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V 3112

EU-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/07 – 4537

Addition 5

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

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: BERMAD CS LTD
Kibbutz Evron 22808
Israel

For: water meter – mechanical Woltman

Type: WPH (Turbo-Bar)

Accuracy class: 2

Temperature class: T50

Valid until: 4 August 2027

Document No: 0115-CS-A028-07

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

Date of issue: 5 August 2017

Certificate approved by:

Český metrologický institut -3-

RNDr. Pavel Klenovský

1. Characteristics of instrument:

The Woltmann water meters type WPH 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 2014/32/EU of the European Parliament and of the Council of 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.), as amended.
The water meters type WPH is based on the Woltmann principle, the helical blades of the turbine rotate about the axis of flow. The turbine impeller drive is magnetically connected to a dry control head. The measuring unit is connected to the body by a flange cover which is fixed by four screws and sealed by a rubber o-ring.
The water meters type WPH are equipped with a dry indicating device formed by numbered rollers with six drums, two rotary pointers and one rotary plate with a scale. The adjustment is realized by adjusting screw.
The water meter shall be installed to operate in horizontally position with the indicating device positioned at the top.

2. Main characteristics:

Nominal diameter:	40	50	65	80	100	125
Q_1 [m³/h]:	0.5	0.5	0.8	1.3	1.3	2.0
Q_2 [m³/h]:	0.8	0.8	1.3	2.0	2.0	3.2
Q_3 [m³/h]:	25	40	63	63	100	160
Q_4 [m³/h]:	31	50	79	79	125	200
Q_3/Q_1:	50	80	80	50	80	80
Q_2/Q_1:	1.6					
Q_3/Q_4:	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:	T50					
Water pressure class:	MAP16					
Pressure loss class ΔP:	10	16	10 or 16	40 or 16	40 or 16	25
Indicating range [m³]:	999 999					
Resolution of the indicating device [m³]:	0.002					
Connection type:	flange, threat					
Flow profile sensitivity classes:	U5 D3					
Orientation limitation:	H↑ (horizontal position with the indicating device at the top)					
Length [mm]:	260	200	200	225	250	250
Reed switch power supply (U_{max} / I_{max}):	48 V DC/AC / 0.2 A					
Reed switch K-factor (impulse / L):	10; 100; 1000					

Nominal diameter:	150	200	250	300
Q_1 [m³/h]:	3.1	5.0	7.9	12.5
Q_2 [m³/h]:	5.0	8.0	12.6	20.0
Q_3 [m³/h]:	250	400	630	1000
Q_4 [m³/h]:	313	500	788	1250
Q_3/Q_1:	80	80	80	80
Q_2/Q_1:	1.6			

Q_3/Q_4:	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:	T50			
Water pressure class:	MAP16			
Pressure loss class ΔP:	10 or 16	10	10	10
Indicating range [m^3]:	9 999 999		99 999 999	
Resolution of the indicating device [m^3]:	0.02		0.2	
Connection type:	flange			
Flow profile sensitivity classes:	U5 D3			
Orientation limitation:	H↑ (horizontal position with the indicating device at the top)			
Length [mm]:	300	350	450	500
Reed switch power supply (U_{max} / I_{max}):	48 V DC/AC / 0.2 A			
Reed switch K-factor (impulse / L):	100; 1000; 10 000			

3. Tests

Technical tests of the water meters type WPH were performed in compliance with the International Recommendation OIML R 49 Edition 2006 (E) with conformity to EN 14154+A1:2005, Test Report No. 6015-PT-P0006-07 and No. 6015-PT-P0046-15. Technical tests of the water meters type WPH were performed in compliance with the International Recommendation OIML R 49 Edition 2013 (E) with conformity to ISO 4064, Test Report No. 6015-PT-P0054-17.

4. Conformity marks and inscription:

The water meters type WPH shall be clearly and indelibly marked with the following information:

- Water meter type
- Unit of measurement (m^3)
- Numerical value Q_3 in m^3/h (Q_3 ×.×) and the ratio Q_3 / Q_1,
- EU-type examination certificate number
- Manufacturer´s name, registered trade name or registered trade mark
- Post address of manufacturer
- Year of manufacture, two last digits of the year of manufacture, or the month and year of manufacture
- Serial number (as near as possible to the indicating device)
- 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)
- Maximum admissible pressure (MAP ××)
- Letter H↑ (horizontal position with the indicating device at the top)
- The temperature class (T××)
- The pressure loss class (*ΔP* ××)
- The installation sensitivity class (Ux Dx)
- CE marking and metrology marking in line with the Directive 2014/32/EU

and if the water meter is equipped with impulse transmitter:

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

These markings shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use. Examples are in Figure 1 and Figure 2.

5. Additional specifications:

The water meters type WPH shall be put onto the market in line with the procedure of conformity assessment according to the Annex D or F of the Directive 2014/32/EU as well as in compliance with the technical description of this report and shall be tested in accordance with the requirements determined in ISO 4064-1:2014, respectively OIML R 49-1:2013.

A metrological test may only be performed by a producer, or a notified body respectively in line with the conformity assessment procedure by the D or F Annexes of the Directive 2014/32/EU, respectively.

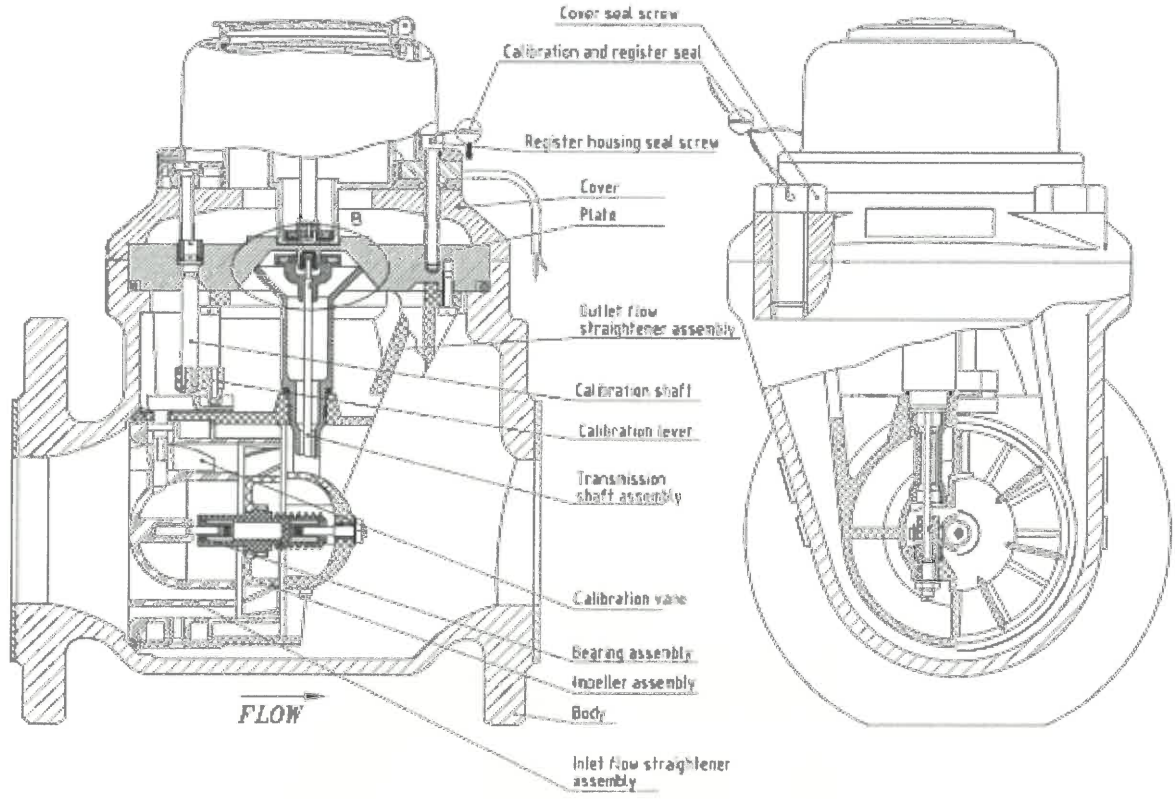
6. Ensuring the integrity of the instruments:

One of the screws connecting the water meter body and the flange cover and the housing of the indicating device has to be sealed (Figure 1, Figure 2 and Figure 3). For sizes where the adjusting screw can be approached from outside the adjusting screw has to be sealed. The seals are realized by a wire with a lead or plastic seal.
If the meter is equipped by the reed impulse transmitter, the screws fixing the transmitter to the meter have to be sealed.

History of additions

Addition No.	Description
Addition 0	Issuing certificate (Adding dial plates)
Addition 1	Administrative changing
Addition 2	Changing ratio and permanent flowrates (DN40, DN80 and DN100)
Addition 3	Administrative changing
Addition 4	Added new marking
Addition 5	Revision according to the Directive 2014/32/EU

Figure 1: The WPH Series from DN 40 to 125 water meter hydraulic and sealing schema:



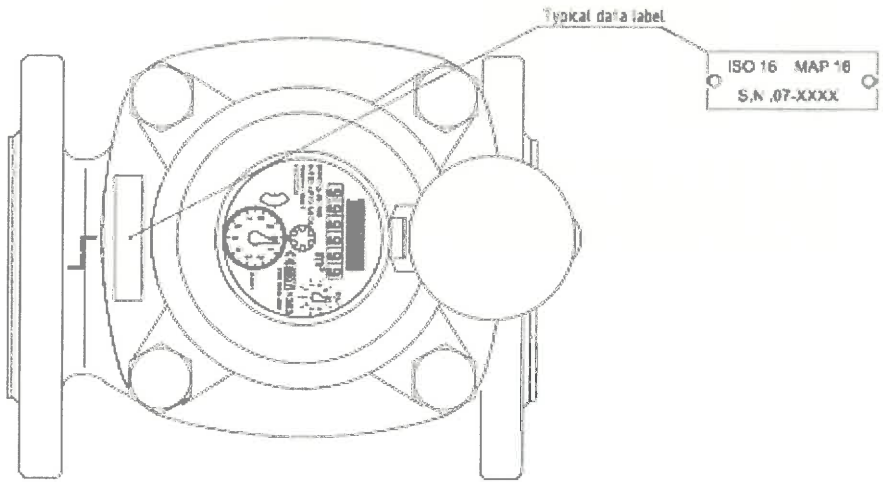


Figure 2: The WPH Series DN 150 and DN 200 water meter hydraulic and sealing schema:

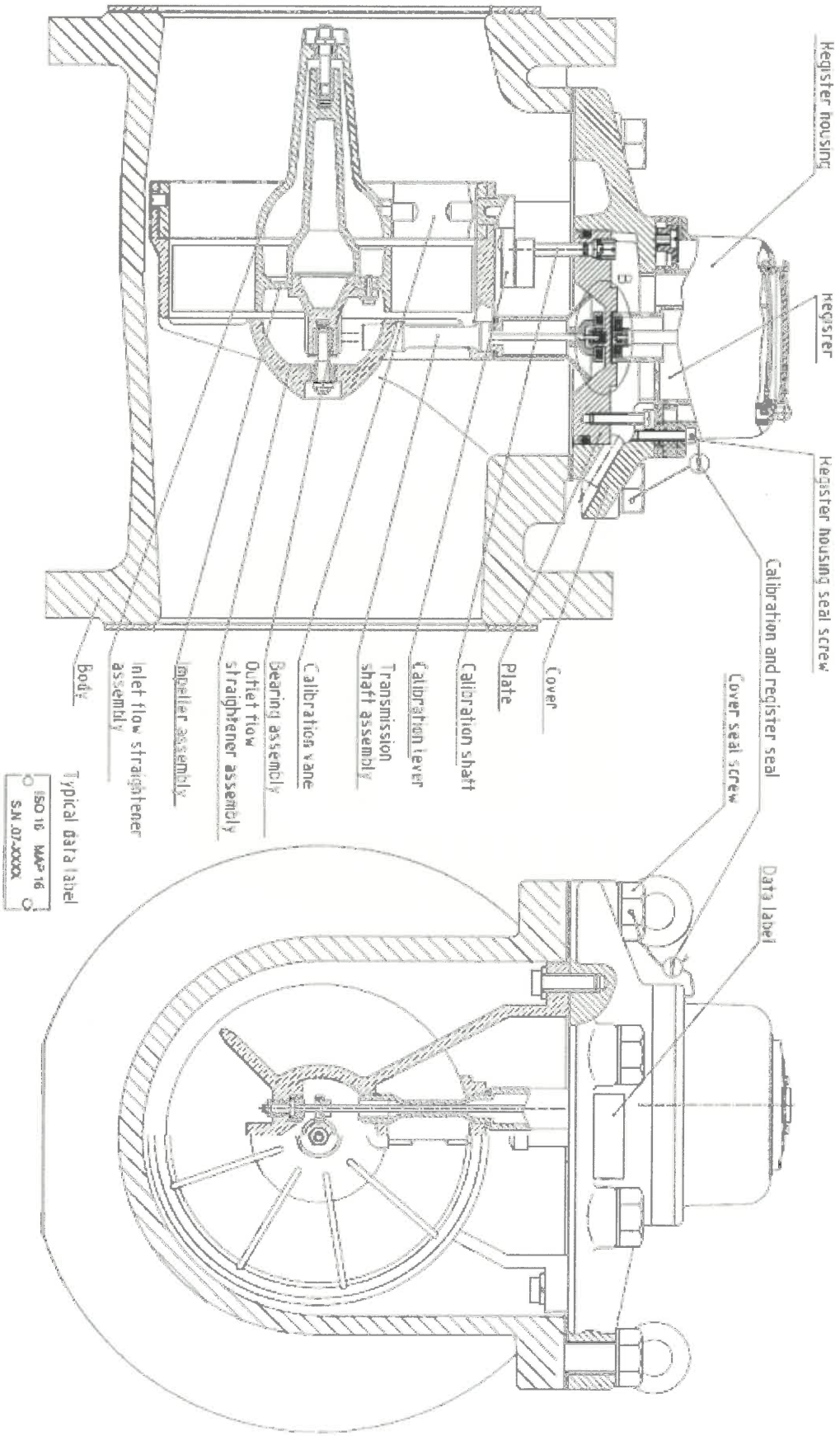


Figure 3: The WPH Series DN 250 and DN 300 water meter hydraulic and sealing schema:

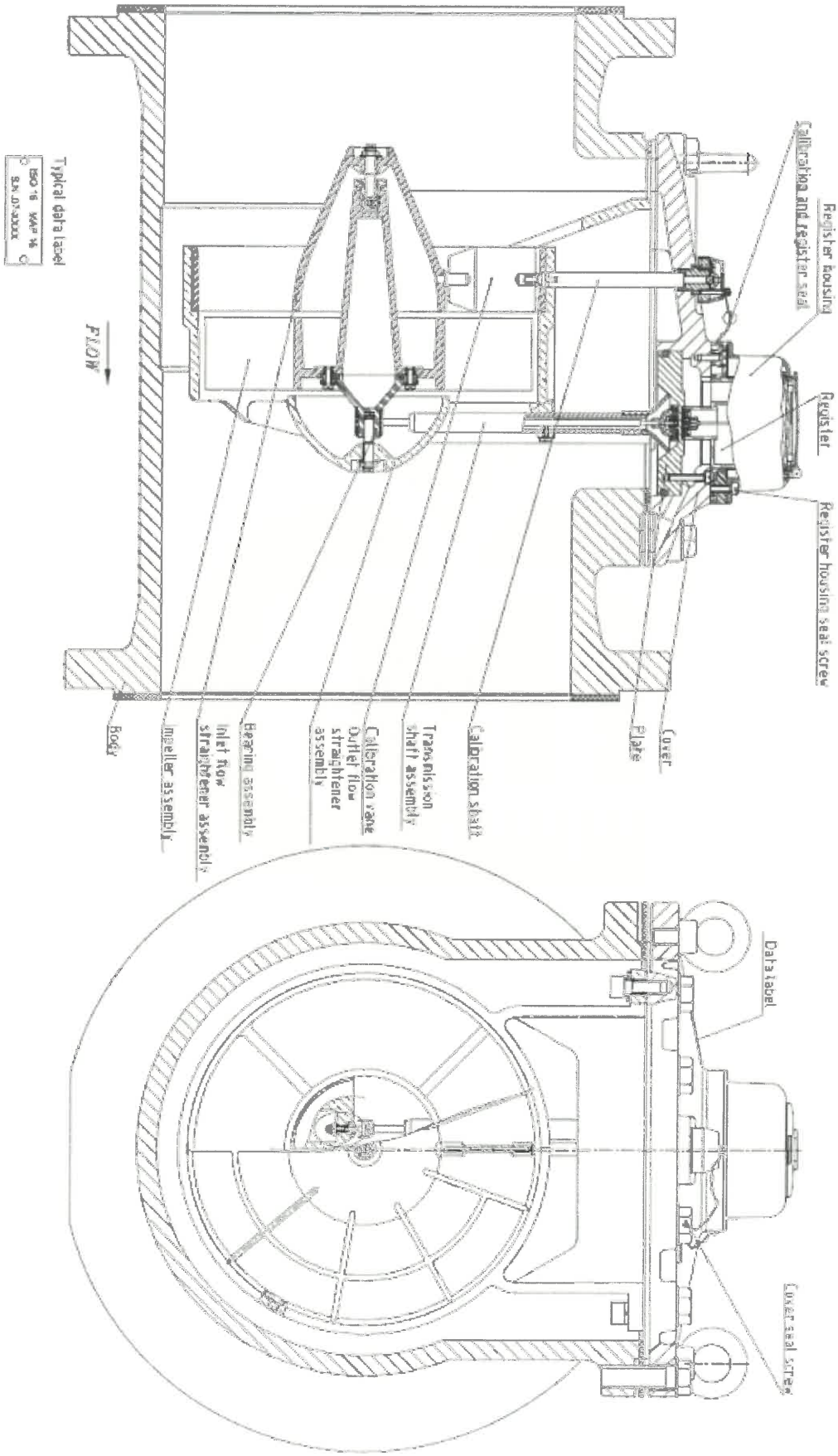


Figure 4: The WPH Series DN 40 and DN 125 water meters dial:

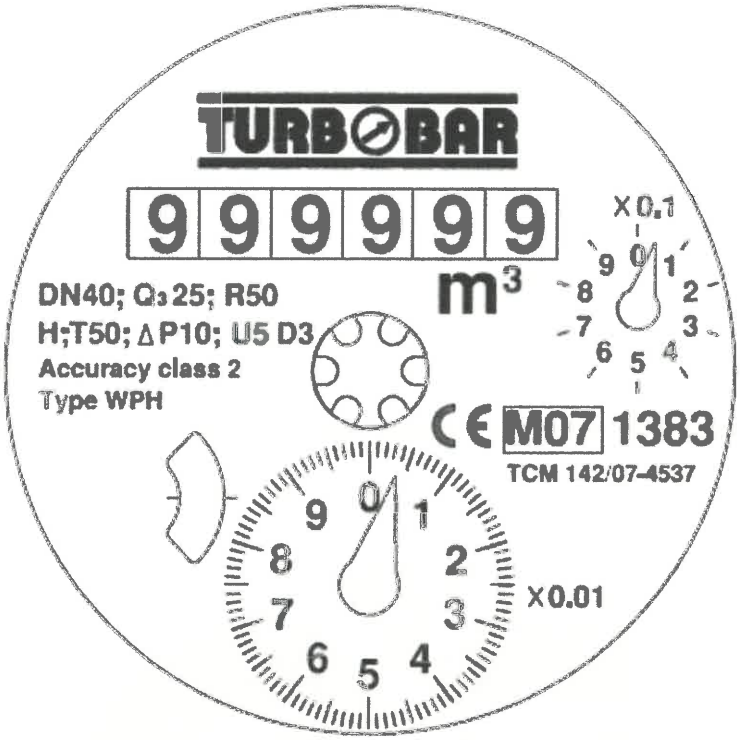


Figure 5: The WPH Series DN 150 and DN 200 water meters dial:

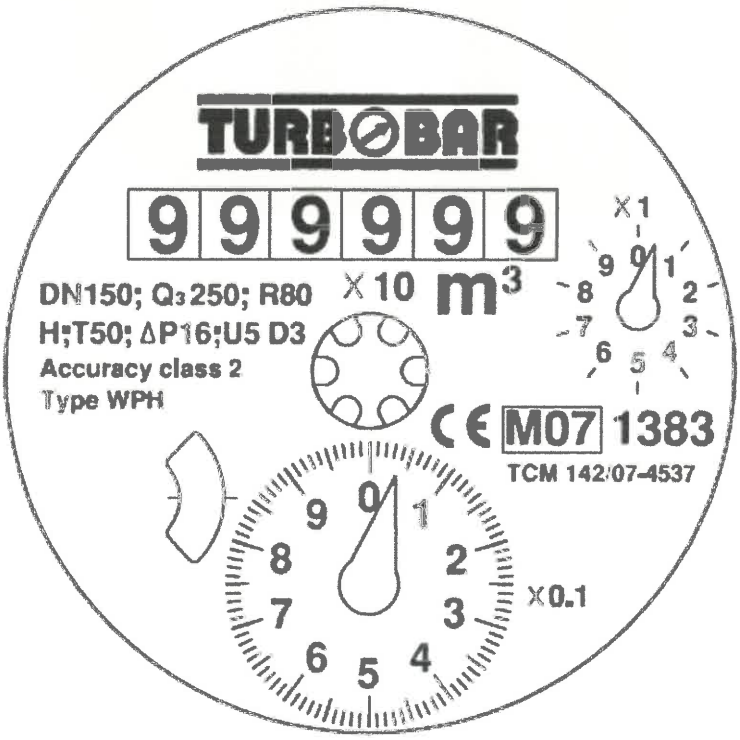


Figure 6: The WPH Series DN 250 and DN 300 water meters dial:

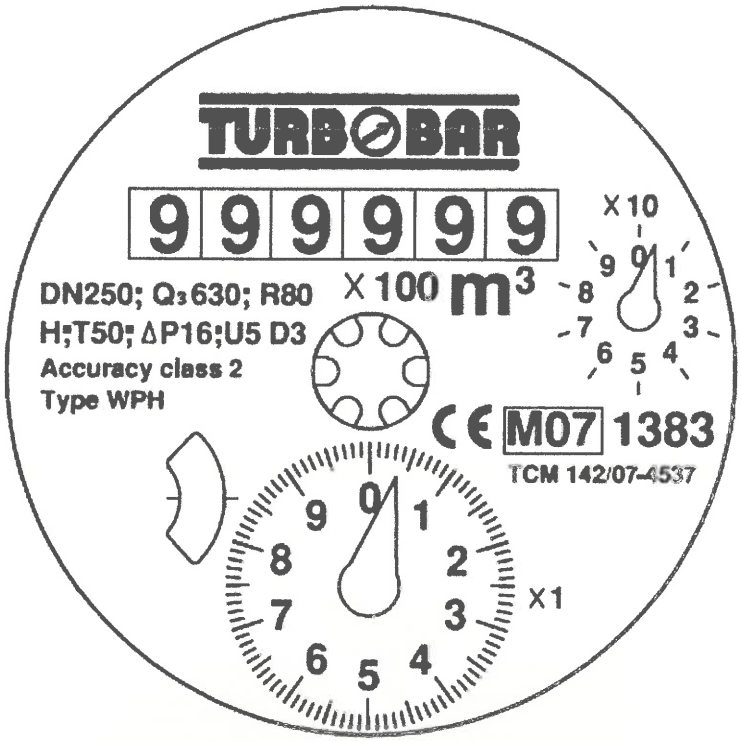


Figure 7: View on the water meter type WPH (Turbo-Bar)

Figure 8: Top view on the water meter type WPH (Turbo-Bar)

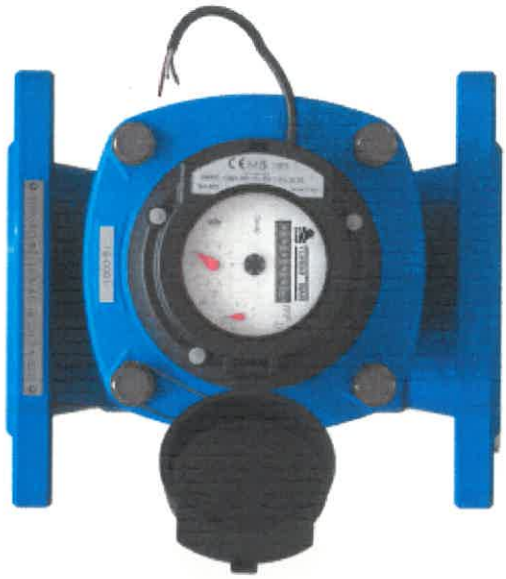


Figure 9: Dial plate with marking of the water meter