; 90					
Maximum admissible pressure [MPa]:	1.6					
Orientation limitation:	H↑ (horizontal with the indicating device at the top)					
Indicating range [m³]:	999 999 or 9 999 999					
Resolution of the indicating device [m³]:	0.001 or 0.0005					
Resolution of the device for rapid testing [impulse/L]:	1.0309	1.0309	1.0309	0.7778	0.3325	0.2565
EUT testing requirements (OIML R 49-2:2013, 8.1.8):						
Category:	Positive displacement meters and turbine water meters					
Case:	A					
Installation details:						
Connection type (screw thread):	Flanges					
Minimum straight length of inlet pipe [mm]:	400	500	650	800	1000	1250
Minimum straight length of outlet pipe [mm]:	200	250	325	400	500	625

Flow conditioner (details if required):	-					
Mounting:	-					
Orientation:	H↑ (horizontal with the indicating device at the top)					
Other relevant information:	Flow profile sensitivity classes U10 and D5					
Length [mm]:	200; 300	200	200	200; 225	250	250
Informations specified by the manufacturer						
Reed switch power supply (U_{\max} / I_{\max}):	Max. 24V/ 0.01A					
Reed switch K-factor (impulse / L):	0.01 and 0.001					

Table 2 Technical and metrological characteristics DN150 – DN500

Manufacturer:	Lianyungang Lianli First Meter Co., Ltd. 9# Yuzhou South Road, Haizhou Development Zone, Lianyungang, Jiangsu, China					
Model number:	LXLGC					
Nominal diameter:	150	200	250	300	350	400 500
Type details:						
Q_1 [m ³ /h]:	flowrates are shown in Table <i>Basic metrological data (flowrates)</i>					
Q_2 [m ³ /h]:						
Q_3 [m ³ /h]:						
Q_4 [m ³ /h]:						
Q_3/Q_1 :	50; 80					
Q_2/Q_1 :	1.6					
Q_4/Q_3 :	1.25					
Measuring principle:	Water meter - woltmann					
Accuracy class:	2					
Maximum permissible error for the lower flowrate zone (MPE_l):	± 5 %					
Maximum permissible error for the upper flowrate zone (MPE_u):	±2 % for water having a temperature ≤ 30 °C ±3 % for water having a temperature > 30 °C					
Temperature class:	T30; T50; T90					
Water pressure class:	MAP16					
Pressure loss class:	ΔP40					
Environmental class:	O					
Electromagnetic environment:	E1					
Maximum admissible temperature [°C]:	30; 50; 90					
Maximum admissible pressure [MPa]:	1.6					
Orientation limitation:	H↑ (horizontal with the indicating device at the top)					
Indicating range [m ³]:	9 999 999 or 99 999 999			99 999 999 or 999 999 999		
Resolution of the indicating device [m ³]:	0.01 or 0.005			0.1 or 0.05		

Resolution of the device for rapid testing [impulse/L]:	0.09425	0.04	0.02565	0.01765	0.008836	0.007389	0.003771
EUT testing requirements (OIML R 49-2:2013, 8.1.8):							
Category:	Positive displacement meters and turbine water meters						
Case:	A						
Installation details:							
Connection type (screw thread):	Flanges						
Minimum straight length of inlet pipe [mm]:	1500	2000	2500	3000	3500	4000	5000
Minimum straight length of outlet pipe [mm]:	750	1000	1250	1500	1750	2000	2500
Flow conditioner (details if required):	-						
Mounting:	-						
Orientation:	H↑ (horizontal with the indicating device at the top)						
Other relevant information:	Flow profile sensitivity classes U10 and D5						
Length [mm]:	300	350	450	500	500	600	600/800
Informations specified by the manufacturer							
Reed switch power supply (U_{\max} / I_{\max}):	Max.24V/0.01A						
Reed switch K-factor (impulse / L):	0.001 and 0.0001				0.0001 and 0.00001		

Table 3 Basic metrological data (flowrates)

Manufacturer:	Lianyungang Lianli First Meter Co., Ltd. 9# Yuzhou South Road, Haizhou Development Zone, Lianyungang, Jiangsu, China													
Model number:	LXLGC													
Nominal diameter:	40	50		65		80		100		125		150		
Type details:														
Q_1 [m³/h]:	0.50	0.80	0.50	0.80	0.50	1.26	0.79	2.00	1.25	3.20	2.00	5.0	3.1	
Q_2 [m³/h]:	0.80	1.28	0.80	1.28	0.80	2.02	1.26	3.20	2.00	5.12	3.20	8.0	5.0	
Q_3 [m³/h]:	25.00	40.00	40.00	40.00	40.00	63.00	63.00	100.00	100.00	160.00	160.00	250.0	250.0	
Q_4 [m³/h]:	31.25	50.00	50.00	50.00	50.00	78.75	78.75	125.00	125.00	200.00	200.00	312.5	312.5	
Q_3/Q_1 :	50	50	80	50	80	50	80	50	80	50	80	50	80	

Manufacturer:	Lianyungang Lianli First Meter Co., Ltd. 9# Yuzhou South Road, Haizhou Development Zone, Lianyungang, Jiangsu, China											
Model number:	LXLGC											
Nominal diameter:	200	250	300	350	400	500						
Type details:												
Q_1 [m³/h]:	8.0	5.0	12.6	7.9	20.0	12.5	32.0	20.0	32.0	20.0	50.0	31.3
Q_2 [m³/h]:	12.8	8.0	20.2	12.6	32.0	20.0	51.2	32.0	51.2	32.0	80.0	50.0
Q_3 [m³/h]:	400.0	400.0	630.0	630.0	1000.0	1000.0	1600.0	1600.0	1600.0	1600.0	2500.0	2500.0
Q_4 [m³/h]:	500.0	500.0	787.5	787.5	1250.0	1250.0	2000.0	2000.0	2000.0	2000.0	3125.0	3125.0
Q_3/Q_1 :	50	80	50	80	50	80	50	80	50	80	50	80

Security measures

One of the screws connecting the water meter body and the flange cover and the lead screw of the cap have to be sealed. The seals are realized by a wire with a lead or plastic seal.