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Notified Body

No. 1383

EC-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/11 – 4855

Page 1 from 9 pages

In accordance with: point 3 of annex 2 to Government Order No. 464/2005 Coll. (annex B of the Directive 2004/22/EC) from 19 October 2005 that lays down technical requirements on measuring instruments and implements in Czech Republic Directive 2004/22/EC of the European Parliament and of the Council.

Manufacturer: Ningbo Water Meter Co. LTD.
No. 99, Lane 268, Beihai Road
Ningbo 315033
China

For: water meter - single jet
type: SJ-LFC and SJ-WDC
Accuracy class: 2
Temperature class: T30 or T50

Valid until: 4 August 2021

Document number: 0115-CS-A029-11

Description: Essential characteristics, approved conditions and special conditions, if any, are described in this certificate. This certificate contains 9 pages.

Date of issue: 5 August 2011



Certificate approved by:

RNDr. Pavel Klenovský

1. Measuring device description

The single jet water meters type SJ-LFC and SJ-WDC are designed to measure, memorise and display the volume at metering conditions of water passing through the measurement transducer in the sense of the Directive of the European Parliament and of the Council no. 2004/22/EC of measuring instruments, as amended.

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

The water meters type SJ-LFC are single 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 SJ-WDC consist of a brass, bronze or plastic body with connecting threads, an inlet strainer, an adjusting screw (optional), an adjusting button plate, a stainless steel shaft with plastic pivot, a rotary vane wheel and gears, a mechanical indicating device formed by numbered rollers with 5 drums and 4 rotary pointers, a black star wheel with 6 arms, which can be used for rapid testing, a register holder ring, a rubber O-ring, a glass disc, a rubber gasket and brass, bronze, steel or plastic head ring with a plastic cover.

The water meters type SJ-LFC consist of a brass, bronze or plastic body with connecting threads, an inlet strainer, an adjusting screw (optional), an adjusting button plate, a stainless steel shaft with plastic pivot, a rotary vane wheel and gears, a mechanical indicating device formed by numbered rollers with 5 drums, installed in capsule filled by special liquid, and 4 rotary pointers, a black star wheel with 6 arms, which can be used for rapid testing, a rubber O-ring, a glass or plastic disc, a rubber gasket and brass, bronze, steel or plastic head ring with a plastic cover.

The water meters type SJ-LFC and SJ-WDC can be equipped by a reed impulse transmitter which can be used for remote reading, or pre-equipped for further installation.

The water meters type SJ-LFC and SJ-WDC shall be installed to operate in horizontal position only with indicating device on the top.

The water meters type SJ-LFC and SJ-WDC shall be designate by these trademarks:



NWM



The water meters type SJ-LFC and SJ-WDC are manufactured according to the technical documentation of manufacturer No. Q/ZNJ 17005-2010.4.1 Annex 1 from 1st of March 2011. This documentation contains among others the assembly drawings No. ZN1.630.539 539a 539b 540 541 543 543a 544 544a 545 546 from 03/2008 and ZN1.630.549 550 551 553 554 555 from 02/2008.

2. Basic technical data

Nominal diameter (DN) [mm]:	15	20	25	32
Overload flowrate (Q_4) [m^3/h]:	≤ 3.13	≤ 5.00	≤ 7.88	≤ 12.5
Permanent flowrate (Q_3) [m^3/h]:	$\leq 2.50^1$	$\leq 4.00^1$	$\leq 6.30^1$	$\leq 10.0^1$
Transitional flowrate (Q_2) [m^3/h]:	≥ 0.0250	≥ 0.0400	≥ 0.0630	≥ 0.1000
Minimum flowrate (Q_1) [m^3/h]:	≥ 0.0156	≥ 0.0250	≥ 0.0394	≥ 0.0625
Ratio Q_3 / Q_1 :	$\leq 160^2$			
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 or T50			
Water pressure classes:	MAP 10 and 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]:	66.1333	50.7273	27.0000	13.0952
Flow profile sensitivity classes:	U0 D0			



Nominal diameter (DN) [mm]:	15	20	25	32
Orientation limitation:	H			
Length L [mm]:	110 to 190	130	160	160
Connection type– Screw thread size:	G¾B G1B	G1B	G1¼B G1½B	G1½B
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.

3. Test

Technical tests of the water meters type SJ-LFC and SJ-WDC were performed in compliance with the International Recommendation OIML R 49 Edition 2006 (E) with conformity to EN 14154-1:2005+A1:2007, Test Report No. 6015-PT-P0090-11 from April 29th 2011.

4. The measuring device data

The water meters type SJ-LFC and SJ-WDC shall be clearly and indelibly marked with the following information:

- The “CE” marking and supplementary metrology marking
- Number of EC-type examination certificate
- Name or trademark of manufacturer
- Year of manufacturer (last two digit) and serial number (as near as possible to the indicating device)
- Measuring device type
- Unit of measurement (m^3)
- Accuracy class 2
- Numerical value Q_3 in m^3/h ($Q_3 \times \times$)
- The ratio Q_3 / Q_1 , ($R \times \times$)
- The temperature class ($T \times \times$)
- The maximum admissible pressure (MAP $\times \times$)
- The pressure loss class ($\Delta P \times \times$)
- Classes on sensitivity to irregularities in velocity field ($U \times D \times$)
- Direction of flow arrow on both sides of the meter body

There are additional data required if the water meter is equipped with impulse transmitter:

- Output signals for ancillary devices (type / levels)
- External power supply requirements (voltage – frequency)

5. Sealing

The connection of water meter body and closing ring has to be sealed on water meters types SJ-LFC and SJ-WDC. The connection of water meter calculator and reed impulse transmitter has to be sealed, if equipped.

The location of seal is described in Figure 7 and Figure 8.

Figure 1: The water meter type SJ-WDC DN 15 with brass body– view:

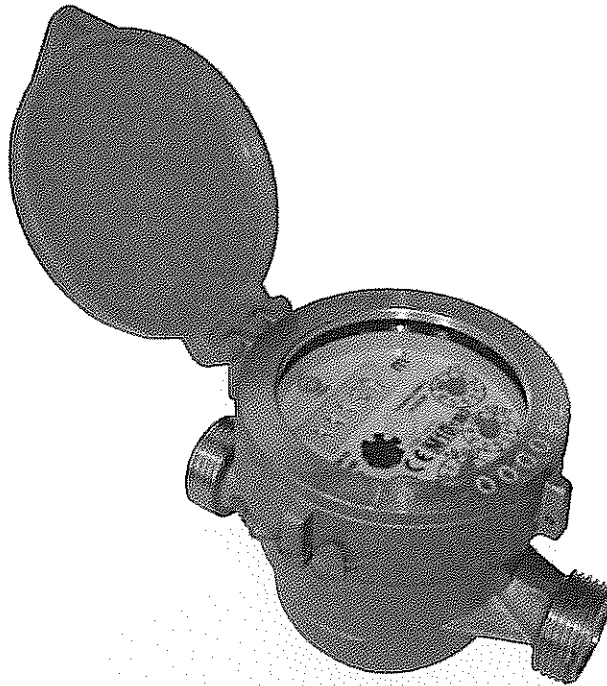


Figure 2: The water meter type SJ-LFC DN 15 with brass body – view:



Figure 3: The water meter type SJ-LFC DN 15 with plastic body – view:



Figure 4: The water meter type SJ-LFC and SJ-WDC with impulse transmitter – view:

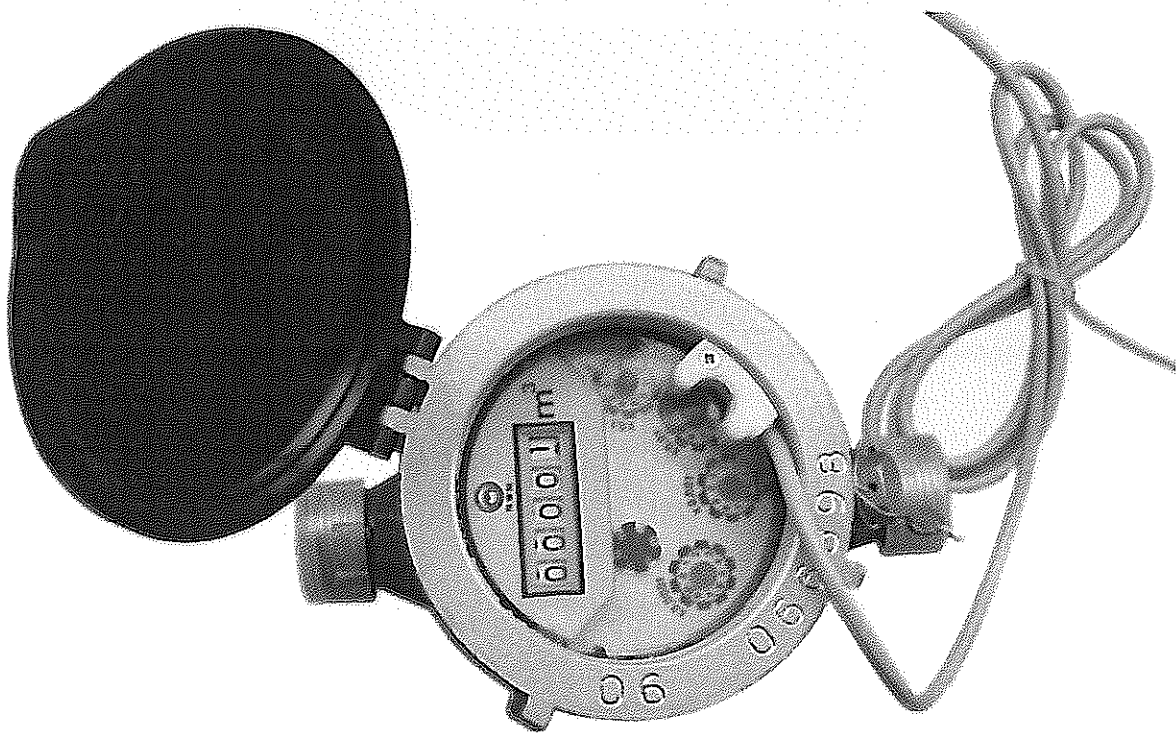


Figure 5: The water meter type SJ-LFC assembly drawings:

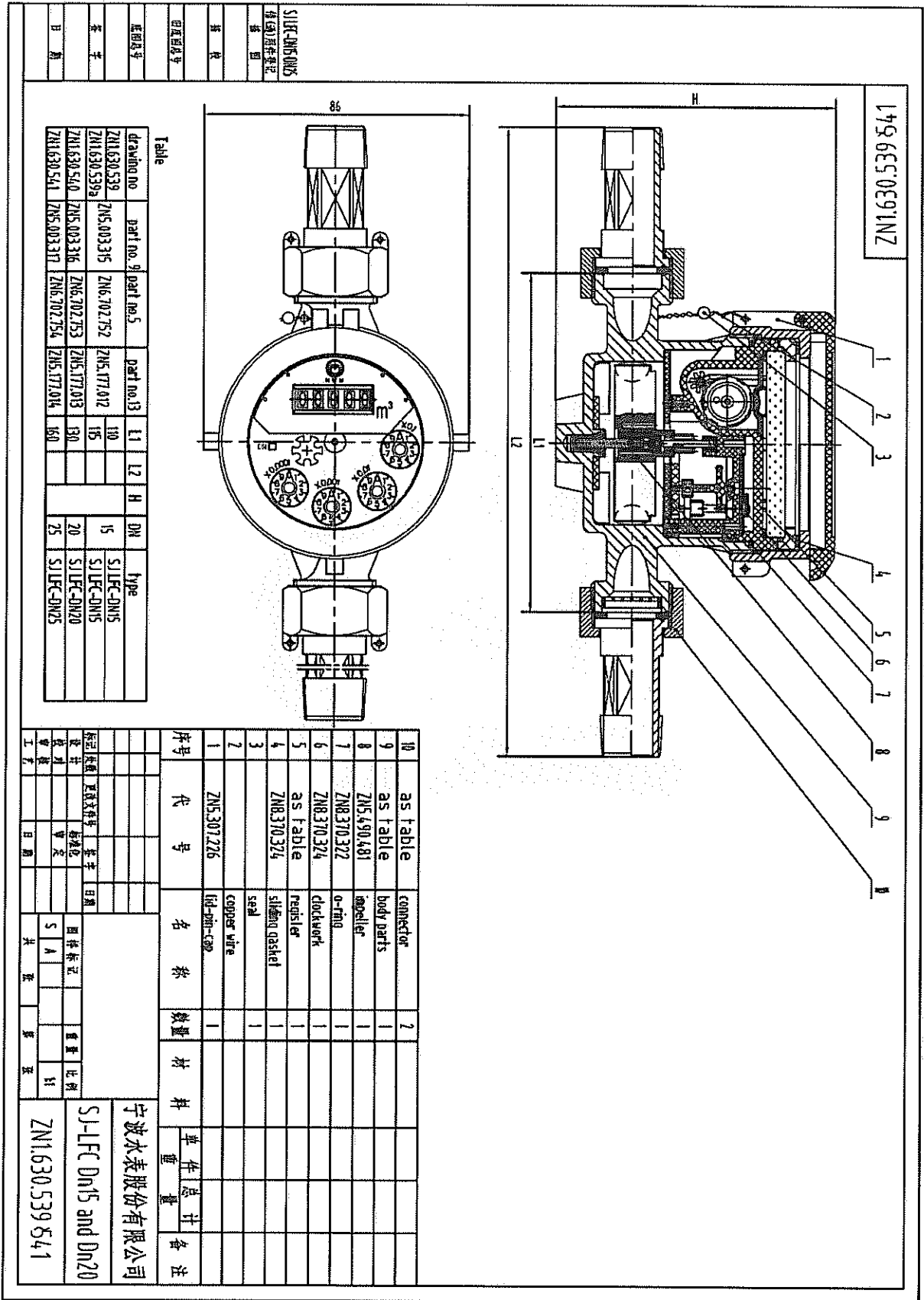


Figure 6: The water meter type SJ-WDC assembly drawings:

SJ WDC DN15

(详细零件表)

图号

比例

日期

设计

审核

工艺

159 6475 069 1N Z

88 X 20

Table

drawing no	part no. 10	part no. 8	part no. 11	L1	L2	H	DN	Type
ZN1.630.549	ZN5.003.319	ZN6.702.340	ZN5.177.012	110			15	SJ WDC-DN15
ZN1.630.550	ZN5.003.320	ZN6.702.341	ZN5.177.013	130			20	SJ WDC-DN20
ZN1.630.551	ZN5.003.321	ZN6.702.342	ZN5.177.014	160			25	SJ WDC-DN25

序号	代号	名称	数量	材料	单件重量	总计重量	备注
1	ZN5.301.229	lid-pin-cap	1				
2		COOPER WIRE	1				
3		seal	1				
4	ZN8.370.324	silicon gasket	1				
5	ZN8.331.063	glass	1				
6	ZN8.370.1029	rubber gasket	1				
7	ZN8.199.022	holding ring	1				
8		regisler	1				
9	ZN5.490.659	impeller	1				
10		body parts	1				
11		connector	2				



Figure 7: The sealing of the water meter type SJ-LFC:

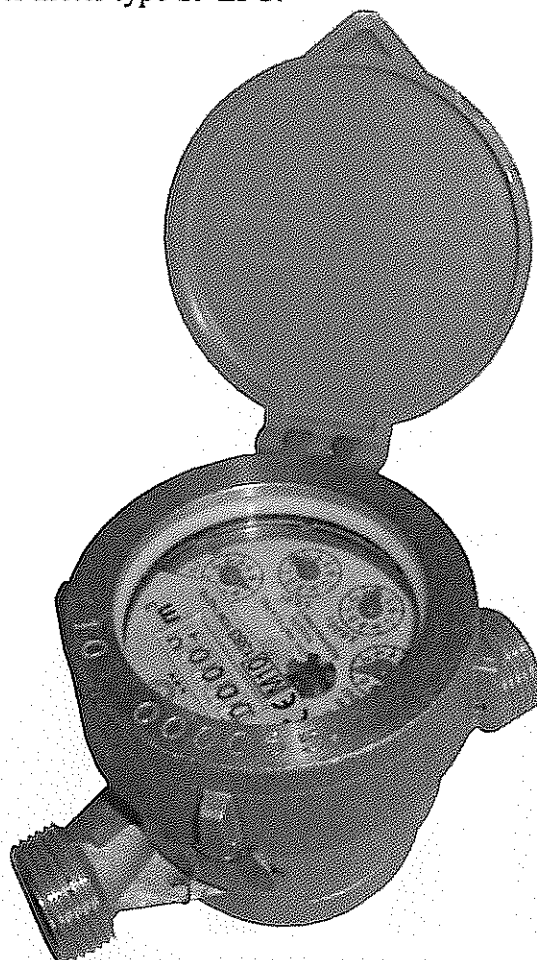


Figure 8: The sealing of the water meter type SJ-WDC:

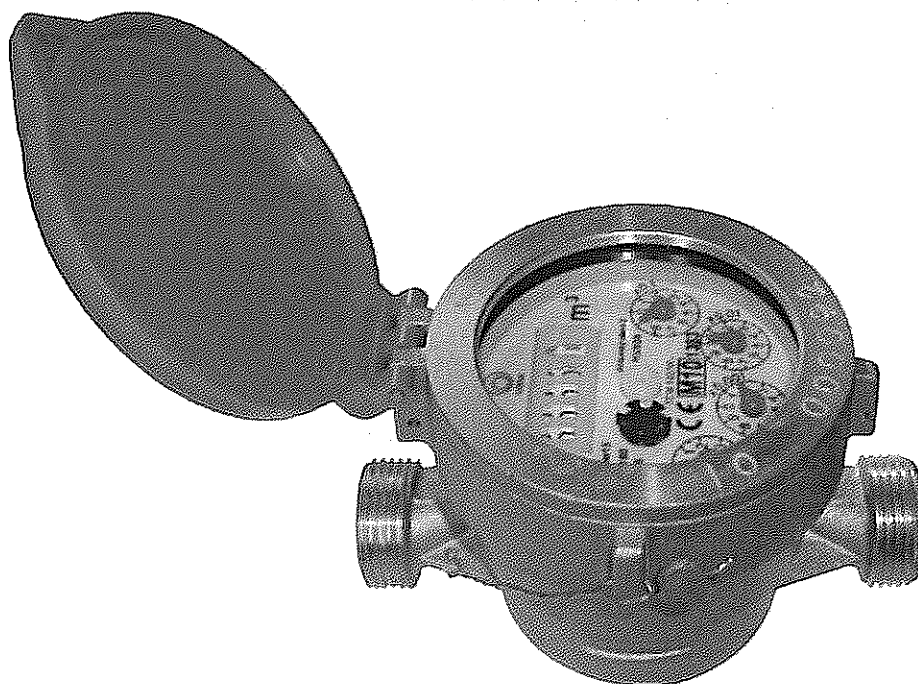


Figure 9: The dial plates of the water meter type SJ-LFC:

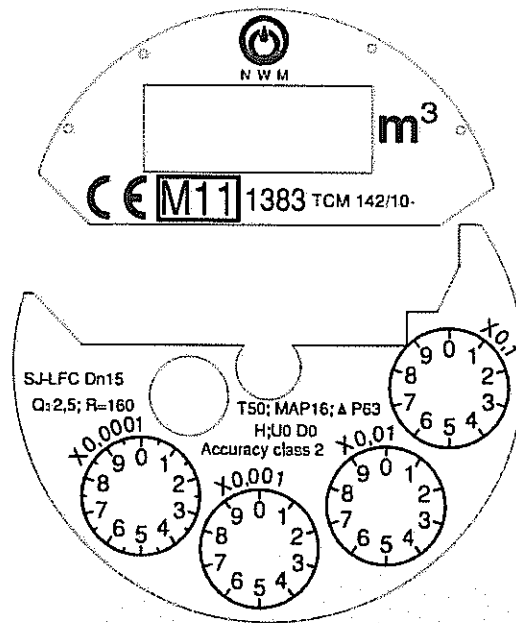


Figure 10: The dial plates of the water meter type SJ-WDC:

