

MJ-SDC

Multi-Jet Dry type of Water Meter

DN15~50



TCM142/10-4792



INTRODUCTION

NWM MJ-SDC is
multiple impeller water meter with magmatic transmission,

dry type register with sizes from Dn15 to Dn50 designed and manufacture by NWM and meets to the requirements of ISO4064:2014: Water meters intended for the metering of cold potable water and hot water.

FEATURES



Corrosion Resistance

All the materials selected by resistance to corrosion;



Magnetic Protection

The conception of the magnetic protection to against the external influences;



The ROTARY Indicator Register

5 black Rollers, 3 red Rollers and 1 pointer for Dn15 to Dn32 and 6 black Rollers, 2 red Rollers and 2 pointers for Dn40 and Dn50;



Extra Inlet Filter

The filter at the inlet of the meter body permits cleaning it without breaking the metrological seal;



Non Return Valve

to avoid the reserve flow Rate AS OPTION;

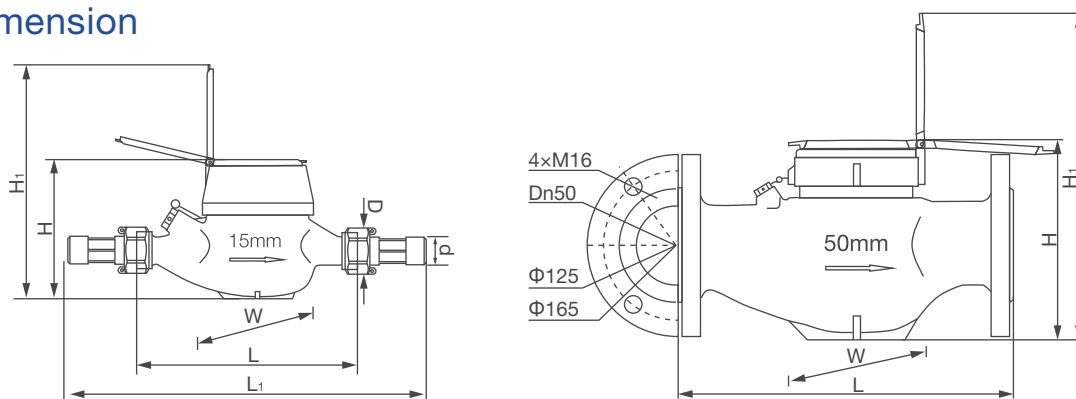


Remote Transmission

Reserve remote transmission function to realize data transmission;

SPECIFICATIONS

► Dimension



Dimensional drawing of water meter

Size (mm)	Dn15	Dn20	Dn25	Dn32	Dn40	Dn50	Dn50-Flange
L	165	190	260	260	300	300	300
L1	259	294	380	384	431	448	/
D	G3/4B	G1B	G1-1/4B	G1-1/2B	G2B	G2-1/2B	/
d	R1/2	R3/4	R1	R1-1/4	R1-1/2	R2	/
H	103	103	116	116	147	147	162
H ₁	179	179	192	192	223	223	238
W	82	82	97	97	113	145	165

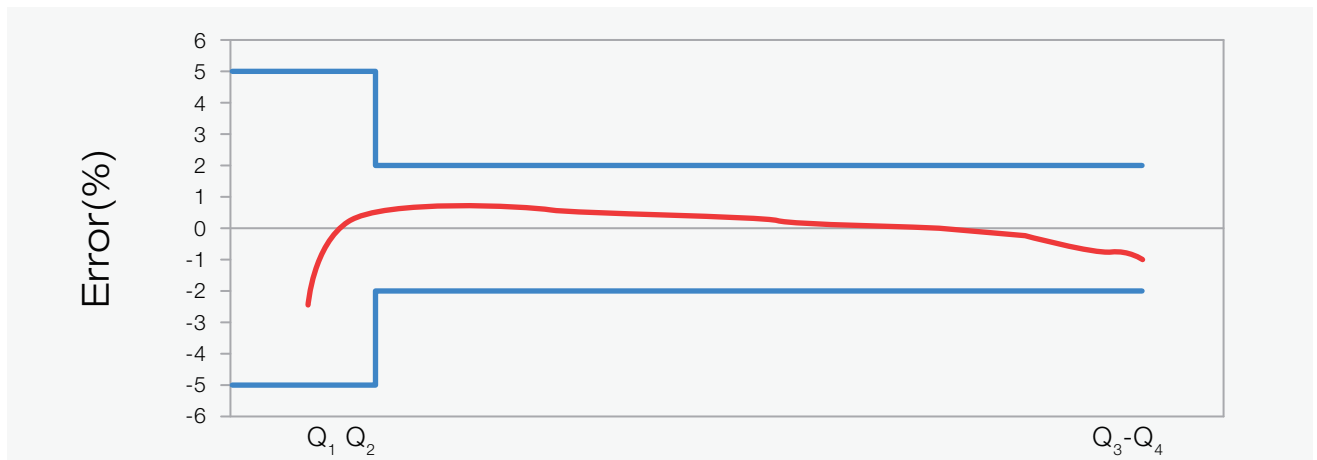
L₁: the total length with connection and the gasket without compression.

► Metrology

DN	mm	15	20	25	32	40	50
R	Q ₃ /Q ₁	100/160				100/160	
Q ₄	m ³ /h	3.125	5	7.875	12.5	20	31.25
Q ₃	m ³ /h	2.5	4	6.3	10	16	25
Q ₂	l/h	40/25	64/40	100/63	160/100	256/160	400/260
Q ₁	l/h	25/15.625	40/25	63/39.375	100/62.5	160/100	250/156.25
Max. reading	m ³	99 999.9999				999 999.9999	
Min. reading	Liter	0.05					
Pressure loss	Δp	Δp<63					
Max, Pressure	MAP	MAP16					
Max, Temperature	°C	T30 / T50					

(For different Q₃ and R, please contact with NWM manufacture).

► Max Permission Error

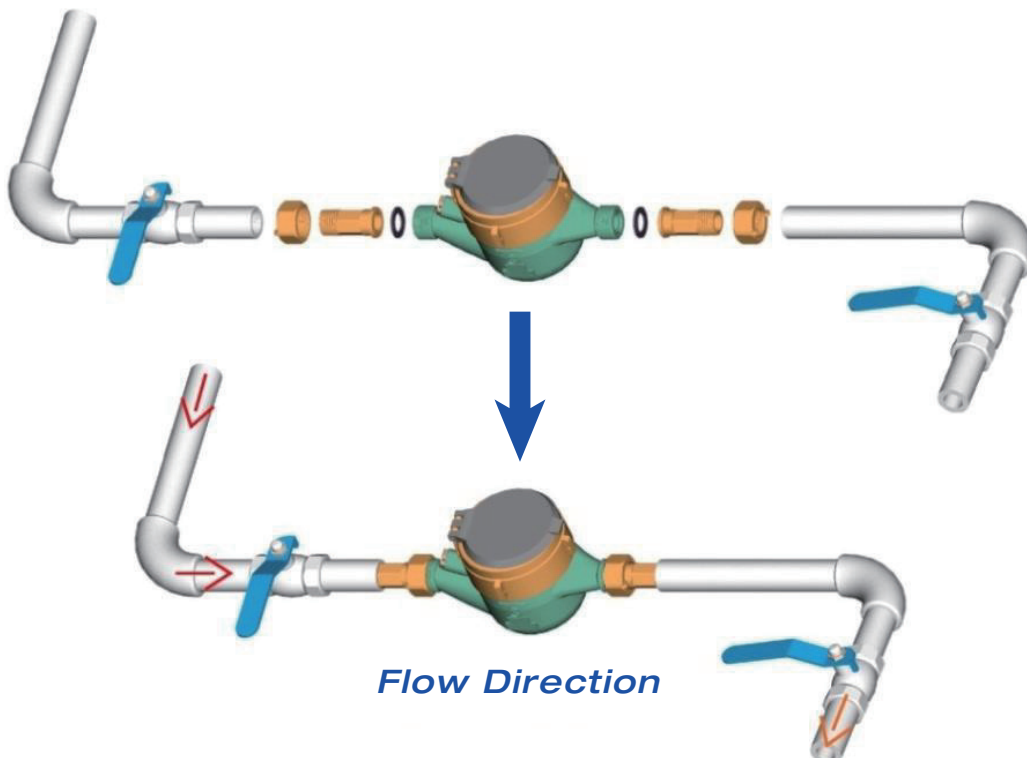


a. In the lower zone ($Q_1 \leq Q \leq Q_2$): maximum permission error is $\pm 5\%$

b. In the upper zone ($Q_2 \leq Q \leq Q_4$): maximum permission error is $\pm 2\%$ ($T \leq 30^\circ\text{C}$), maximum permission error is $\pm 3\%$ ($30^\circ\text{C} < T \leq 90^\circ\text{C}$)

INSTALLATION

- The meters should be installed in HORIZONTAL position with the direction of the flow as indicated by the arrow cast on the meter body with register face upwards;
- Pipeline must be flushed before installation;
- The meter should be constantly full of water during operation;
- NWM Suggests to install the water meter as:



REMOTE TRANSMISSION



*Non-magnetic
transmission*



Add sensor



Data analyzer



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Version No.: NWM/EN-MJ-SDC(G7-C)/2204-1.0

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EU-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/10 - 4792

Addition 3

This addition replaces all previous versions of this certificate in full wording.

Page 1 from 20 pages

In accordance: with Directive 2014/32/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (implemented in Czech Republic by Government Order No. 120/2016 Coll.).

Manufacturer: Ningbo Water Meter (Group) Co., Ltd.
355 Hongxing Road, Jiangbei District
Ningbo 315032
China

For: water meter – multi jet
Type: MJ-SDC

Accuracy class: 2
Temperature class: T30, T50 and T90

Valid until: 11 May 2031

Document No: 0115-CS-A018-11

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

Date of issue: 11 May 2021

Certificate approved by:




RNDr. Pavel Klenovský

1 Measuring device description

The multi jet water meters type MJ-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. 2014/32/EU of measuring instruments, as amended.

The water meters type MJ-SDC are multi jet rotary vane wheel water meters with dry mechanical indicating device (plastic can calculator) or supper dry mechanical indicating device (copper can or stainless steel can calculator). The water meter consist of a brass, bronze, iron or plastic body with connecting threads or flanges and inlet strainer (optional), adjusting screw, wet measuring unit and other parts which can differ for different variants of the meter and are described below. The measuring unit of the meters consists of an internal strainer, a plastic distributor with tangential holes, a stainless steel shaft with plastic pivot, a rotary vane wheel with magnet and plastic shaft. For T90 class meters the magnet transmitting the vane wheel rotation to the indicating device is cast in the plastic bushing.

The water meters type MJ-SDC (E) have a register chamber with magnetic protection rings and two agate bearings (there is only the top bearing for DN 15 and DN 20), a rubber O-ring, a dry or super dry mechanical indicating device with a glass window, a register holder ring and brass, bronze, steel or plastic screw head ring with a plastic lid.

The water meters type MJ-SDC (E5) have a register chamber with magnetic protection rings and two agate bearings, a rubber O-ring, a dry or super dry mechanical indicating device, a register holder ring, a sliding gasket and brass, bronze, steel or plastic screw head ring with a plastic lid.

The water meters type MJ-SDC (G) have a pressure plate with magnetic protection rings and two agate bearings (there is only the top bearing for DN 15 and DN 20), a rubber O-ring, a sliding gasket, a brass, bronze, steel or plastic inner head ring, a dry or super dry mechanical indicating device and a plastic clamp on cover with a lid.

The water meters type MJ-SDC (Z) have a register chamber with magnetic protection rings and one agate bearing, a rubber O-ring, a dry or super dry mechanical indicating device, a register holder ring (not for DN 15 and DN 20), a rubber gasket and brass, bronze, steel or plastic screw head ring with a plastic lid.

The water meters type MJ-SDC (G7) differ from the variant MJ-SDC (G) by a modified impeller which enables better accuracy for lower flow rates.

The water meters type MJ-SDC (Z1) have the same measuring part as MJ-SDC (G7) and differ from that by mounting of a register which is the same as for the (Z) variant, namely the screw head ring is used.

The water meters type MJ-SDC (VC) are equipped with valve at the outlet part of their body. They are available in sizes DN15-DN25. The electronic unit which enables closing the valve remotely is not a part of this certification. The measuring part of the (VC) variant is the same as the measuring part of the (G) variant.

The mechanical indicating device in case of sizes DN15 to DN32 is formed by numbered rollers with 5 drums and 4 rotary pointers or 7 drums and 2 rotary pointers or 8 drums and 1 rotary pointer. In case of sizes DN40 to DN50 it is formed by numbered rollers with 6 drums and 4 rotary pointers or 8 drums and 2 rotary pointers.

These calculators can be designated for inclined reading. There is star wheel with six arms which can be used for rapid testing in mechanical indicating device.

The water meters type MJ-SDC can be equipped by a reed impulse transmitter which can be used for remote reading. The water meters have not been tested with reed impulse transmitter installed within this certification. The meters can be equipped with parts for mounting of an AMR device and with an inductive pointer for AMR reading.

The water meters type MJ-SDC shall be installed to operate in horizontal position with indicating device on top or in vertical position with flow direction up, according to the used meter body.

Water meters type MJ-SDC are manufactured according to technical documentation of manufacturer No. Q/ZNJ 17005-2017.12 Annex 1 from 31. 12. 2017. The technical documentation contains among others assembly drawings No. ZN1.630.xxx where xxx is 437, 438 from 1/2008; 118, 119, 246, 247, 408, 409 from 5/2008; 323, 324, 430, 431 from 8/2008; 460, 461 from 9/2008; 716 - 719 from 1/2011; 323R - 324R, 430R, 513R - 518R, 681R - 682R, 759R - 778R from 8/2008; 437R - 438R, 443R, 460R - 461R, 480R - 481R, 494R - 496R, 500R - 502R, 691R - 692R from 6/2008; 716R-719R, 725R, 734R-735R, 882R-886R from 6/2011; 1166, 1167 from 5/2011; assembly drawings No. ZN1.636.xxx where xxx is 690, 691 from 2/2017; 392, 393 from 2/2017; 694, 695 from 2/2018 and 696, 826 from 2/2018; assembly drawings No. ZN1.637.xxx where xxx is 461, 462 from 2/2019; 533 from 10/2019 and assembly drawings No. ZN5.490.xxx where xxx is 1338,1339 from 2/2019 and 1382 from 10/2019.

2 Basic technical data

Basic technical data of water meters type MJ-SDC DN 15 to DN 25:

Nominal diameter (DN) [mm]:	15	20	25
Overload flowrate (Q_4) [m^3/h]:	3.13	5.00	7.88
Permanent flowrate (Q_3) [m^3/h]:	2.50	4.00	6.30
Transitional flowrate (Q_2) [m^3/h]:	≥ 0.0500	≥ 0.0800	≥ 0.1260
Minimum flowrate (Q_1) [m^3/h]:	≥ 0.0313	≥ 0.0500	≥ 0.0788
Transitional flowrate (Q_2) [m^3/h] G7, Z1 variants:	≥ 0.0250	≥ 0.0400	≥ 0.0630
Minimum flowrate (Q_1) [m^3/h] G7, Z1 variants:	≥ 0.0156	≥ 0.0250	≥ 0.0394
Ratio Q_3 / Q_1 :	$\leq 80^1$ $\leq 160^1$ for G7 and Z1 variants only		
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, T50 and T90 for $Q_3 / Q_1 \leq 80$ T30 and T50 for $Q_3 / Q_1 \leq 160$		
Water pressure classes:	MAP 16		
Pressure-loss classes:	ΔP 63		
Indicating range [m^3]:	99 999 or 9 999 (for VC variant)		
Resolution of the indicating device [m^3]:	0.00005		
Resolution of the device for the rapid testing [pulse/L]:	71.1852	54.000 60.000 (G7, Z1 variants only)	37.3846
Flow profile sensitivity classes:	U0 D0		
Orientation limitation:	horizontal with indicating device on top (H↑) or vertical with flow direction up (V↑) according to the used meter body		
Length of horizontal water meter L [mm]:	110 to 190	160 to 190	160 to 260
Length of vertical water meter L [mm]:	100 to 105		105 to 110
Connection type– Screw thread size:	G $\frac{3}{4}$ B or G1B	G1B	G1 $\frac{1}{4}$ B or G1 $\frac{1}{2}$ B
Reed switch power supply ($U_{\text{max}} / I_{\text{max}}$):	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 according to paragraph 4.1.4 of EN ISO 4064-1:2017 | OIML R 49-1:2013

Basic technical data of water meters type MJ-SDC DN 32 to DN 50:

Nominal diameter (DN) [mm]:	32	40	50
Overload flowrate (Q_4) [m^3/h]:	12.5	20.0	31.3
Permanent flowrate (Q_3) [m^3/h]:	10.0	16.0	25.0
Transitional flowrate (Q_2) [m^3/h]:	≥ 0.2000	≥ 0.3200	≥ 0.5000
Minimum flowrate (Q_1) [m^3/h]:	≥ 0.1250	≥ 0.2000	≥ 0.3125
Transitional flowrate (Q_2) [m^3/h] G7, Z1 variants:	≥ 0.1000	≥ 0.1600	≥ 0.2500
Minimum flowrate (Q_1) [m^3/h] G7, Z1 variants:	≥ 0.0625	≥ 0.1000	≥ 0.1563
Ratio Q_3 / Q_1 :	$\leq 80^1$ $\leq 160^1$ for G7 and Z1 variants only		
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 and T90 for $Q_3 / Q_1 \leq 80$ T30 and T50 for $Q_3 / Q_1 \leq 160$		
Water pressure classes:	MAP 16		
Pressure-loss classes:	ΔP 63		
Indicating range [m ³]:	99 999	999 999	
Resolution of the indicating device [m ³]:	0.00005	0.0005 or 0.00005	
Resolution of the device for the rapid testing [pulse/L]:	23.1429	10.5417	
Flow profile sensitivity classes:	U0 D0		
Orientation limitation:	horizontal with indicating device on top (H↑)		
Length of horizontal water meter L [mm]:	160 to 260	200 to 300	270 to 300
Connection type – screw thread size/flange:	G1½B	G2B	G2½B or Flange
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 according to paragraph 4.1.4 of EN ISO 4064-1:2017 | OIML R 49-1:2013

3 Tests

Technical tests of the water meters type MJ-SDC have been 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-A0038-11 from March 29th 2011 and with conformity to EN 14154-1:2005+A2:2011, Test Report No. 6015-PT-P0059-13 from December 15th 2014 and according to EN ISO 4064:2017 and OIML R 49:2013, Test Report No. 6015-PT-P0009-20 from 13th March 2020.

4 The measuring device data

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

- The “CE” marking and supplementary metrology marking
- Number of EU-type examination certificate
- Manufacturer’s name or trademark
- Postal address at which the manufacturer can be contacted
- Year of manufacturing (last two digit) and serial number (as near as possible to the indicating device)
- Measuring device type
- Unit of measurement (m³)
- Accuracy class 2
- Numerical value Q_3 in m³/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 $\uparrow$ / V $\uparrow$)
- 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 head ring and adjusting screw has to be sealed by a wire with a lead or plastic seal for water meter variants MJ-SDC (E), MJ-SDC (E5), MJ-SDC (Z) and MJ-SDC (Z1) (see Figure 11).

The connection of water meter body and adjusting screw has to be sealed by a wire with a lead or plastic seal and the plastic clamp on cover has to be identified by safeguarding marks for water meters MJ-SDC (G) and MJ-SDC (G7) (see Figure 12). Optionally for water meters MJ-SDC (G7) the connection of the adjusting screw and a clamp on cover can be sealed by a wire with a lead or plastic seal (Figure 9).

For the MJ-SDC (VC) variant the connection of water meter body and the plastic cover holding the register of the water meter and containing the valve control unit must be sealed by a wire with a lead or plastic seal (see Figure 14). Optionally the meters can be equipped with a safety pin between the dial window and the dial plate to indicate a rough treatment of the meter (see Figure 7).

The connection of water meter body and reed impulse transmitter has to be sealed, if equipped.

Figure 1: Example of the water meter type MJ-SDC (E) with brass body:



Figure 2: Example of the water meter type MJ-SDC (E) with plastic body:



Figure 3: Example of the water meter type MJ-SDC (E) with vertical body:



Figure 4: Example of the water meter type MJ-SDC (E5) with inclined calculator:



[illegible]

Figure 7: Example of the water meter type MJ-SDC prepared for AMR mounting and equipped with safety pin:



Figure 8: Example of the water meter type MJ-SDC (G7) with brass body:



Figure 9: Example of the water meter type MJ-SDC (G7) with plastic body – view and sealing:



Figure 10: Example of the water meter type MJ-SDC (Z1) – view and sealing:



Figure 11: The sealing of the water meter type MJ-SDC (E), (E5), (Z) and (Z1):

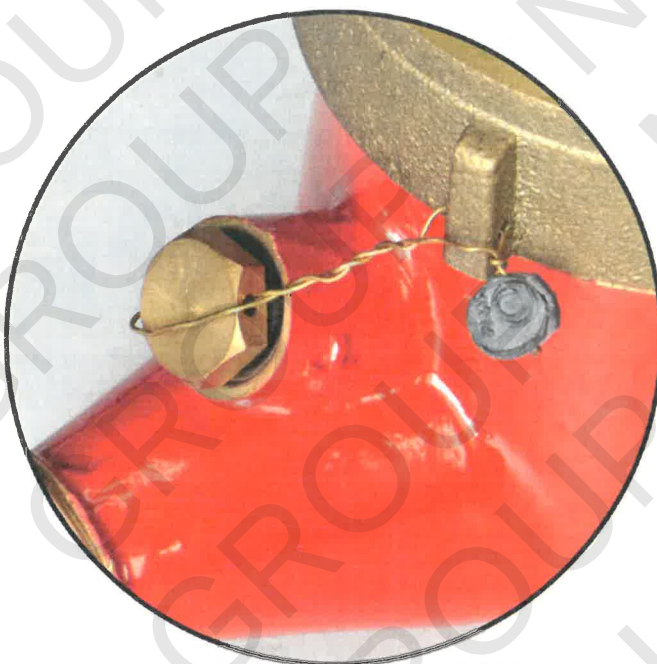


Figure 12: The sealing of the water meter type MJ-SDC (G) and variant of sealing of the water meter MJ-SDC (G7):



Figure 13: Example of the water meter type MJ-SDC (VC):



Figure 14: Sealing of the water meter type MJ-SDC (VC):



The image displays six circular pressure gauges arranged in a 3x2 grid. Each gauge has a yellow outer ring with numbers 20, 12, 3, 4, 5, 6. The gauges are labeled with 'CEM201383' and 'TCM 142/10-4792'. They show various pressure readings and scales, including 'm³' and 'x0.0001'. The gauges are arranged in a 3x2 grid, with the top row showing two gauges, the middle row showing two gauges, and the bottom row showing two gauges. The gauges are labeled with 'CEM201383' and 'TCM 142/10-4792'. They show various pressure readings and scales, including 'm³' and 'x0.0001'. The gauges are arranged in a 3x2 grid, with the top row showing two gauges, the middle row showing two gauges, and the bottom row showing two gauges.

Figure 16: Example of the dial plates of the water meter type MJ-SDC (E) DN40 to DN50 with registers 6+4 and 8+2. For the variant MJ-SDC (G) the dials are the same besides shape of the head ring. Variants with magnetic pointer for reed impulse transmitter or inductive pointer for AMR reading are also possible. (For description of the used graphical elements see Figure 24.)

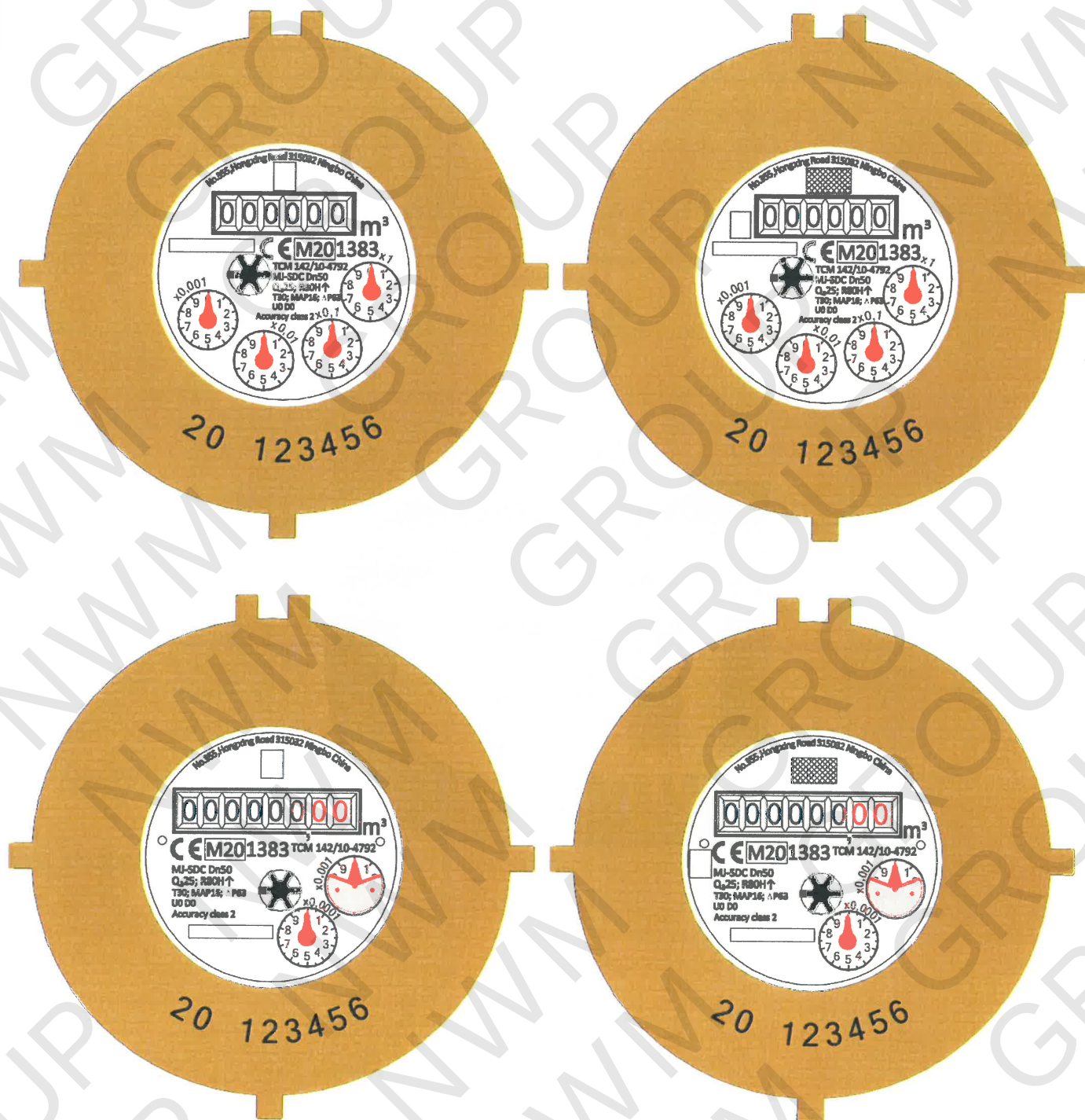


Figure 17: Variant of the dial with plastic plate on the metal ring for the MJ-SDC (E) meters. The CE marking and TCM number is moved to the plastic plate. This design can be used also for all other dial types for meters with metal head ring. (For description of the used graphical elements see Figure 24.)

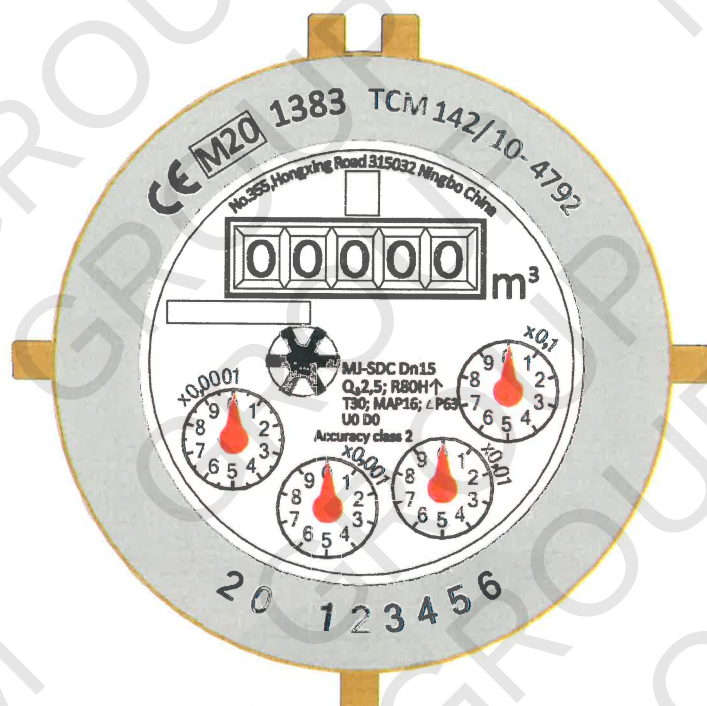


Figure 18: Dial plates of the water meter type MJ-SDC (Z) DN15 to DN32 with 5+4 register. The 6+4 dial for DN40 to DN50 size looks the same besides the number of drums. (For description of the used graphical elements see Figure 24.)

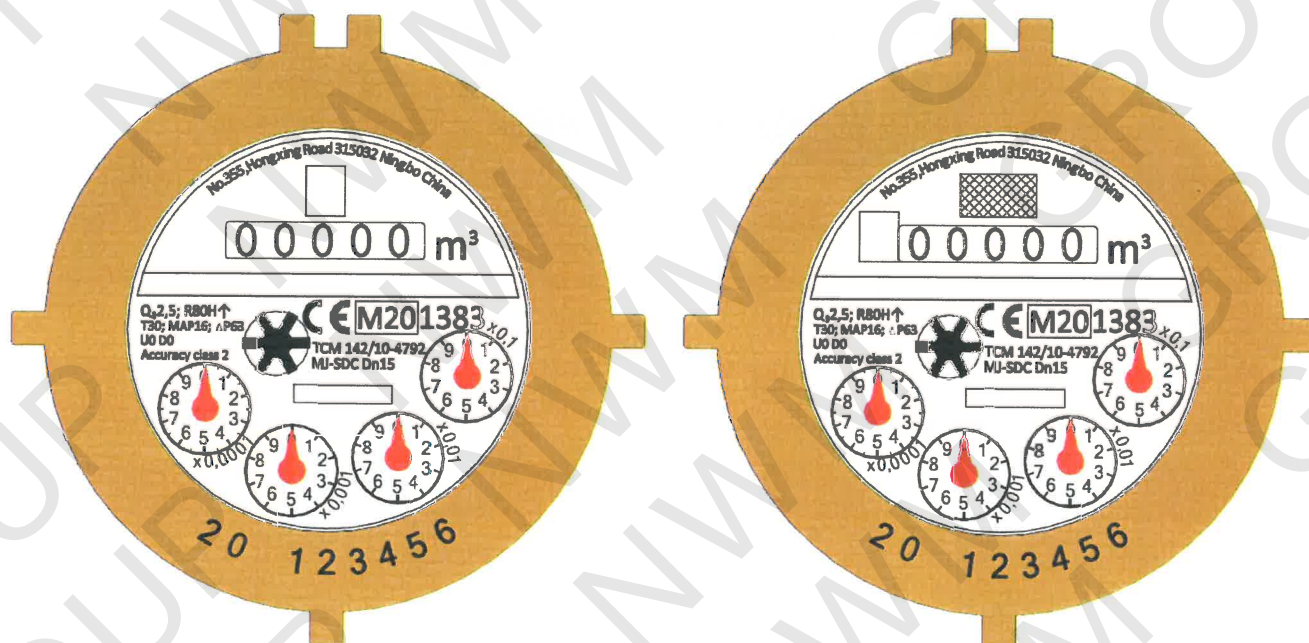


Figure 19: Examples of the dial plates of the water meter type MJ-SDC (Z) DN15 to DN32 with registers 7+2 and 8+1. Variants with magnetic pointer for reed impulse transmitter or inductive pointer for AMR reading are also possible. (For description of the used graphical elements see Figure 24.)

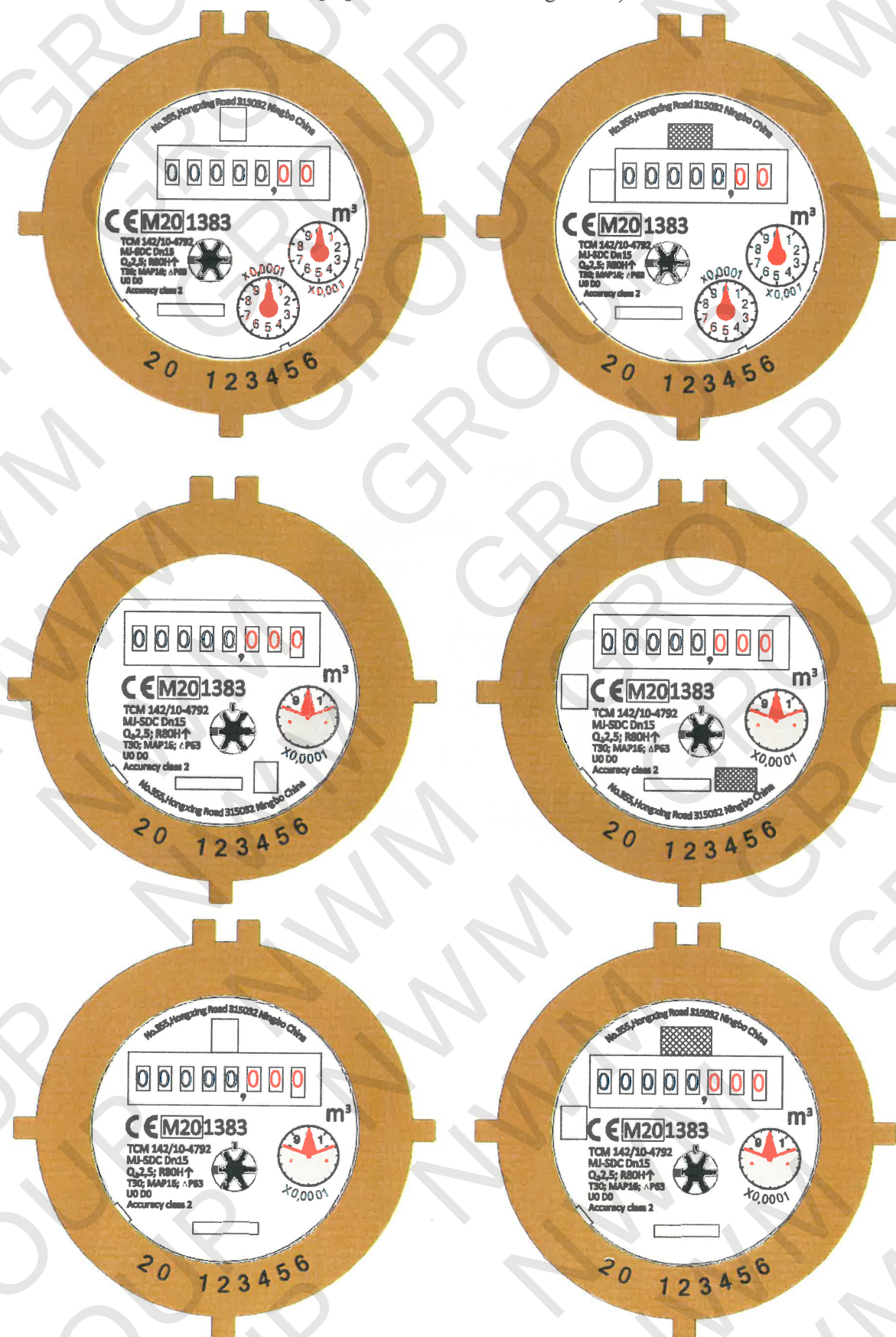


Figure 20: Examples of the dial plates of the water meter type MJ-SDC (Z) DN40 to DN50 with register 8+2. Variants with magnetic pointer for reed impulse transmitter or inductive pointer for AMR reading are also possible. (For description of the used graphical elements see Figure 24.)

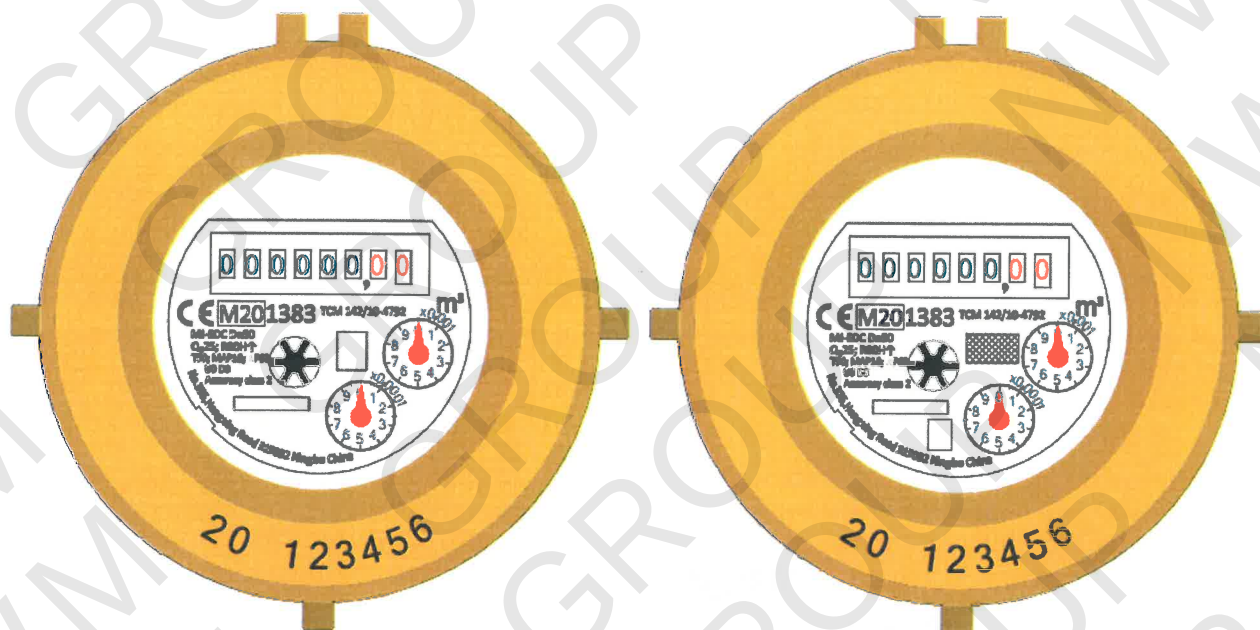


Figure 21: Examples of the dial plates of the water meter type MJ-SDC (G7) and MJ-SDC (Z1) DN15 to DN32. Variants with magnetic pointer for reed impulse transmitter or inductive pointer for AMR reading are also possible. (For description of the used graphical elements see Figure 24.)

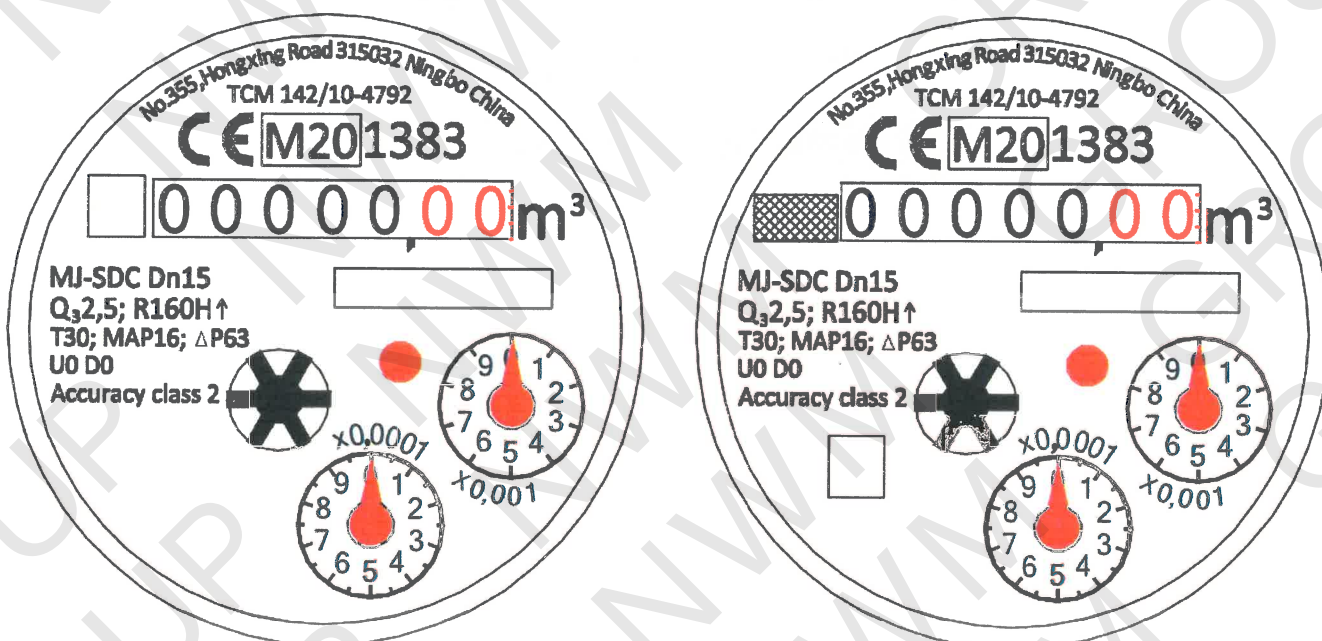


Figure 22: Examples of the dial plates of the water meter type MJ-SDC (G7) and MJ-SDC (Z1) DN15 to DN32 with a separate inductive pointer. Variant with magnetic pointer instead of the inductive pointer is also possible. Inductive pointer marked 1L has a reading rate 1L/pulse. Inductive pointer marked 10L has a reading rate 10 L/pulse. One pulse corresponds to one revolution of the inductive pointer. (For description of the used graphical elements see Figure 24.)

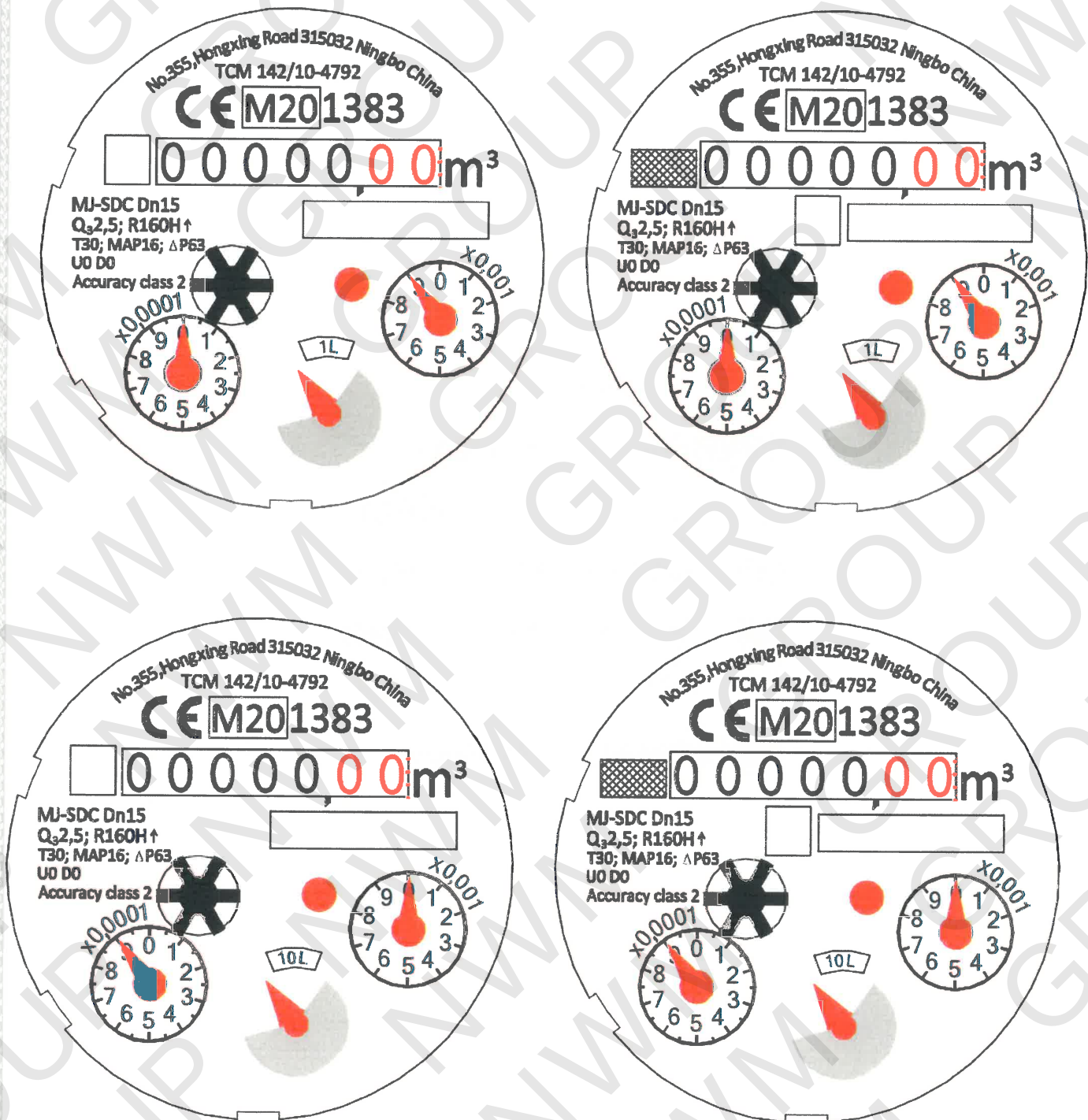


Figure 23: Examples of the dial plates of the water meter type MJ-SDC (VC). (For description of the used graphical elements see Figure 24.)

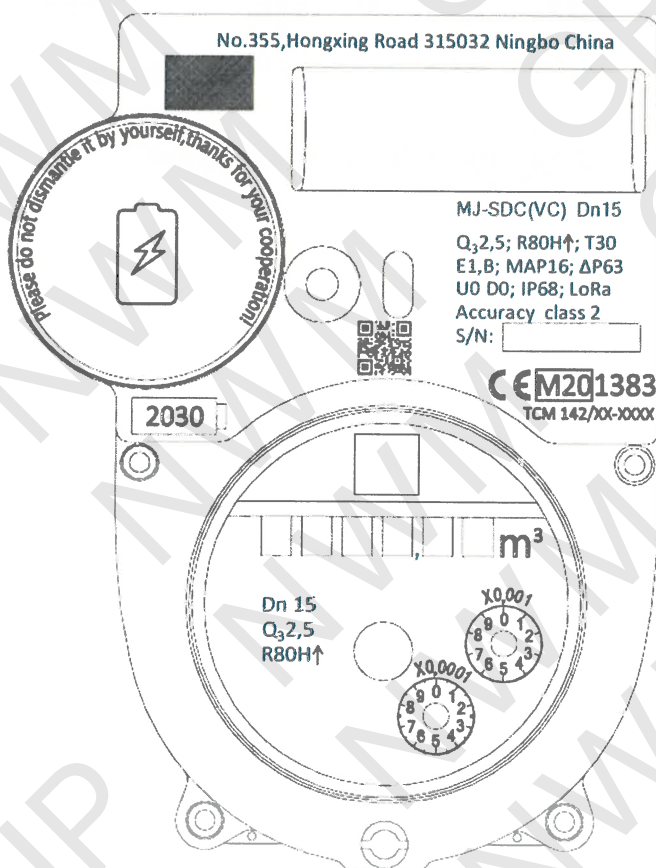
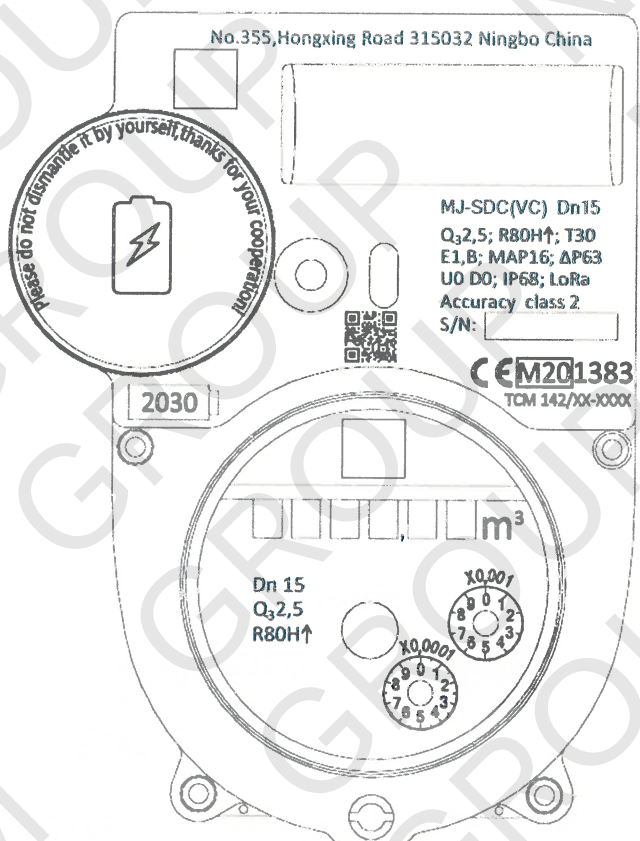
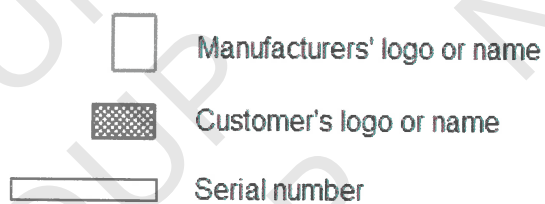


Figure 24: Description of graphical elements substituting manufacturer's or customer's logo or name and a serial number.



WPD / WPHD

Woltman meter with impeller axis arranged in parallel to the flow direction

The bulk water meter WPD / WPHD is used to record high flows in drinking water distribution and in industry, with low pressure loss and a predominantly constant flow profile at the same time.

The meter is equipped with a 6-roller dry dial register (IP68) and a modulator disc. This enables electronic, reaction-free scanning and is the basis for remote reading of the meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus / pulse module is also possible.

A mechanical pulser can also be connected in parallel.



M-Bus

M-Bus

LoRaWAN

Performance characteristics at a glance

- Woltman parallel type
- All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request)
- WPD (DN 40 - 150), WPHD (DN 200 - 300)
- For horizontal and vertical installation
- Replaceable MID-compliant metrological unit
- Highest precision and reliability even in case of low flow rates
- Flood-proof hermetically sealed glass/copper register (IP68)
- Low starting flow and high overload security
- Wide measuring range, low pressure loss
- Hydraulic bearing relief
- Durable measuring stability
- Swirl-reducing inlet
- No straight inlet or outlet needed (U0/D0) according to OIML R49 and DIN EN ISO 4064

- Optimally equipped for remote readout
- Register rotatable 355°
- Operating pressure MAP 16 (optionally MAP 10)
- Approved in accordance with MID and OIML

Applications

- For the consumption measurement of cold and clean drinking water or service water up to 50°C.
- For measuring high flows

AMR options

- Can be combined with stationary GSM system
- Retrofittable with EDC module (Electronic Data Capture):
 - EDC- LPWAN radio module (868 MHz) for LoRaWAN®
 - EDC- wireless M-Bus radio module (868 MHz)
 - EDC- combined M-Bus and pulse module

Technical data										
Nominal diameter	DN	mm	40	50	50	50	65	65	80	80
Permanent flowrate	Q_3	m ³ /h	25	25	40	63	40	63	63	100
Attainable measuring range	Q_3/Q_1	R	R160H50V	R200H50V	R315H80V	R315H125V	R200H80V	R315H125V	R315H125V	R315H125V
Standard measuring range ¹	Q_3/Q_1	R	R100H50V	R160H50V	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V
Overload flowrate	Q_4	m ³ /h	31.25	31.25	50	78.75	50	78.75	78.75	125
Minimum flowrate ²	Q_1	m ³ /h	0.25/0.5	0.16/0.5	0.25/0.64	0.40/1.0	0.25/0.64	0.40/1.0	0.40/1.0	0.63/1.59
Transitional flowrate ²	Q_2	m ³ /h	0.40/0.8	0.25/0.8	0.4/1.02	0.63/1.6	0.4/1.02	0.63/1.6	0.63/1.6	1.0/2.54
Start-up flow rate	-	m ³ /h	0.065	0.065	0.065	0.065	0.065	0.065	0.11	0.11
Display range	min.	l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	max.	m ³	999.999	999.999	999.999	999.999	999.999	999.999	999.999	999.999
Temperature range	-	°C	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50
Operating pressure	MAP	bar	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16
Pulse value reed	-	l/pulse	100	100	100	100	100	100	100	100
Pulse value modulator disc	-	l/pulse	10	10	10	10	10	10	10	10
Pressure loss class at Q_3	Δp	bar	0.63	0.10	0.25	0.63	0.16	0.40	0.10	0.40
Mechanical environmental condition	-	-	M2	M2	M2	M2	M2	M2	M2	M2
Climatic condition ⁴	-	°C	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55
Flow profile sensitivity	-	-	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0
Dimensions and weights:										
Nominal diameter	DN	mm	40	50	50	50	65	65	80	80
Overall length ¹	L	mm	300	200/270/ 300	200/270/ 300	200/270/ 300	200/300	200/300	200/225/ 300/350	200/225/ 300/350
Height	H1	mm	135	135	135	135	135	135	143	143
Height	H2	mm	65	75	75	75	85	85	95	95
Total height approx. ³	H1+H2	mm	200	210	210	210	220	220	238	238
Installation height of the measuring unit	H3	mm	230	230	230	230	230	230	256	256
Flange diameter	D	mm	150	165	165	165	185	185	200	200
Bolt circle diameter	D1	mm	110	125	125	125	145	145	160	160
Number of bolts	-	pcs.	4	4	4	4	4	4	8	8
Bolt size	-	mm	M16	M16	M16	M16	M16	M16	M16	M16
Bolt diameter	-	mm	19	19	19	19	19	19	19	19
Weight approx.	-	kg	8.8	9.1/10.7/ 11.1	9.1/10.7/ 11.1	9.1/10.7/ 11.1	11.8/13.6	11.8/13.6	14.1/13.4/ 15.9/16.8	14.1/13.4/ 15.9/16.8

¹ Other measuring ranges and overall lengths (ISO overall lengths) on request

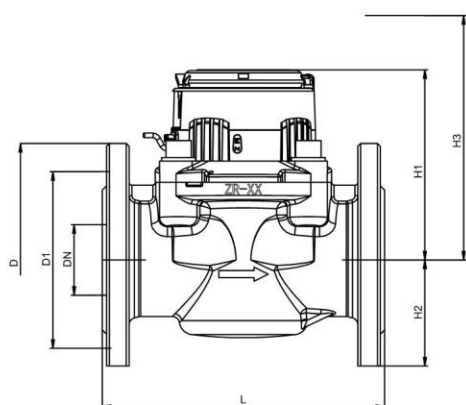
² The data refers to the standard measuring range

³ Total height WPDE + 20 mm

⁴ Condensation possible

Flange according to ISO 7005-2. Other flanges on request

Attention: not all versions are available in all markets



Dimensions WPD

Technical data										
Nominal diameter	DN	mm	80	80	100	100	125	125	150	150
Permanent flowrate	Q_3	m ³ /h	63	100	100	160	100	160	250	400
Attainable measuring range	Q_3/Q_1	R	R315H125V	R315H125V	R315H200V	R315H/315V	R315H200V	R315H/315V	R315H200V	R315H/315V
Standard measuring range ¹	Q_3/Q_1	R	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V	R160H63V
Overload flowrate	Q_4	m ³ /h	78.75	125	125	200	125	200	312.5	500
Minimum flowrate ²	Q_1	m ³ /h	0.40/1.0	0.63/1.59	0.63/1.59	1.0/2.54	0.63/1.59	1.0/2.54	1.56/3.97	2.5/6.35
Transitional flowrate ²	Q_2	m ³ /h	0.63/1.6	1.0/2.54	1.0/2.54	1.6/4.06	1.0/2.54	1.6/4.06	2.5/6.35	4.0/10.16
Start-up flow rate	-	m ³ /h	0.11	0.11	0.15	0.15	0.15	0.15	0.35	0.35
Display range	min.	l	0.5	0.5	0.5	0.5	0.5	0.5	5	5
	max.	m ³	999.999	999.999	999.999	999.999	999.999	999.999	999.999 x10	999.999 x10
Temperature range	-	°C	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50
Operating pressure	MAP	bar	0.3 - 10	0.3 - 10	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16	0.3 - 16
Pulse value reed	-	l/pulse	100	100	100	100	100	100	1000	1000
Pulse value modulator disc	-	l/pulse	10	10	10	10	10	10	100	100
Pressure loss class at Q_3	Δp	bar	0.10	0.40	0.16	0.40	0.16	0.40	0.10	0.40
Mechanical environmental condition	-	-	M2	M2	M2	M2	M2	M2	M2	M2
Climatic condition ⁴	-	°C	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55
Flow profile sensitivity	-	-	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0

Dimensions and weights:

Nominal diameter	DN	mm	80	80	100	100	125	125	150	150
Overall length ¹	L	mm	225	225	250/350/ 360	250/350/ 360	250	250	300	300
Height	H1	mm	143	143	152	152	152	152	183	183
Height	H2	mm	95	95	105	105	115	115	135	135
Total height approx. ³	H1+H2	mm	238	238	257	257	267	267	318	318
Installation height of the measuring unit	H3	mm	256	256	266	266	266	266	373	373
Flange diameter	D	mm	200	200	220	220	250	250	285	285
Bolt circle diameter	D1	mm	160	160	180	180	210	210	240	240
Number of bolts	-	pcs.	4	4	8	8	8	8	8	8
Bolt size	-	mm	M16	M16	M16	M16	M16	M16	M20	M20
Bolt diameter	-	mm	19	19	19	19	19	19	23	23
Weight approx.	-	kg	13.4	13.4	16.9/20.5/ 20.6	16.9/20.5/ 20.6	20.1	20.1	31.5	31.5

¹ Other measuring ranges and overall lengths (ISO overall lengths) on request

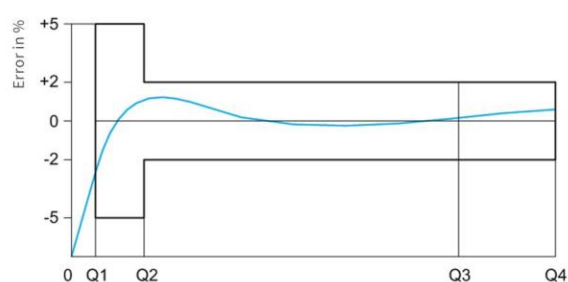
² The data refers to the standard measuring range

³ Total height WPDE + 20 mm

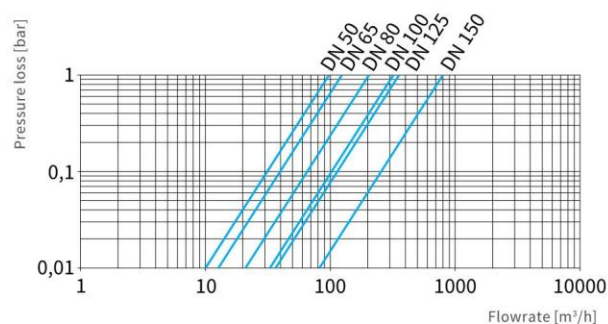
⁴ Condensation possible

Flange according to ISO 7005-2. Other flanges on request

Attention: not all versions are available in all markets



Typical error curve



Typical pressure loss curve WPD

Technical data								
Nominal diameter	DN	mm	200	200	250	250	300	300
Permanent flowrate	Q_3	m ³ /h	400	400	630	630	1000	1000
Attainable measuring range	Q_3/Q_1	R	R160H125V	R160H125V	R160H125V	R160H125V	R160H125V	R160H125V
Standard measuring range ¹	Q_3/Q_1	R	R160H63V	R160H63V	R100H63V	R100H63V	R100H63V	R100H63V
Overload flowrate	Q_4	m ³ /h	500	500	787	787	1250	1250
Minimum flowrate ²	Q_1	m ³ /h	2.5/6.35	2.5/6.35	6.3/10.0	6.3/10.1	10.0/15.87	10.0/15.88
Transitional flowrate ²	Q_2	m ³ /h	4.0/10.16	4.0/10.16	10.08/16.0	10.08/16.1	16.0/25.4	16.0/25.5
Start-up flow rate	-	m ³ /h	2.00	2.00	2.00	2.00	2.00	2.00
Display range	min.	l	5	5	5	5	5	5
	max.	m ³	999.999 x10	999.999 x10	999.999 x10	999.999 x10	999.999 x10	999.999 x10
Temperature range	-	°C	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50	0.1 - 50
Operating pressure	MAP	bar	0.3 - 16	0.3 - 10	0.3 - 16	0.3 - 10	0.3 - 16	0.3 - 10
Pulse value reed	-	l/pulse	1000	1000	1000	1000	1000	1000
Pulse value modulator disc	-	l/pulse	100	100	100	100	100	100
Pressure loss class at Q_3	Δp	bar	0.10	0.10	0.10	0.10	0.10	0.10
Mechanical environmental condition	-	-	M2	M2	M2	M2	M2	M2
Climatic condition ⁴	-	°C	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55	5 - 55
Flow profile sensitivity	-	-	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0	U0/D0
Dimensions and weights:								
Nominal diameter	DN	mm	200	200	250	250	300	300
Overall length ¹	L	mm	350	350	450	450	500	500
Height	H1	mm	215	215	267	267	250	250
Height	H2	mm	160	160	193	193	220	220
Total height approx. ³	H1+H2	mm	375	375	460	460	470	470
Installation height of the measuring unit	H3	mm	460	460	460	460	470	470
Flange diameter	D	mm	340	340	405	395	460	445
Bolt circle diameter	D1	mm	295	295	355	350	410	400
Number of bolts	-	pcs.	12	8	12	12	12	12
Bolt size	-	mm	M20	M20	M24	M20	M24	M20
Bolt diameter	-	mm	23	23	28	23	28	23
Weight approx.	-	kg	49	49	68	68	105	105

¹ Other measuring ranges and overall lengths (ISO overall lengths) on request

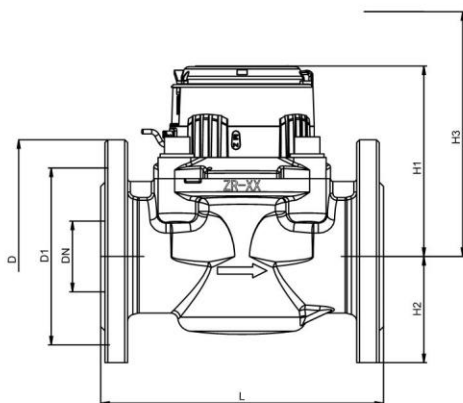
² The data refers to the standard measuring range

³ Total height WPHDE + 20 mm

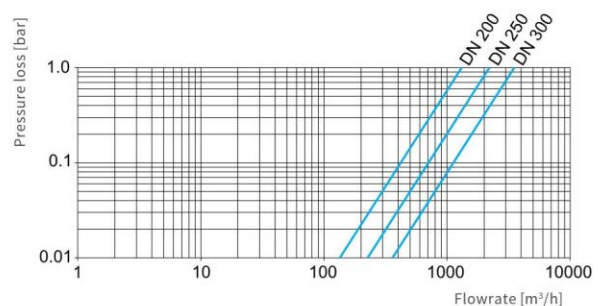
⁴ Condensation possible

Flange according to ISO 7005-2. Other flanges on request

Attention: not all versions are available in all markets



Dimensions WPHD



Typical pressure loss curve WPHD

ZENNER International GmbH & Co. KG

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Fax +49 681 99 676-3100

E-Mail
Internet

info@zenner.com
www.zenner.com



KONFORMITÄTSERKLÄRUNG / DECLARATION OF CONFORMITY / DECLARATION DE CONFORMITE / DECLARACIÓN DE CONFORMIDAD

gemäß der Richtlinie 2014/32/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 über Messgeräte
according to the directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on measuring instruments
selon la directive 2014/32/EU du Parlement Européen et du Conseil du 26 février 2014 sur les instruments de mesure
según la directiva 2014/32/EU:26.02.2014 de la Unión Europea



Wir, die Firma



We, the company



Nous, société



Nosotros, la compañía

ZENNER International GmbH & Co. KG, Heinrich-Barth-Straße 29, D-66115 Saarbrücken

erklären hiermit in alleiniger Verantwortung, dass das
Produkt

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

mit der Prüfbescheinigungs-Nr.
DE-15-MI001-PTB010

den Anforderungen der Richtlinie 2014/32/EU
entspricht, die dort für diese Messgeräteart
beschrieben sind.

Konformitätsbewertungsstelle (Notifizierte Stelle)
Modul B + D Physikalisch-Technische Bundesanstalt
PTB – Kennnummer 0102

QS-Zertifikatnummer:
DE-M-AQ-PTB010

Angewendete Normen:
DIN EN ISO 4064:2017
OIML R49, 2013

declare on our own responsibility, that the product

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

with the examination certificate no.
DE-15-MI001-PTB010

meets the standards of the directive 2014/32/EU which
applies for this kind of measurement devices.

Conformity assessment body (Notified Body) module
B + D
The PTB (Physikalisch Technische Bundesanstalt,
the German national test authority) – Identification
number 0102

QS-certificate number:
DE-M-AQ-PTB010

Applied standards:
DIN EN ISO 4064:2017
OIML R49, 2013

déclarons par la présente sous notre responsabilité
que le produit

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

avec le numéro d'examen
DE-15-MI001-PTB010

respecte les standards de la directive 2014/32/EU
relative à ce type d'appareils de mesure.

Organisme d'homologation (Organisme notifié) Modu-
le B + D
Institut fédéral de physique PTB – Numéro
d'identification 0102

QS-numéro de certificat:
DE-M-AQ-PTB010

Standards appliqués:
DIN EN ISO 4064:2017
OIML R49, 2013

declaramos bajo nuestra sola responsabilidad, que el
producto

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

con el certificado de examen no.
DE-15-MI001-PTB010

cumple con los requisitos de la directiva 2014/32/EU,
aplicable a esta clase de instrumentos de medida.

Organismo para la evaluación de la conformidad (or-
ganismo designado) módulos B + D
La PTB (Physikalisch Technische Bundesanstalt,
Oficina federal de metrología alemana) – Número de
identificación 0102

QS-número del certificado:
DE-M-AQ-PTB010

Normas aplicadas:
DIN EN ISO 4064:2017
OIML R49, 2013

Saarbrücken, 09.11.2022

Alexander Lehmann, General Manager

DEKLARACJA ZGODNOŚCI / MEGFELELŐSÉGI NYILATKOZAT / DICHIARAZIONE DI CONFORMITÀ / DECLARAȚIE DE CONFORMITATE

zgodnie z dyrektywą 2014/32/EU:26.02.2014 Unii Europejskiej
az Európai Parlament és Tanács 2014. február 26-i, 2014/32/EU mérőműszerekről szóló irányelve szerint
in base alla direttiva 2014/32 / UE del Parlamento Europeo e del Consiglio, del 26 Febbraio 2014, relativa agli strumenti di misura
conform directivei 2014/32/UE a Parlamentului European și a Consiliului din 26 februarie 2014 privind instrumentele de măsurare



My, spółka



Mi, a vállalat



Noi, la società



Noi, firma

ZENNER International GmbH & Co. KG, Heinrich-Barth-Straße 29, D-66115 Saarbrücken

deklarujemy na naszą pełną odpowiedzialność, że produkt

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

z numerem certyfikatu
DE-15-MI001-PTB010

jest zgodny z postanowieniami Dyrektywy Unii Europejskiej nr 2014/32/EU, w której opisano tego rodzaju urządzenia pomiarowe.

Organ oceny zgodności (Jednostka Notyfikowana)
Moduł B + D
Physikalisch-Technische Bundesanstalt PTB, Federalny Urząd Fizyczno-Techniczny – Numer identyfikacyjny 0102

QS-numer certyfikatu:
DE-M-AQ-PTB010

Zastosowane normy:
DIN EN ISO 4064:2017
OIML R49, 2013

saját felelősségünkre kijelentjük, hogy a

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

termék
DE-15-MI001-PTB010 sz.
vizsgálati tanúsítvánnyal

megfelel a 2014/32/EU irányelv szabványainak, amelyek erre a mérőműszer fajtára vonatkoznak.

Megfelelőség-értékelő testület (Bejelentett Szervezet)
B + D modul PTB (Fizikai-Műszaki Szövetségi Intézet, a német nemzeti tesztelő hatóság) – Azonosítószám 0102

QS-Tanúsítvány száma:
DE-M-AQ-PTB010

Alkalmazott szabványok:
DIN EN ISO 4064:2017
OIML R49, 2013

dichiariamo in esclusiva responsabilità che il prodotto

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

con il certificato di esame n.
DE-15-MI001-PTB010

soddisfano gli standard della direttiva 2014/32 / UE che si applica per questo tipo di dispositivi di misurazione.

Organismo di valutazione della conformità (Organismo Notificato) modulo B + D II PTB (Physikalisch Technische Bundesanstalt, la autorità nazionale Tedesca di controllo) - numero di identificazione 0102

Certificato QS numero:
DE-M-AQ-PTB010

Standard applicati:
DIN EN ISO 4064:2017
OIML R49, 2013

declarăm pe propria răspundere faptul că produsele (contoare de apă)

WPD / WPD-HY
Q₃ = 16 / 25 / 40 / 63 / 100 / 160 / 250 / 400

cu certificatul de examinare nr.
DE-15-MI001-PTB010

îndeplinesc standardele directivei 2014/32/UE, care se aplică pentru acest tip de aparat de măsurare.

Organismul de certificare a modului B + D: PTB (Physikalisch Technische Bundesanstalt, autoritatea națională germană de testare) – număr de identificare 0102.

Număr QS certificat:
DE-M-AQ-PTB010

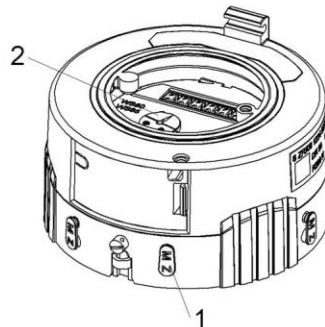
Standarde aplicate:
DIN EN ISO 4064:2017
OIML R49, 2013

Saarbrücken, 09.11.2022

Alexander Lehmann, General Manager



Installationsanleitung Kontaktgeber für Woltmanzähler (WSD / WPD / WPHD)
Installation instruction for Reed-Sensor for Woltman meters (WSD / WPD / WPHD)
Notice d'installation du contacteur reed pour compteurs Woltman (WSD / WPD / WPHD)
Instrucciones de montaje para el emisor de impulsos para contadores Woltman (WSD / WPD / WPHD)
Istruzioni per l'installazione del contatto reed su contatori Woltman (WSD / WPD / WPHD)
Инструкция по установке импульсного датчика для счетчиков Woltman (WSD / WPD / WPHD)



**Kontaktgeber Positionen und Impulswertigkeiten / Reed sensor positions and impulse
Positions du contacteur Reed et valeurs d'impulsions / Posiciones y valores de impulsos del emisor Reed
Posizioni e valori impulsivi del contatto reed / Позиции импульсного датчика и цена импульса**

		WPD / WPHD			WSD		
		DN 50-125	DN 150-300	DN 400-500	DN 50-125	DN 150-200	
Pos.1	Reed	m ³ /Imp. m ³ /pulse m ³ /Imp. m ³ /pulso m ³ /Imp. м ³ /имп.	0,1	1	10	0,1	1
							Kontaktgeber Einschub Reed-Sensor slot Insertion du contacteur Reed Ranura para el emisor Reed Inserzione del contatto reed Вставка для импульсного датчика Reed
Pos. 2	Induktiv Inductive Induction Inductivo Induttivo индуктрвный	m ³ /Imp. m ³ /pulse m ³ /Imp. m ³ /pulso m ³ /Imp. м ³ /имп.	0,01	0,1	1	0,01	0,1
							Induktiver Abgriff für EDC-Module (wM-Bus, M-Bus, Impuls) Non-reactive scanning for EDC-Modules (wM-Bus, M-Bus, Impulse) Balayage exempt de rétroaction pour module EDC (wM-Bus, M-Bus, Impulsions) Detección no retroactiva para módulos EDC (wM-Bus, M-Bus, Impulsos) Moduli induttivi EDC (radio, M-Bus, impulso) Индуктивный датчик для EDC-модуля (wM-Bus, M-Bus, Импульс)

Technische Daten

Technical data / Données techniques / Datos técnicos / Dati Tecnici / Технические характеристики

Der Kontaktgeber ist mit einem Schutzwiderstand von 47Ω, ¼ W ausgestattet.

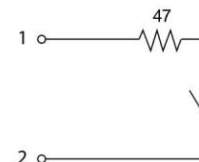
The sensor is equipped with 47Ω, ¼ W protective resistor.

Le contacteur est muni d'une résistance de protection de 47Ω, ¼ W.

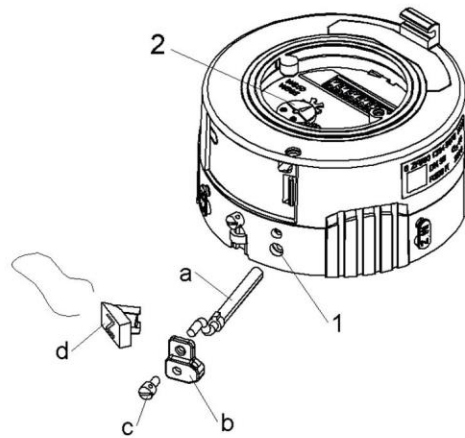
El emisor de impulsos está provisto de una resistencia de protección de 47Ω, ¼ W.

Il contattore è dotato di una resistenza di protezione di 47Ω, ¼ W.

Импульсный датчик оснащен защитой с сопротивлением 47Ω, ¼ W.



1: braun / brown / marron / marrón / marrone / коричневый
2: weiss / white / blanc / blanco / bianco / белый



D Deutsch

1. Schutzkappe der Kontaktgeber Einschub-Position 1 entfernen.
2. Vormontierten Kontaktgeber (bestehend aus Teilen a und b) in die untere Bohrung bis auf Anschlag einschieben.
3. Kontaktgeber mit der beiliegenden Sicherungsschraube (c) befestigen.
4. Bei Bedarf den Kontaktgeber mittels beiliegendem Plombendraht und Schnappplombe (d) mit der Sicherungsschraube (c) und Plombieröse der Schutzkappe plombieren.

ES Español

1. Quite la tapa protectora de la posición de la ranura del emisor Reed 1.
2. Inserte el conjunto del emisor Reed (consistiendo en la partes a y b) en el agujero inferior hasta que se pare.
3. Ate el emisor Reed con el tornillo de cierre incluido (c).
4. Si es necesario, el emisor Reed puede ser sellado con el alambre y el sello incluido (d), pasando el alambre por el emisor, por el tornillo de cierre (c) y por el agujero de la tapa de protección.

EN English

1. Remove the protective cap of the Reed-Sensor slot position 1.
2. Insert pre-assembled Reed-Sensor (consisting of part a and b) into the lower hole until it stops.
3. Attach the Reed-Sensor with the included locking screw (c).
4. If necessary, the reed sensor can be sealed with the accompanying wire and lead seal (d) with the locking screw (c) and the sealing eye of the protection cap.

I Italiano

1. Rimuovere la calotta protettiva del contatto dalla posizione 1.
2. Inserire il contatto premontato (composto dalle parti a e b) nel foro sottostante fino alla battuta.
3. Fissare il contatto reed con le viti in dotazione (c).
4. Se necessario, il contatto può essere piombato con il filo e il sigillo (d) mediante la vite di fissaggio (c) nel relativo foro della calotta protettiva.

F Français

1. Retirer le capot protecteur du contacteur Reed Position d'emplacement 1.
2. Insérer le contacteur Reed pré-assemblé (comprenant les parties a et b) dans le trou du bas jusqu'à la butée.
3. Fixer le contacteur Reed avec la vis de sécurité incluse (c).
4. Si nécessaire, le contacteur Reed peut être plombé au moyen du fil de plombage joint de même que le plomb (d) au moyen d'une vis de sécurité (c) et de l'œillet de plombage sur le capot de sécurité.

RU Русский

1. Защитную крышку вставки имп. датчика (позиция 1) удалить.
2. Уже смонтированный датчик, состоящий из частей а и б, ввести в нижнее отверстие до контакта.
3. Датчик закрепить прилагаемым винтом (с).
4. При необходимости запломбировать защитный винт (с) с помощью пломбировочной проволоки и пломбы (d).

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