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Notified Body
No. 1383

EC-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/11 – 4854

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-SDC

Accuracy class: 2

Temperature class: T30 and T50

Valid until: 4 August 2021

Document number: 0115-CS-A028-11

Description: Essential characteristics, approved conditions and special conditions, if any, are described in this certificate. This certificate contains 13 pages.

Date of issue: 5 August 2011

Český metrologický institut NOTIFIKOVANÁ OSOBA AO 250 1383
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Certificate approved by:

RNDr. Pavel Klenovský

1. Measuring device description

The single jet water meters type SJ-SDC 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-SDC are single jet rotary vane wheel water meters with dry mechanical indicating device (Plastic Can Calculator) or supper dry mechanical indicating device (Copper Can Calculator).

The water meters type SJ-SDC (D3) consist of a brass, bronze or plastic body with connecting threads and inlet strainer, a button plate, a stainless steel shaft, a rotary vane wheel with magnetic holder and stainless steel shaft, a plastic gasket, a rubber O-ring, a pressure plate with agate bearing, a brass, steel or plastic inner head ring, a two antimagnetic protection rings (optional), a dry or super dry mechanical indicating device, closing ring with plastic cover (optional) or plastic clamp on cover.

The water meters type SJ-SDC (D7) consist of a brass, bronze or plastic body with connecting threads and inlet strainer, a adjusting screw, a button plate, a stainless steel shaft, a rotary vane wheel with magnetic holder and stainless steel shaft, a plastic gasket, a rubber O-ring, a pressure plate with agate bearing, a brass, steel or plastic inner head ring, a two antimagnetic protection rings (optional), a dry or super dry mechanical indicating device, closing ring and plastic cover (optional) or plastic clamp on cover.

There are three types of the mechanical indicating device. The first one is formed by numbered rollers with 5 drums and 4 rotary pointers, the second one is with 8 drums and 1 pointer and third one with 7 drums and 2 pointers. These calculators can be designated for inclined reading. There is black star wheel with 6 arms or the silver one with 20 arms, which can be used for rapid testing, on mechanical indicating device.

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

The water meters type SJ-SDC shall be installed to operate in arbitrary positions with indicating device on the top or on the side.

The water meters typee SJ-SDC shall be designate by these trademarks:

NWM NWM 宁波® <NB>®

Water meters type SJ-SDC are manufactured according to technical documentation of manufacturer No. Q/ZNJ 17005-2010.4.2 Annex 1 from 01.03.2011. This documentation contains among others the assembly drawings No. ZN1.630.312 ~ 312k, 313 ~ 313e from 6/2008, No. ZN1.630.525 ~ 525b from 7/2008, No. ZN1.630.506 ~ 506g, 507 ~ 507c from 6/2008, No. ZN1.630.533 ~ 533e, 534 ~ 534b from 9/2008, No. ZN1.630.535f ~ 535i from 10/2008 and No. ZN1.630.536d ~ 536g, 537b ~ 537c from 9/2008.

2. Basic technical data

Nominal diameter (DN) [mm]:	15	20	25	32	40
Ratio Q_3 / Q_1:	≤ 80 [1] for H installations				
	≤ 50 [1] for any other installations		-	-	-
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):	± 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, T30/90 and T90				
Water pressure classes:	MAP 16				
Pressure-loss classes:	ΔP 63				
Indicating range [m^3]:	99 999				
Resolution of the indicating device [m^3]:	0.00005 or 0.00002				
Resolution of the device for the rapid testing [pulse/L]:	67,5000	42,7636	22,2353	12,1500	9,4714
Flow profile sensitivity classes:	U0 D0				

Nominal diameter (DN) [mm]:	15	20	25	32	40
Orientation limitation:	No		H		
Length L [mm]:	80 to190	130	160		200
Connection type– Screw thread size:	G¾B G1B	G1B	G1¼B G1½B	G1½B	G2B
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 higher than 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	≥ 0,0313	≥ 0,0500	≤ 2,50 [1]	≤ 3,13
15	V	≥ 0,0500	≥ 0,0800	≤ 2,50 [1]	≤ 3,13
20	H	≥ 0,0500	≥ 0,0800	≤ 4,00 [1]	≤ 5,00
20	V	≥ 0,0800	≥ 0,128	≤ 4,00 [1]	≤ 5,00
25	H	≥ 0,0788	≥ 0,126	≤ 6,30 [1]	≤ 7,88
32	H	≥ 0,125	≥ 0,200	≤ 10,0 [1]	≤ 12,5
40	H	≥ 0,200	≥ 0,320	≤ 16,0 [1]	≤ 20,0

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

3. Test

Technical tests of the water meters type SJ-SDC 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-P0089-11 from April 29th 2011.

4. The measuring device data

The water meters type SJ-SDC 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 ×.×)
- The ratio Q_3 / Q_1, (R××)
- The temperature class (T××)
- The maximum admissible pressure (MAP ××)
- The pressure loss class (ΔP ××)
- Classes on sensitivity to irregularities in velocity field (U× D×)
- 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 closing ring has to be sealed by leas seal or secured by self-destructive sticker or plastic clamp on cover has to be identified by safeguarding marks on water meters types SJ-SDC (D3).
The connection of closing ring and adjusting screw has to be sealed or connection of water meter body and adjusting screw has to be sealed and plastic clamp on cover has to be identified by safeguarding marks on water meters types SJ-SDC (D7).
The connection of water meter calculator and reed impulse transmitter has to be sealed, if equipped.
The location of seal is described in Figure 10, 11 and 12.

Figure 1: The water meter type SJ-SDC (D3) DN 15 with brass body– view:

Figure 2: The water meter type SJ-SDC (D3) DN 15 with plastic cover– view:

Figure 3: The water meter type SJ-SDC (D3) DN 40 with brass body – view:

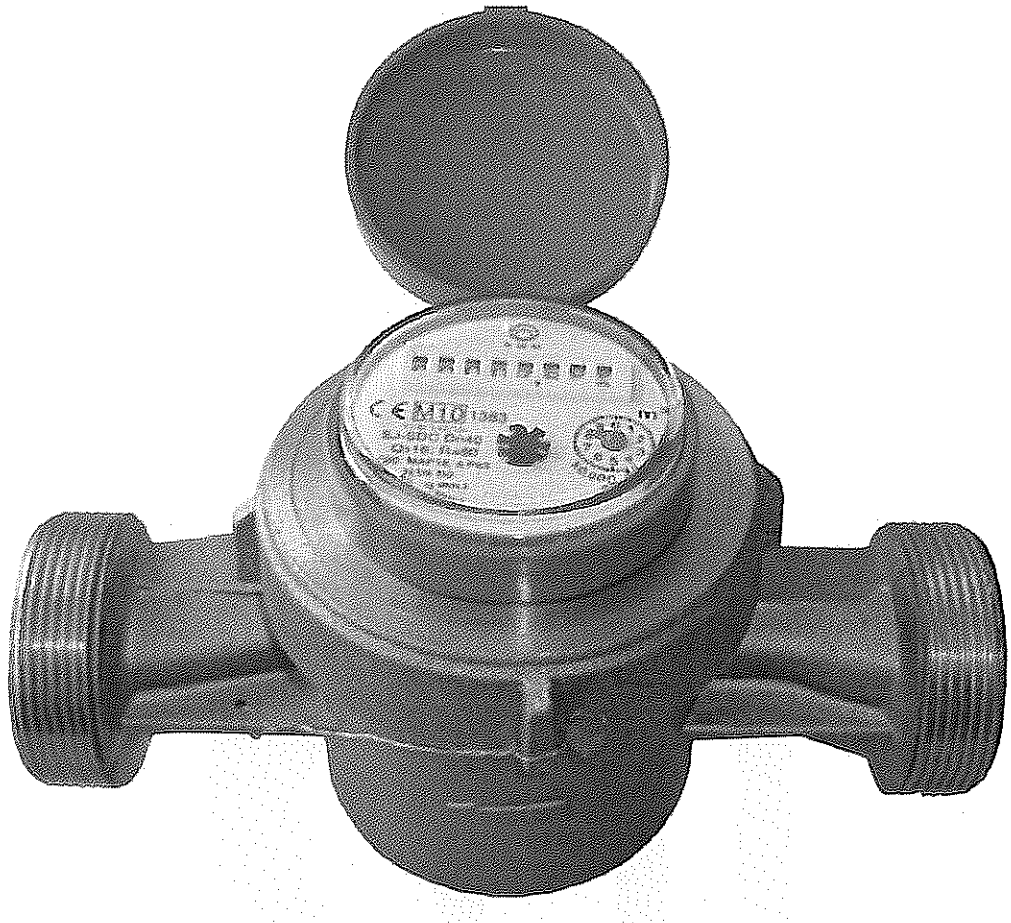

Figure 4: The water meter type SJ-SDC (D3) DN 15 with plastic body – view:

Figure 5: The water meter type SJ-SDC (D7) with adjusting screw – view:

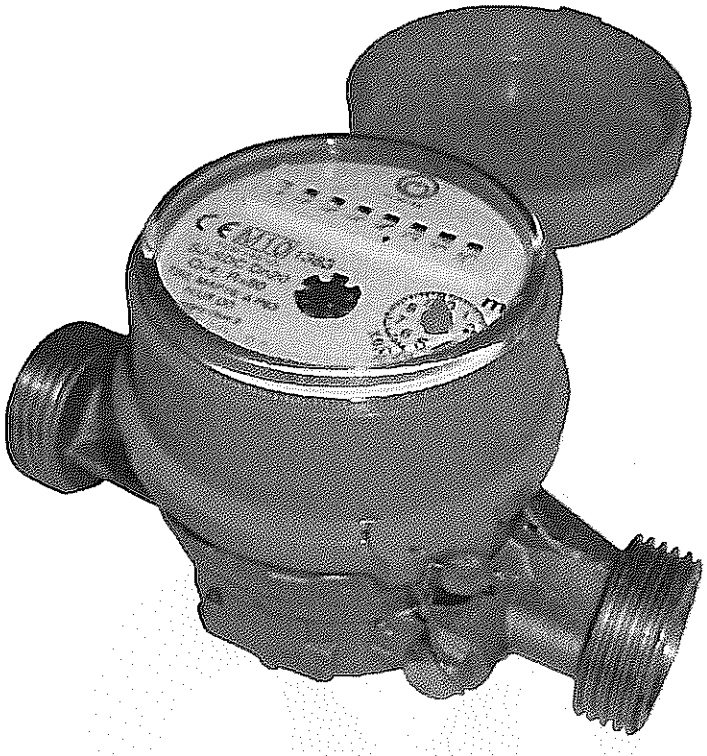

Figure 6: The water meter type SJ-SDC (D7) with inclined calculator – view:

Figure 7: The water meter type SJ-SDC (D7) with impulse transmitter – view:

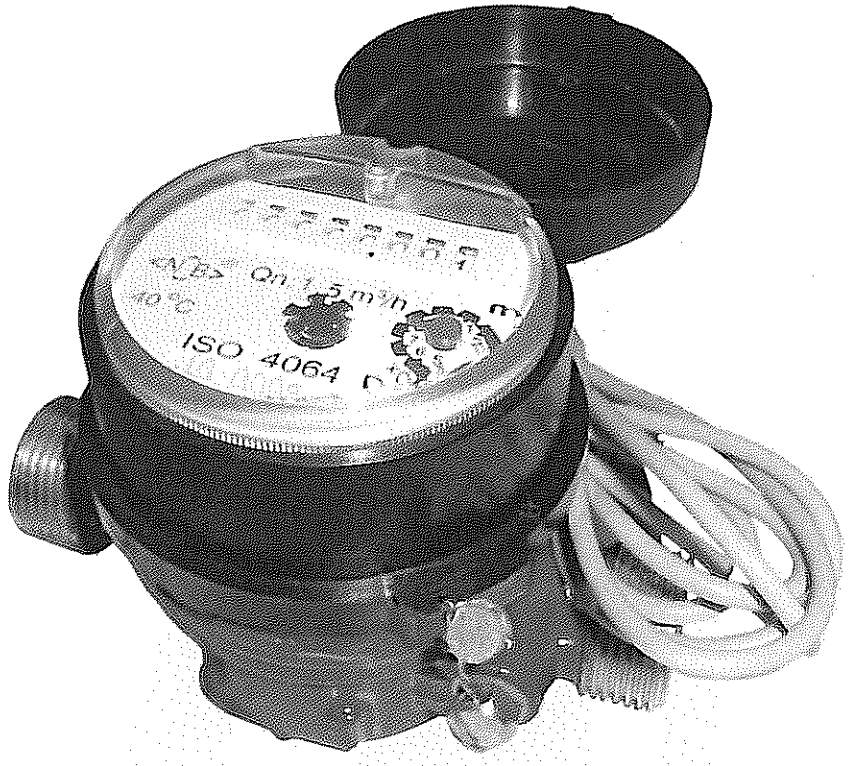

Figure 8: The water meter type SJ-SDC (D3) assembly drawings:

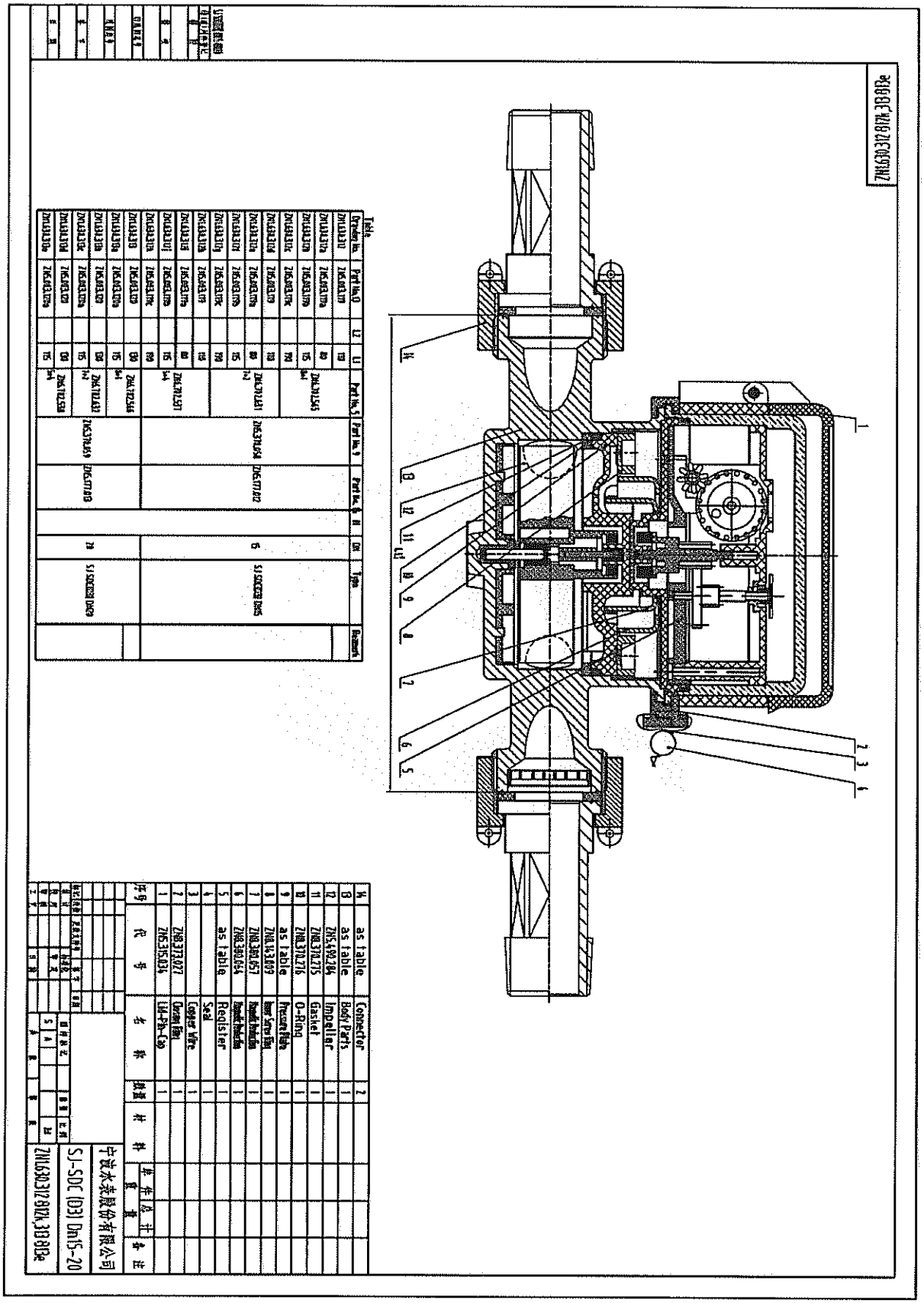

Figure 9: The water meter type SJ-SDC (D7) assembly drawings:

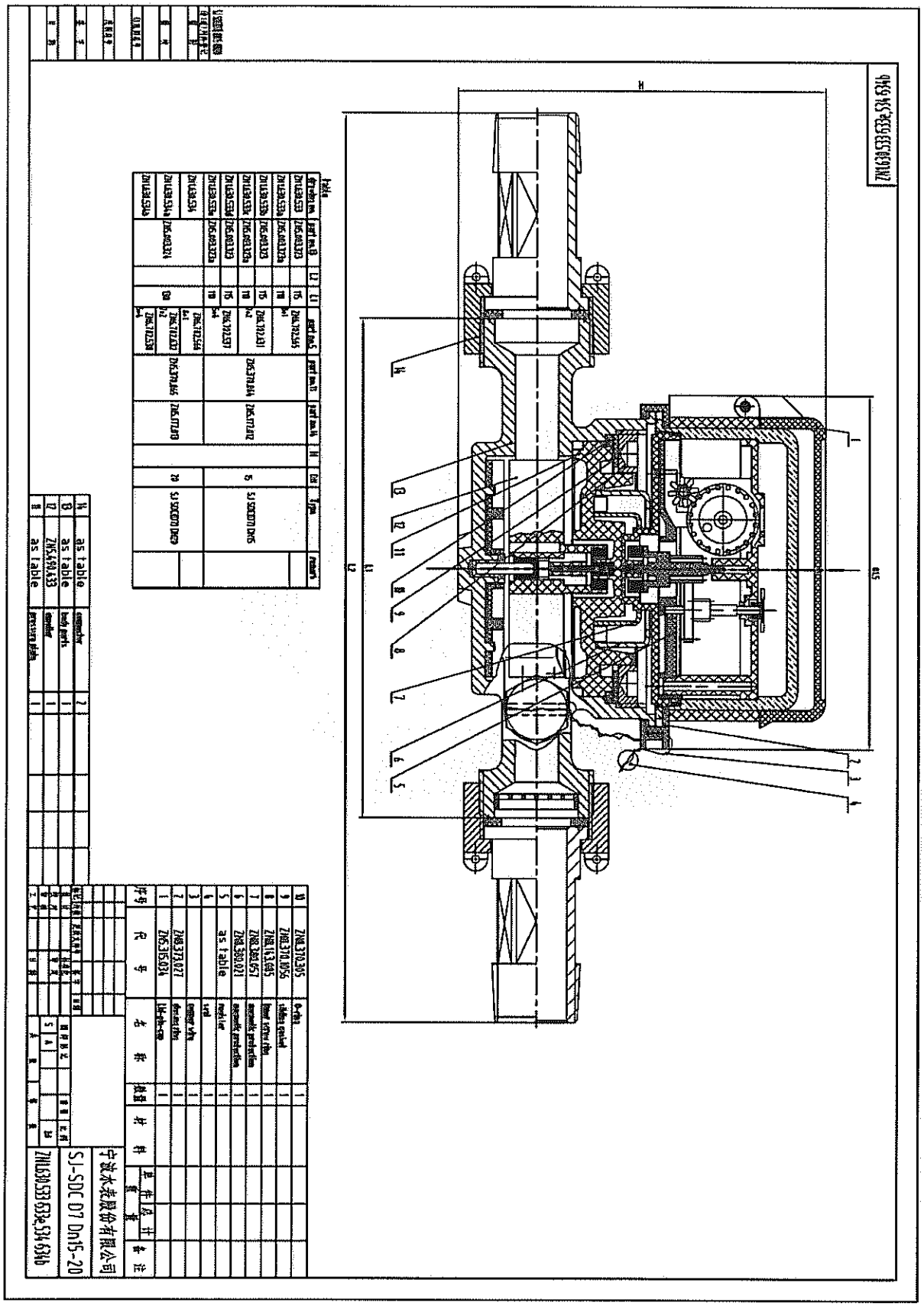

Figure 10: The sealing of the water meter type SJ-SDC (D3):

Figure 11: The sealing of the water meter type SJ-SDC (D7):

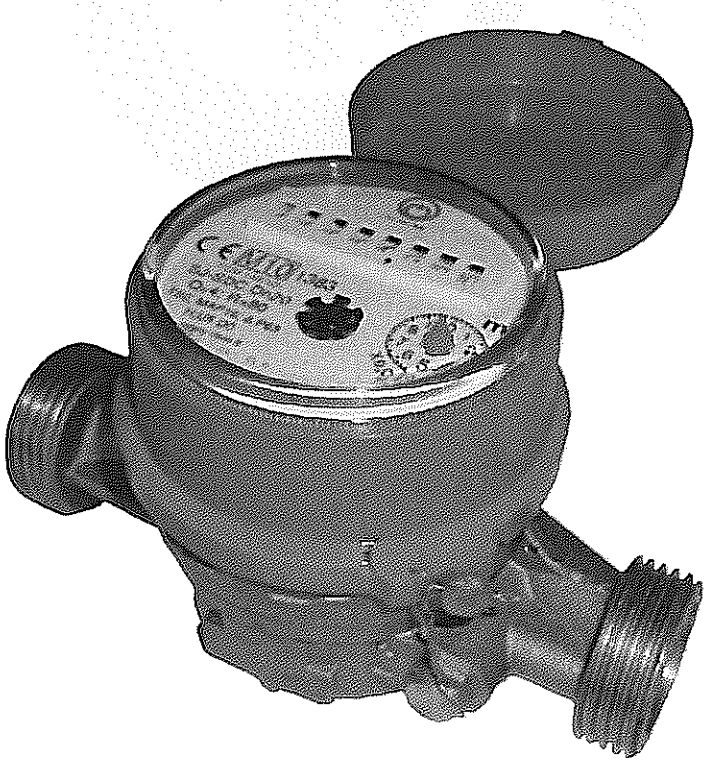

Figure 12: The sealing of the water meter type SJ-SDC (D3) with clamp on plastic ring:

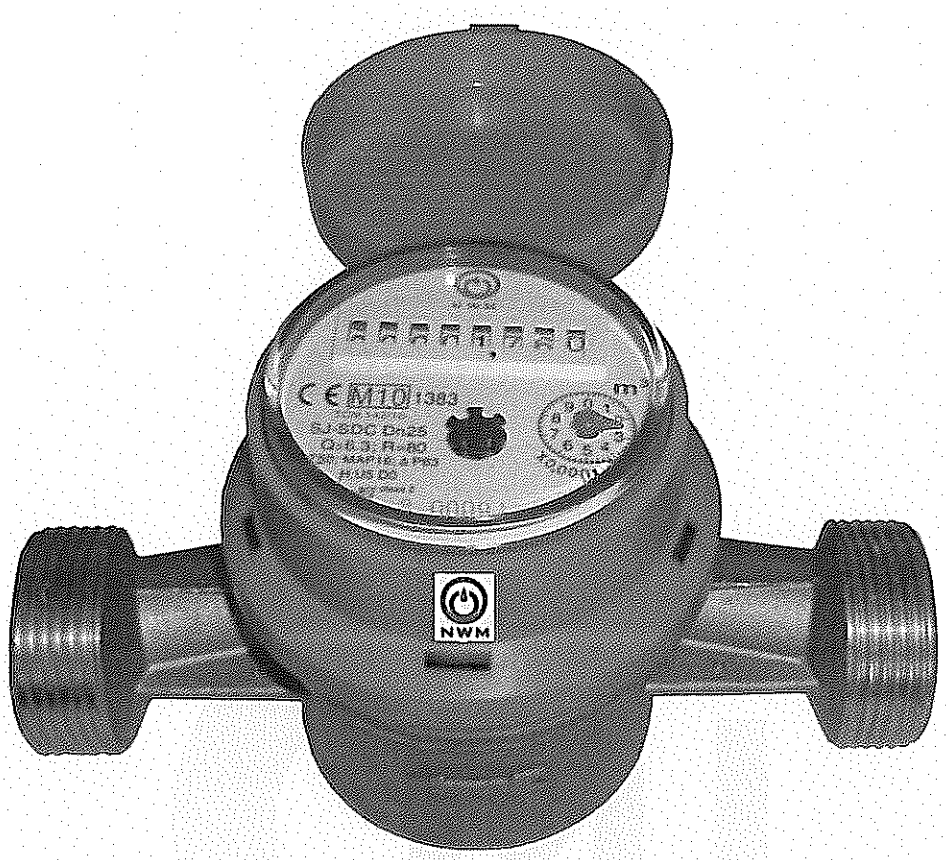

Figure 13: The dial plates of the water meter type SJ-SDC with register 5+4:

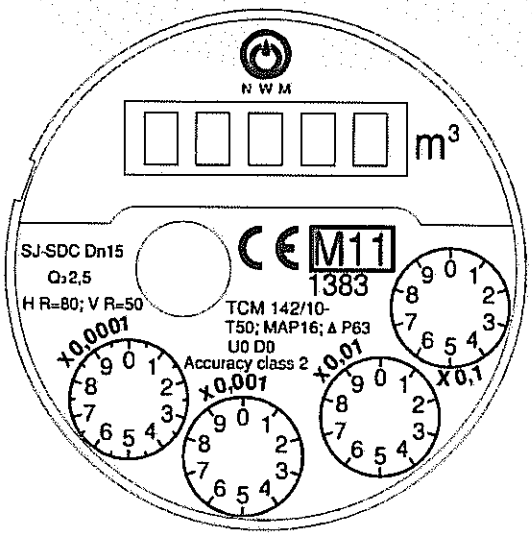

Figure 14: The dial plates of the water meter type SJ-SDC with register 8+1:

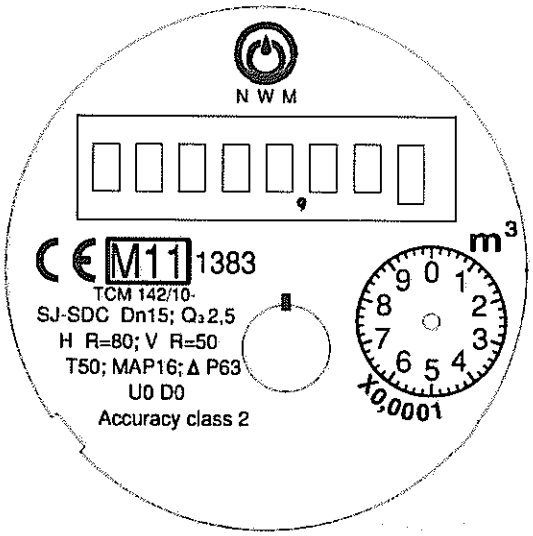

Figure 15: The dial plates of the water meter type SJ-SDC with register 7+2: