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Notified Body

No. 1383

EC-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/12 – 4923

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

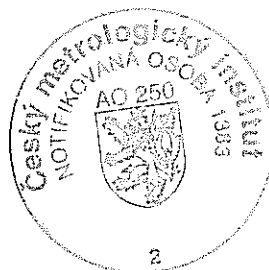
For: water meter - multi jet
type: MJ-SDC PLUS
Accuracy class: 2
Temperature class: T30, T50

Valid until: 9 April 2022

Document number: 0115-CS-A008-12

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

Date of issue: 10 April 2012



Certificate approved by:

RNDr. Pavel Klenovský

1. Measuring device description

The multi jet water meters type MJ-SDC PLUS 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 MJ-SDC PLUS are multi jet rotary vane wheel water meters with dry mechanical indicating device.

The water meters type MJ-SDC PLUS consist of a brass body with connecting screw threads, inlet strainer and adjusting screw, a rubber gasket, plastic casing for an impeller with multiple inlets and outlets, stainless steel shaft with plastic tip, rotary vane impeller with agate bearing and magnetic ring, plastic casing for an indicating device with a rubber O-ring, antimagnetic protection ring, plastic shaft with a magnetic ring, a dry mechanical indicating device, plastic ring, rubber O-ring and a glass window and brass screw head ring with a plastic sliding gasket and a plastic lid.

There are two variants for composition of the mechanical indicating device: variant with 5 numbered rollers and 4 rotary pointers and variant with 8 numbered rollers and 1 rotary pointer. There is a star wheel with 6 arms on the indicating device which can be used for rapid testing.

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

Water meters type MJ-SDC PLUS are manufactured according to technical documentation of manufacturer No. Q/ZNJ 17005-2011.7 Annex 1 from 30.06.2011. This documentation contains among others the assembly drawings No. ZN1.630.519~519c, 520~520a, 611~611c, 612~612a, 613~613c, 614~614a, 619~619c, 610~610a, 615~615c, 616~616a, 617~617c and 618~618a from 02/2011.

2. Basic technical data

Nominal diameter (DN) [mm]:	15	20
Ratio Q_3 / Q_1 :	≤ 200 ¹	
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 classes:	T30, T50	
Water pressure class:	MAP 16	
Pressure-loss class:	ΔP 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]:	90.0938	60.0000
Flow profile sensitivity classes:	U0 D0	
Orientation limitation:	H	
Length L [mm]:	145 to 190	160 to 190
Connection type– Screw thread size:	G $\frac{3}{4}$ B, G1B	G1B
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 ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be at least 10.

Nominal diameter (DN):	Installation position:	Minimum flowrate (Q_1)	Transitional flowrate (Q_2)	Permanent flowrate (Q_3)	Overload flowrate (Q_4)
mm	-	m ³ /h	m ³ /h	m ³ /h	m ³ /h
15	H	≥ 0.0125	≥ 0.0200	≤ 2.50 ¹	≤ 3.13
20	H	≥ 0.0200	≥ 0.0320	≤ 4.00 ¹	≤ 5.00

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



3. Tests

Technical tests of the water meters type MJ-SDC PLUS were performed in compliance with the International Recommendation OIML R 49 Edition 2006 (E) with conformity to EN 14154:2005+A1:2007. Results are summarized in Test Report No. 6015-PT-P0005-12 from January 12th 2012.

4. The measuring device data

The water meters type MJ-SDC PLUS shall be clearly and indelibly marked with the following information:

- The “CE” marking and supplementary metrology marking
- Number of EC-type examination certificate
- Manufacturer’s name or trademark
- Year of manufacturing (last two digits) and serial number (as near as possible to the indicating device)
- Measuring device type
- Unit of measurement (m^3)
- Accuracy class 2
- Numerical value of 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 ($U \times D \times$)
- Orientation limitation (H / V)
- 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 MJ-SDC PLUS meters have to be sealed by connecting the brass screw head ring to the adjusting screw using a wire with a lead seal such that the head ring and the adjusting screw cannot be turned without damaging the seal or the sealing wire.

The connection of water meter calculator and reed impulse transmitter has to be sealed, if equipped. The location of the seal is described in Figure 3.



Figure 1: The water meter type MJ-SDC PLUS, DN15, 8+1 dial – view:

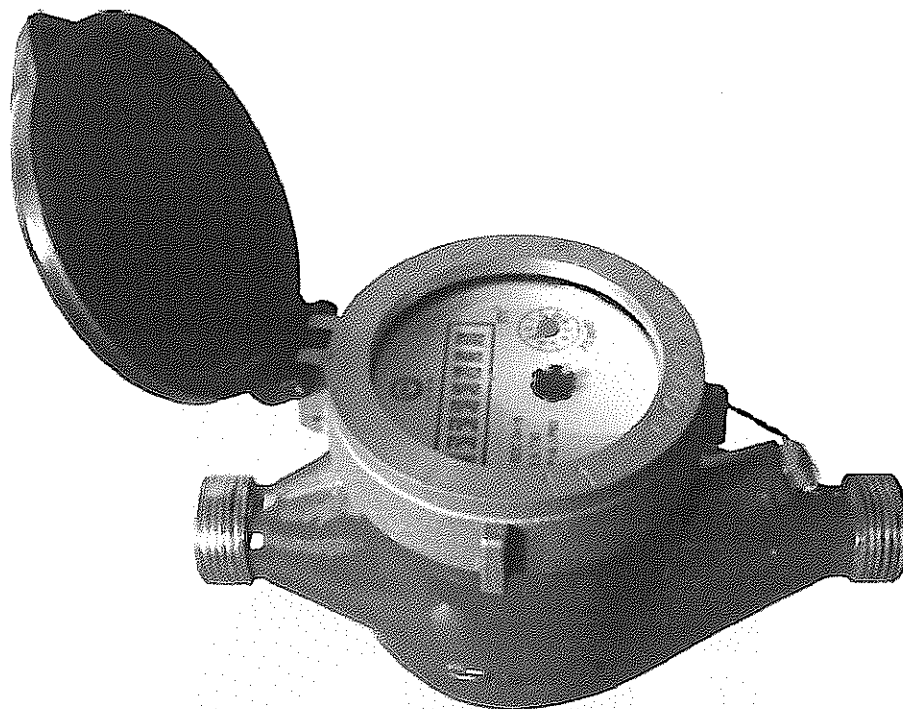


Figure 2: The water meter type MJ-SDC PLUS, DN15, 5+4 dial – view:

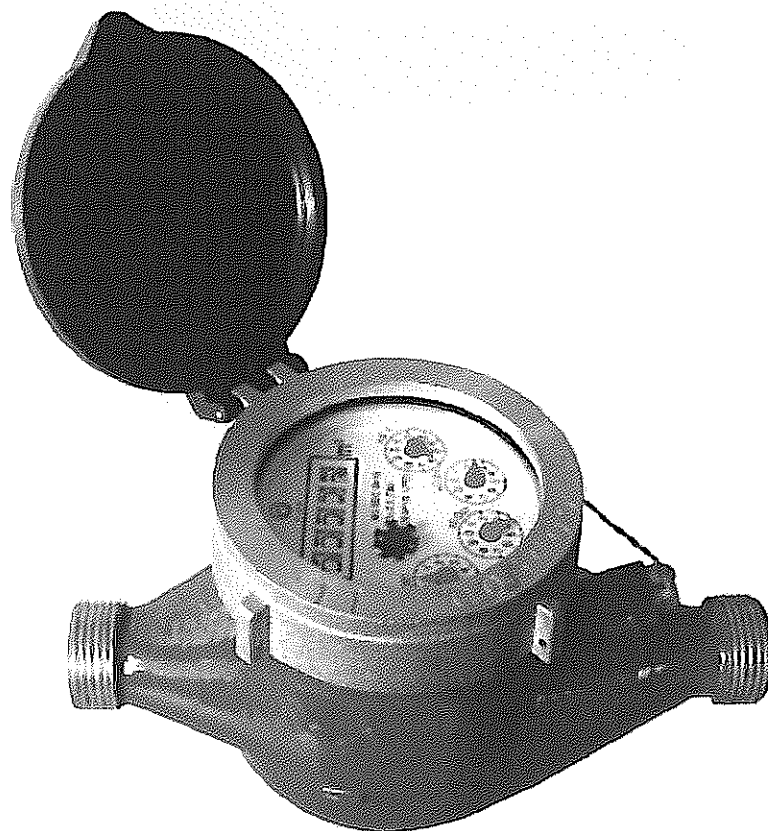


Figure 3: The water meter type MJ-SDC PLUS – sealing:

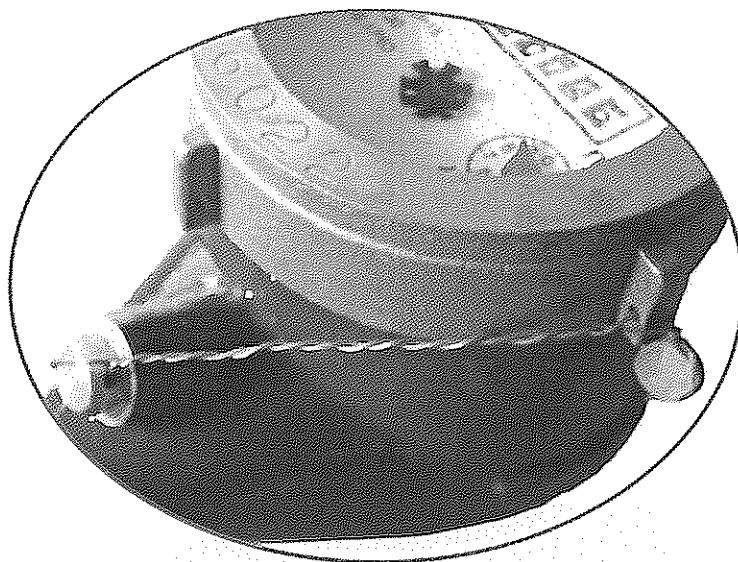


Figure 5: The water meter type MJ-SDC PLUS with AMR pointer - assembly drawings:

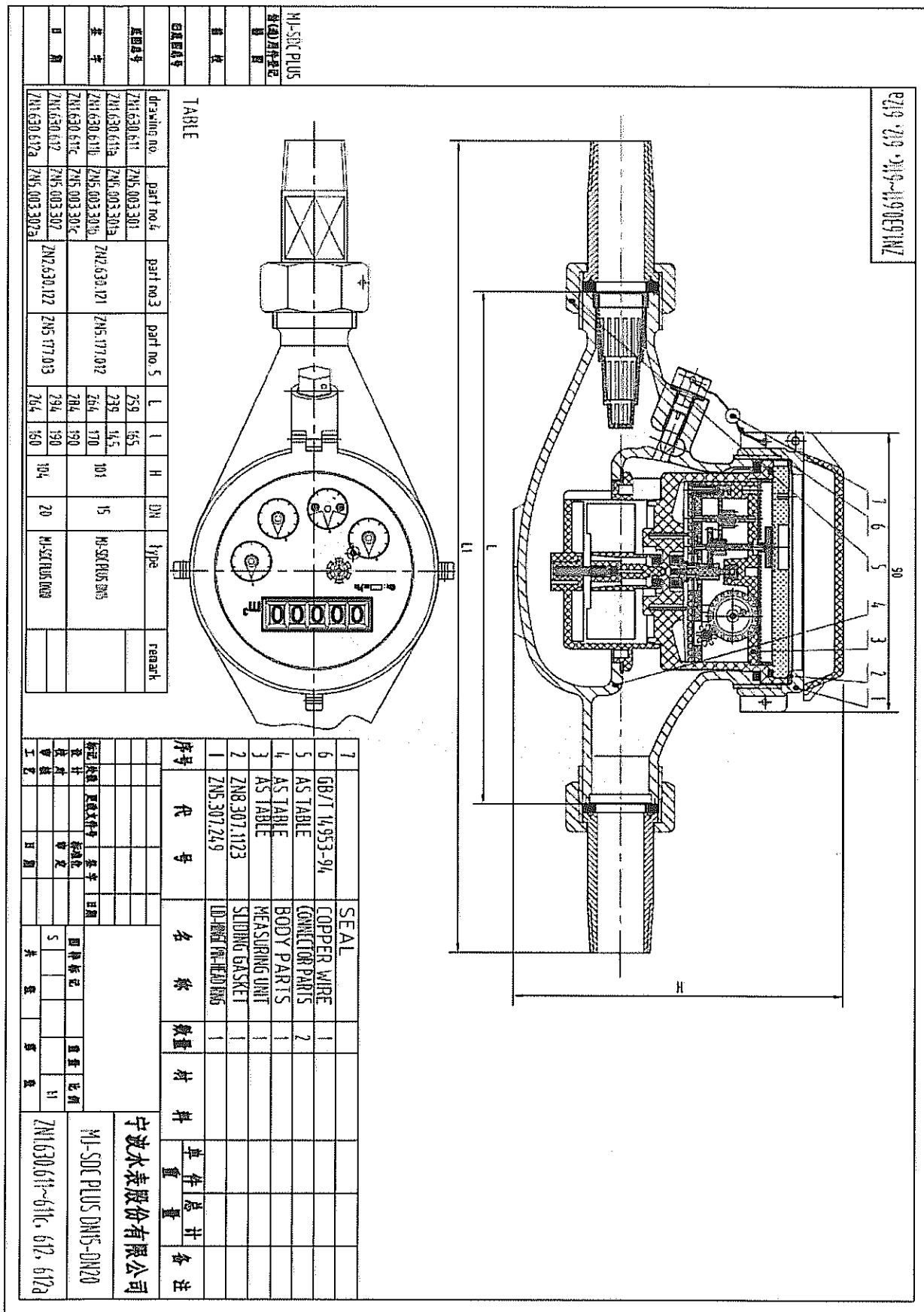


Figure 6: The water meter type MJ-SDC PLUS with magnetic pointer and impulse transmitter - assembly drawings:

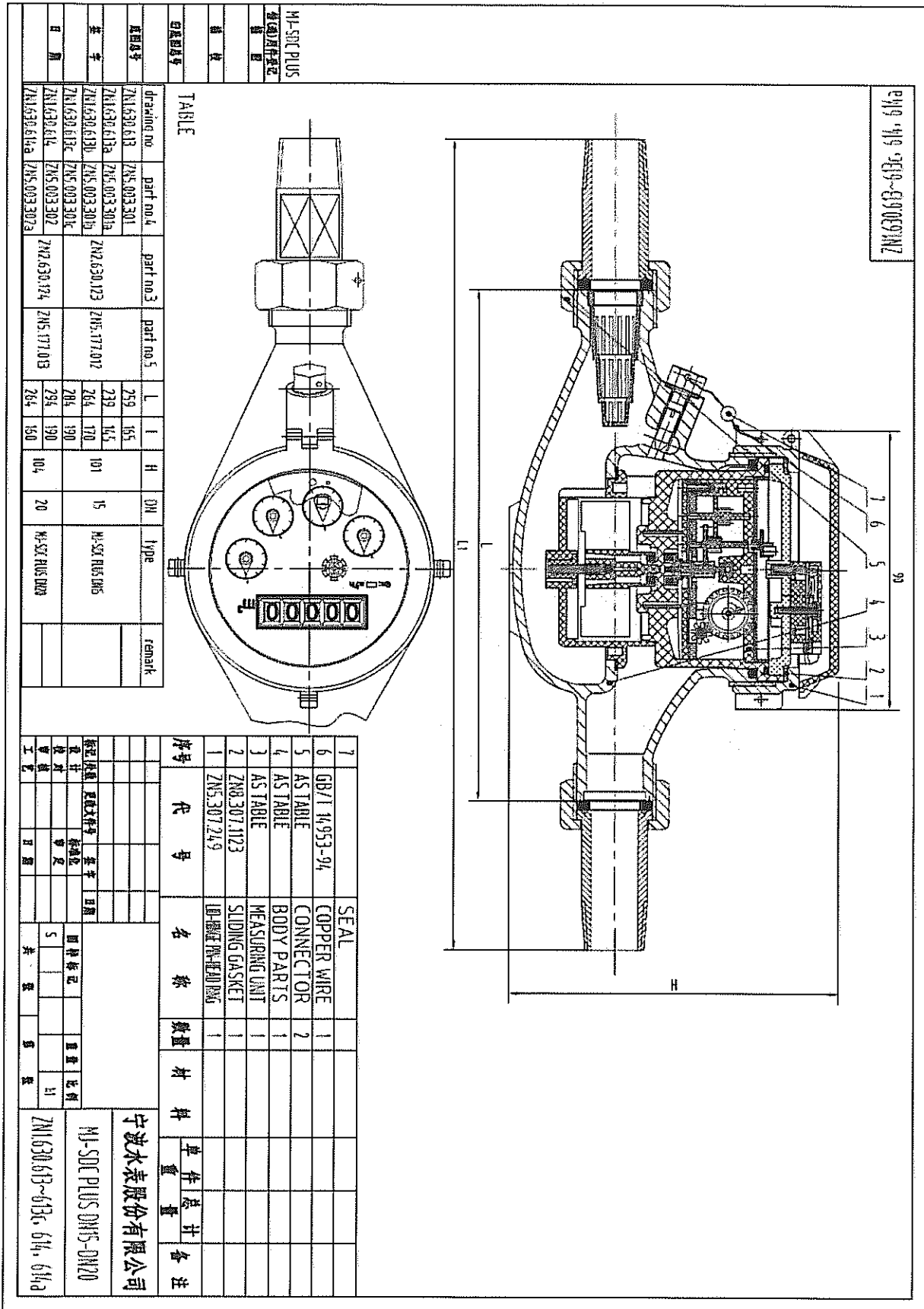
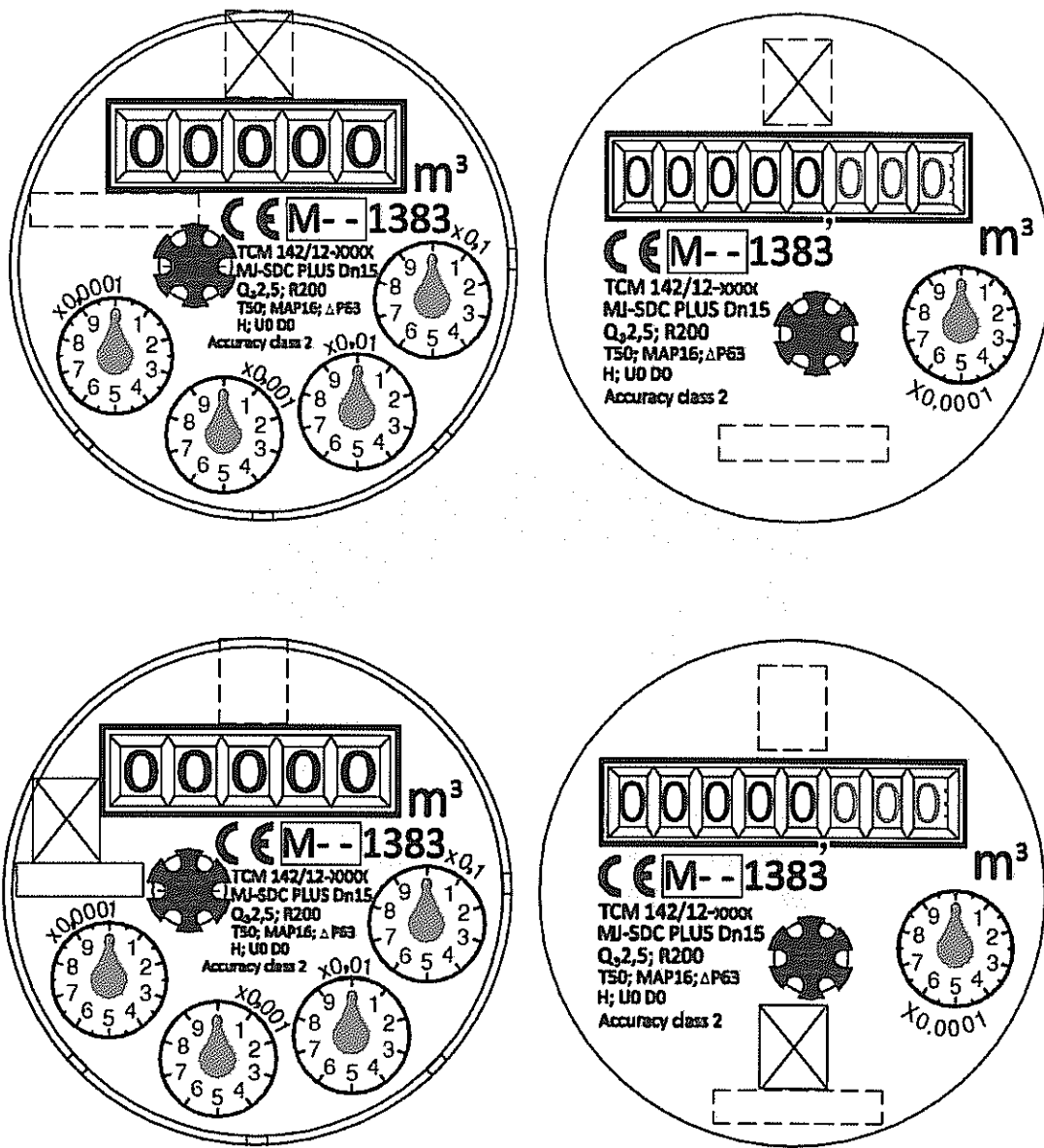


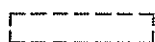


Figure 7: The dial plates of the water meter type MJ-SDC PLUS: the 5+4 and 8+1 registers, case with manufacturer's logo only (top pair) and case with both – manufacturer's and customer's logos (bottom pair):



-  manufacturer's mark and logo
-  customer's mark and logo
-  manufacturing year and serial number

