



OIML Member State
SLOVAKIA

OIML Certificate No.
R49/2013-A-SK1-2024.02

OIML CERTIFICATE ISSUED UNDER SCHEME A

OIML Issuing Authority

Name: **Slovak Legal Metrology (SLM)**
Address: Hviezdoslavova 1124/31, 974 01 Banská Bystrica, Slovakia
Person responsible: Dušan Šmigura, Director of PCB

Applicant

Name: **Hangzhou Laison Technology Co., Ltd.**
Address: No. 525 Xixi Road
310000 Hangzhou, Zhejiang, China

Manufacturer

Name: **Hangzhou Laison Technology Co., Ltd.**
Address: No. 525 Xixi Road
310000 Hangzhou, Zhejiang, China

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

Water meter type **LXSZ**

Designation of the module (*if applicable*)

Mechanical multi-jet water meter

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): 1 and 2



**OIML Certificate No.
R49/2013-A-SK1-2024.02**

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 Test Report No. 2023/CV020/312.15 dated 22th April 2024 that includes 54 pages;
OIML Type Evaluation Report No. 2023/ER020/SK1 dated 25th April 2024 that includes 16 pages.

The technical documentation relating to the identified type is contained in documentation file name:
„Technical documentation file Hangzhou Laison_LXSZ_00“ dated 25th April 2024 that includes a sum of documents 60 pages.

OIML Certificate History

Revision No.	Date	Description of the modification
0	25 th April 2024	Certificate first issued
-	-	-

Identification, signature and stamp

The OIML Issuing Authority




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Dušan Šmigura

Date: 25th April 2024

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.

1. Designation

The mechanical water meter LXSZ is designed to measuring, memorizing and displaying the volume of water passing through the measurement transducers at metering conditions. The water meter is intended for the measurement of volume of clean water in residential and commercial use.

The water meter LXSZ is mechanical multi-jet wet dial type water meter. The measurement is based on the rotary movement of the turbine wheel (impeller) is transmitted to the gear transmission and to wet type register indicating the measurement results.

The water meter LXSZ can be installed to operate in horizontal position with the indication device positioned at the top and is not designed to measure the reverse flow.

2. Description

2.1 Parts of the water meter LXSZ

Essential parts:

- brass body with inlet and outlet connections;
- measuring mechanism consisting of impeller with an axle perpendicular to the flow direction, the rotary movement is transmitted through the gearing to the mechanical counter,
- wet-dial mechanical register and indication device with 5 numbered drums (least significant drum moves continuously) and 4 continuously moving rotating pointers;
- filter;
- magnetic coupling for the connection of the register with the measuring mechanism;
- gearing mechanism;
- pulse counter - rotating plum needle with infrared device - using the number of revolutions of the plum needle, it is possible to calculate the volume of water flowed (for calibration of the water meter).

Non-essential parts of the water meters:

- prepaid part mounted above the mechanical water meter;
- valve for prepaid part;
- LoRa RF Wireless Comm.;
- reserved Infrared Comm.

2.2 Metrological functions

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



3. Technical and metrological data

Water meter type		LXSZ		
Characteristics	Unit			
Nominal diameter DN	mm	DN15	DN20	DN25
Permanent flowrate Q_3	m ³ /h	2,5	4	4
Minimum flowrate Q_1	m ³ /h	0,015625	0,025	0,025
Transitional flowrate Q_2	m ³ /h	0,025	0,04	0,04
Overload flowrate Q_4	m ³ /h	3,125	5	5
Ratio O_3/O_1	R	160		
Ratio O_2/O_1	-	1,6		
Connection thread	mm	G 3/4 B	G1 B	G1 1/4 B
Construction length L	mm	165	195	225
Installation orientation	-	H dial up		
Water temperature range (temperature class)	°C	0,1 to 50 (T50)		
Maximum admissible pressure MAP	bar	16		
Pressure loss class Δp	bar -	0,63 Δp 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 range $Q_1 \leq Q < Q_2$	%	± 5		
Capacity of mechanical calculator	m ³	99999,9999		
Scale interval	m ³	0,00005		
Accuracy class	-	2		
Mechanical class	-	M1		
Climatic class	°C	- 25 to + 55		
Electromagnetic class	-	E2		
Flow profile sensitivity class	-	U10D5		

4. Marking and inscriptions

The following data shall be marked on the water meter:

- a) unit of measurement (m³);
- b) flowrate Q_3 and ratio Q_3/Q_1 (R);
- c) type of water meter;
- d) manufacturers name or trademark;
- e) year of manufacture or the month and year of manufacture;
- f) serial number;
- g) 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);
- h) maximum admissible pressure (MAP);
- i) letter H, if the meter can only be operated in the horizontal position;

- j) temperature class (T);
- k) pressure loss class (Δp);
- l) the installation sensitivity class where it different from U0/D0;
- m) environmental classification (can be given on a document supplied separately);
- n) electromagnetic environmental class (can be given on a document supplied separately);
- o) type approval sign according to national regulations.

5. Security measures

The water meters LXSZ shall be protected against unauthorized manipulation and opening by:

- one lead seal with the wire ensures the connection of the upper and lower cover of water meter with prepaid part with preventing access to the mechanical parts of water meter;
- the upper and lower parts of the water meter are fixed with the lower four screws, and the sealing plugs are inserted into the screw holes (Fig. 5).

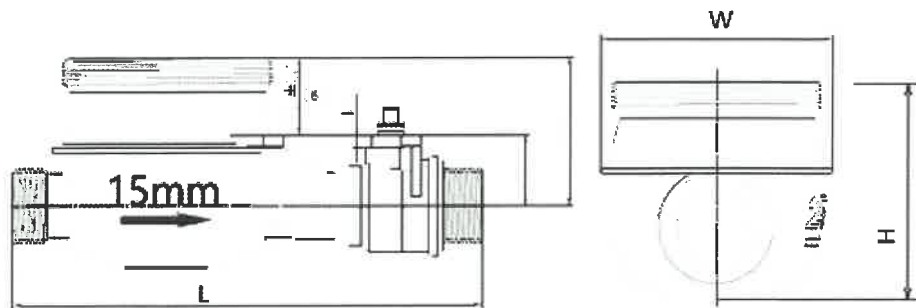
6. Figures



Fig. 1a: Illustrative views of the water meters type LXSZ

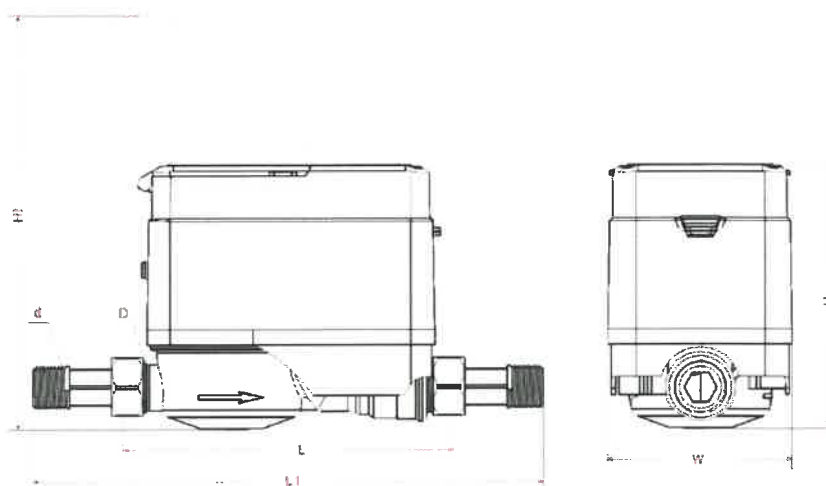


Fig. 1b: Illustrative view of the water meters type LXSZ added with prepaid part



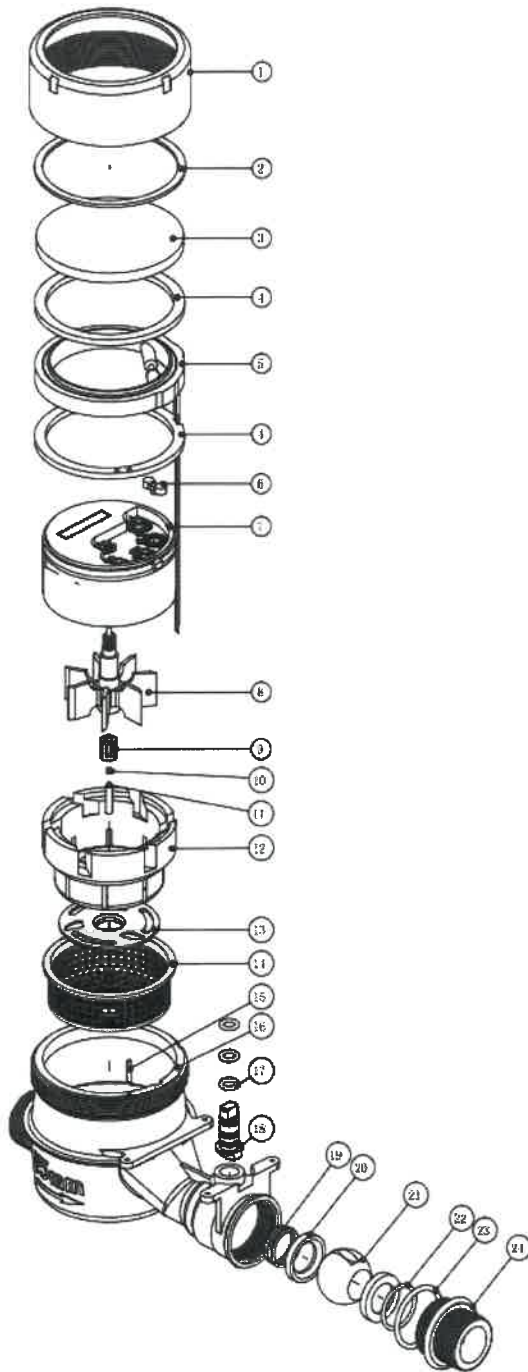
Model	DN	L	H	W
LXSZ-15	15	165	72,8	79
LXSZ-20	20	195	76,5	79
LXSZ-25	25	225	77,8	82

Fig. 2a: Dimensions of mechanical water meter type LXSZ



Model	DN	L	L1	W	H	H1	Connection Thread	
							d	D
LXSZ-15	DN15	165	225	92.5	132.5	207.6	R1/2	G3/4B
LXSZ-20	DN20	195	295	92.5	136	211	R3/4	G1B
LXSZ-25	DN25	225	341	92.5	137	212	R1	G1 1/4B

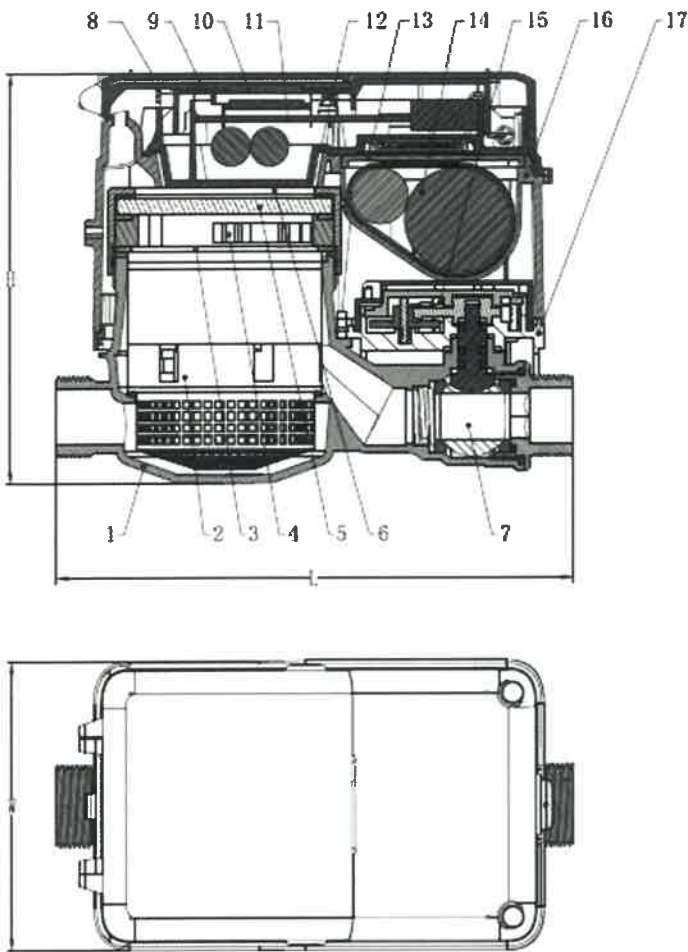
Fig. 2b: Dimensions of water meter type LXSZ added with prepaid part



24	Meter head	1	304Stainless Steel
23	Sealing Ring	1	Silicon
22	Sealing Ring	1	Silicon
21	Ball Valve	1	304Stainless Steel
20	Tetrafluoro Seal Ring	2	PTFE
19	Spring	1	304Stainless Steel
18	Valve Stem	1	ZCuZn40Pb2
17	Sealing Ring	1	Silicon
16	Meter Casing	1	ZCuZn40Pb2
15	Guide Post	1	304Stainless Steel
14	Filter	1	LDPE
13	Control Valve	1	ABS
12	Impeller Cassette	1	ABS
11	Sharp Point	1	Graphite Nylon
10	Bearing	1	Agate
9	Shaft Sleeve	1	POM
8	Impeller	1	ABS
7	Gear Cassette	1	ABS
6	Magnetic Pointer	1	ABS
5	Electromechanical Conversion Device	1	ABS
4	Seal Ring of Meter Casing	2	Silicon
3	Glass	1	Tempered Glass
2	Glass Washer	1	LDPE
1	Stainless Steel Hood	1	304Stainless Steel
S/N	Name	Quantity	Note

Fig. 3: Exploded view of water meter LXSZ





17	Actuator Outer Hood	1	
16	Lower Hood Body	1	
15	Actuator	1	
14	Battery	1	
13	Battery Cover	1	
12	Module Lower Casing	1	
11	Module	1	
10	Module Upper Casing	1	
9	Upper Outer Cover	1	
8	LCD Cover	1	
7	Bell Valve	1	
6	Stainless Steel Hood	1	
5	Glass	1	
4	Electromechanical Conversion Device	1	
3	Seal Ring of Meter Casing	2	
2	Movement	1	
1	Meter Casing	1	
S/N	Name	Quantity	Note

Fig. 4: Cross section of water meter LXSZ added with prepaid part

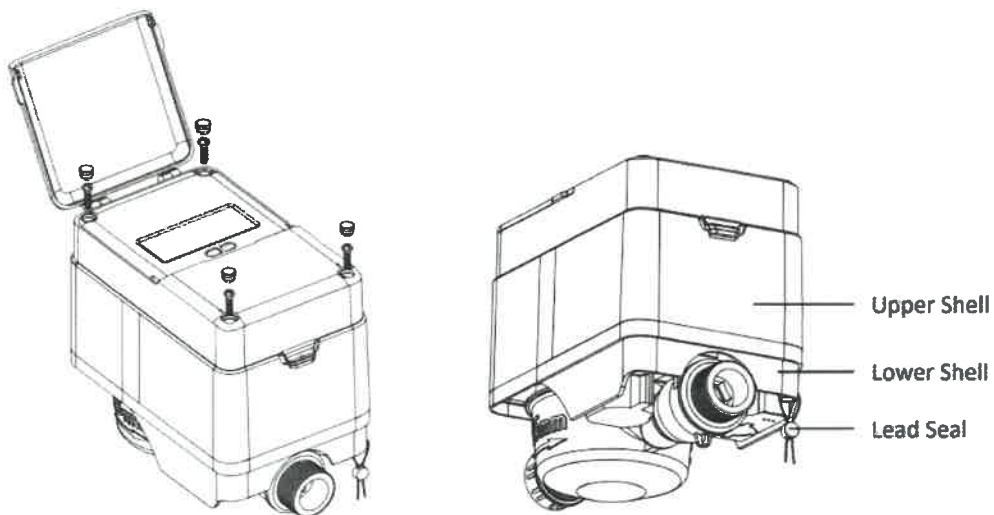


Fig. 5: Sealing of water meter type LXSZ