



Slovenský metrologický ústav

Karloveská 63, 842 55 Bratislava 4,  
Slovenská republika



Reg. No. 101/P-035

# CERTIFIKÁT EÚ SKÚŠKY TYPU

## EU – type examination certificate

Číslo dokumentu: **SK 10-MI001-SMU013** **Revízia 3**  
Document number: Revízia 3 nahrádza certifikát zo dňa 19. februára 2014 **Revision 3**  
Revision 3 replaces the certificate issued by February 19, 2014

V súlade s: prílohou č. 2, Modul B nariadenia vlády Slovenskej republiky č. 145/2016 Z. z. o sprístupňovaní meradiel na trhu v znení nariadenia vlády SR č. 328/2019 Z. z., ktorým sa preberá smernica Európskeho parlamentu a Rady 2014/32/EU o harmonizácii právnych predpisov členských štátov týkajúcich sa sprístupnenia meradiel na trhu  
In accordance with: Annex II, Module B to Government Ordinance of the Slovak Republic No. 145/2016 Coll. Relating to the making available on the market of measuring instruments as amended by Government Ordinance of the Slovak Republic No. 328/2019 Coll., which implemented the 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

Žiadateľ/Výrobca: **Apator Powogaz S.A.**  
Issued to (Manufacturer): **ul. Klemensa Janickiego 23/25, 60 – 542 Poznań, Poľska republika**

Druh meradla: **Vodomer / Skrutkový vodomer**  
Type of instrument: **Water meter / Woltmna water meter**

Označenie typu: **MWN130 (WPH-01-130)**  
Type designation:

Základné požiadavky: príloha č. 1 a príloha č. 3 Vodometry (MI-001) k nariadeniu vlády SR č. 145/2016 Z. z. v znení nariadenia vlády SR č. 328/2019 Z. z.  
Essential requirements: Annex No. I and Annex No. III Water meters (MI-001) to Government Ordinance of the Slovak Republic No. 145/2016 Coll. as amended by Government Ordinance of the Slovak Republic No. 328/2019 Coll.

Platnosť do: **29. júl 2030**  
Valid until: **July 29, 2030**

Notifikovaná osoba: **Slovenský metrologický ústav 1781**  
Notified body: **Slovak Institute of Metrology 1781**

Dátum vydania: **29. júl 2020**  
Date of issue: **July 29, 2020**

Základné charakteristiky, popis meradla a podmienky schválenia sú uvedené v prílohe, ktorá je súčasťou tohto certifikátu. Certifikát vrátane prílohy má spolu 10 strán.  
Essential characteristics, instrument description and approval conditions are set out in the appendix hereto, which forms the part of the certificate. The certificate including the appendix contains 10 pages.



  
Viliam Mazúr  
zástupca notifikovanej osoby  
representative of notified body

Poznámka: Tento certifikát EÚ skúšky typu môže byť rozmnožovaný len celý a nezmenený. Bez podpisu a odtlačku pečiatky je neplatný.  
Note: This EU-type examination certificate shall not be reproduced except in full. Certificates without signature and stamp are not valid.

## 1 Instructions and standards used within assessment

### 1.1 Generally binding instructions

Meter type was examined in terms of request for given type provisions Government Ordinance of the Slovak Republic No. 145/2016 Coll. relating to the making available on the market of measuring instruments as amended by Government Ordinance of the Slovak Republic No. 328/2019 Coll., which implemented the Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments as later amended (next Government Ordinance).

Requirements are set out in Annex No. 1 and Annex No. 3 Water Meters (MI-001) to Government Ordinance of SR No. 145/2016 Coll. as amended by Government Ordinance of the Slovak Republic No. 328/2019 Coll..

### 1.2 Harmonised standards and normative documents used

OIML R 49-1:2006	Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
OIML R 49-2:2004	Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
EN 14154-1:2005+A2:2011	Water meters - Part 1: General requirements
EN 14154-2:2005+A2:2011	Water meters - Part 2: Installation and conditions of use
EN 14154-3:2005+A2:2011	Water meters - Part 3: Test methods and equipment

### 1.3 Other instructions used:

OIML R 49-1:2013	Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
OIML R 49-2:2013	Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
OIML R 49-3:2013	Water meters intended for the metering of cold potable water and hot water. Part 3: Test report format
EN ISO 4064-1: 2017	Water meters for cold potable water and hot water. Part 1: Metrological and technical requirements
EN ISO 4064-2: 2017	Water meters for cold potable water and hot water. Part 2: Test methods
EN ISO 4064-3: 2014	Water meters for cold potable water and hot water. Part 3: Test report format
EN ISO 4064-5: 2017	Water meters for cold potable water and hot water. Part 5: Installation requirements



**2 Type marking**
**Woltman water meter - MWN130** (for type marking out of Poland is used **WPH130-01**)

Meter is made in following subgroups:

Type of meter	Temperature class	Class	Nominal Diameter
MWN130 MWN130-NK MWN130-NKP MWN130-G (WPH130-01 WPH130-N-01)	T130	M1 <sup>1)</sup>	DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300

**3 Description of measuring instrument**
**Meter name:** Woltman horizontal water meter

**Type marking:** MWN130, (WPH130-01)

**Description of operating principle instrument design:**

The industrial horizontal meter is intended for metering of delivered water quantity. The Woltman meter (Picture No. 1) operates on the principle of a water speed sensor by impeller wheel. The operating speed of the wheel is proportionate to the speed of overflowing water. The operating speed is proportionate to water delivered quantity. The Water meter is dedicated to measure the flow and the delivered cold and hot water quantity.

Water meter is:

- Woltman horizontal, dry water meter,
- with internal float regulation,
- with removable measuring insert in covered casing,
- measures in horizontal and vertical position


*Picture No.1 Woltman water meter MWN130*

<sup>1</sup> according to Government Ordinance of the Slovak Republic, Annex No. 1

### 3.1 Description of subgroups

Marking: MWN130, MWN130-NK, MWN130-NKP, MWN130-G (only for DN50), (WPH130-01, WPH130-N-01)

DN: DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300

The Water meter can be equipped by following output impulses:

- MWN130 - basic type with mechanical counter
- MWN130-NK - mechanical counter with contact impulse transducer
- MWN130-NKP - advance prepared counter for contact transducer
- MWN130-G - threaded coupling
- WPH130-01 - basic type with mechanical counter
- WPH130-N-01- mechanical counter with contact and/or optical impulse transducer or mechanical counter prepared in advance with contact and/or optical impulse transducer

### 3.2 Measuring insert

The measuring insert consists of the measuring mechanism, mechanism's flanged top cover and counter. The measuring insert is attached to the body by screws. The tightness of the measuring insert is secured in the body by 2 O-rings, while one O-ring secures the outside tightness (measuring insert and screws). The 2-nd O-ring secures the tightness of the insert situated in the body (inlet and outlet without DN125,150,200,250,300). The position of the regulation blade is adjustable via different positions in relation to the water flow.

### 3.3 Indicating device

The indicating device is a combined number rollers and pointers counter. It consists of 6 rollers for  $m^3$  and 3 or 2 scale indicators with pointers for the decimals of  $m^3$ . Counter capacity is 999 999  $m^3$  or 9 999 999  $m^3$  and resolution of the reading is 0,5; 5 or 50  $dm^3$ .

The counter can be equipped by the contact or optical impulse transducer. The mechanical counter is equipped by metal cover, the contact or optical impulse transducer can be equipped as well.

### 3.4 Principle of operation

The core part of the water meter is the screw gear laying vertically on the axle of pipe axes. The screw gear is pressed by flash of liquid and turns into the rotation. The rotating movement of the screw gear is transferred through the magnetic clutch onto the mechanical counter.

### 3.5 Technical documentation

A number of drawing of technical documentations are listed in the following table:

7260-000000	7330-000000	7890-000000
5000-310000	5000-720000	5000-790000
5000-340000	5000-750000	7000-760000
7600-000000	7350-000000	7590-000000
5000-320000	5000-730000	6000-740000
5000-350000	5000-760000	6000-750000
7210-000000	7370-000000	7603-000000
5000-330000	5000-770000	6000-400000
5000-360000	7000-740000	
7310-000000	7390-000000	
5000-710000	5000-780000	
5000-740000	7000-750000	



All drawings, schemes and technical documentations used during the conformity assessment are saved in document No. NO-069/09, NO-186-12 and NO-445/20.

**4 Basic technical characteristics**

Type marking	MWN130-40 MWN130-40-NK MWN130-40-NKP (WPH130-40-01 WPH130-40-N-01)	MWN130-50 MWN130-50-NK MWN130-50-NKP MWN130-50-G (WPH130-50-01 WPH130-50-N-01)	MWN130-65 MWN130-65-NK MWN130-65-NKP (WPH130-65-01 WPH130-65-N-01)	MWN130-80 MWN130-80-NK MWN130-80-NKP (WPH130-80-01 WPH130-80-N-01)	
Nominal diameter DN	mm	40	50	65	80
Indicating range	m <sup>3</sup>	10 <sup>6</sup>			
Resolution of the reading	m <sup>3</sup>	0,0005			
Maximum admissible pressure	-	MAP16			
Working pressure range	bar	from 0,3 to 16			
Pressure loss	-	Δp10	Δp16	Δp10	
Temperature class	-	T130			
Flow profile sensitivity classes	-	U0, D0			
Position	-	H, V			
Climatic and mechanical environments	-	closed spaces /from 5°C to 55°C/mech. class M1			
Contact impulse transducer NK	dm <sup>3</sup> /imp	2,5; 10; 25; 100; 250; 1000			

Type marking	MWN130-100 MWN130-100-NK MWN130-100-NKP (WPH130-100-01 WPH130-100-N-01)	MWN130-125 MWN130-125-NK MWN130-125-NKP (WPH130-125-01 WPH130-125-N-01)	MWN130-150 MWN130-150-NK MWN130-150-NKP (WPH130-150-01 WPH130-150-N-01)	MWN130-200 MWN130-200-NK MWN130-200-NKP (WPH130-200-01 WPH130-200-N-01)	
Nominal diameter DN	mm	100	125	150	200
Indicating range	m <sup>3</sup>	10 <sup>6</sup>		10 <sup>7</sup>	
Resolution of the reading	m <sup>3</sup>	0,0005		0,005	
Maximum admissible pressure	-	MAP16			
Working pressure range	bar	from 0,3 to 16			
Pressure loss	-	Δp10			
Temperature class	-	T130			
Flow profile sensitivity classes	-	U0, D0			
Position	-	H, V			
Climatic and mechanical environments	-	closed spaces /from 5°C to 55°C/mech. class M1			
Contact impulse transducer NK	dm <sup>3</sup> /imp	2,5; 10; 25; 100; 250; 1000		25; 100; 250; 1000; 2500; 10000	



Type marking		MWN130-250 MWN130-250-NK MWN130-250-NKP (WPH130-250-01 WPH130-250-N-01)	MWN130-300 MWN130-300-NK MWN130-300-NKP (WPH130-300-01 WPH130-300-N-01)
Nominal diameter DN	mm	250	300
Indicating range	m <sup>3</sup>	10 <sup>7</sup>	
Resolution of the reading	m <sup>3</sup>	0,005	0,05/0,005
Maximum admissible pressure	-	MAP16	
Working pressure range	bar	from 0,3 to 16	
Pressure loss	-	Δp10	
Temperature class	-	T130	
Flow profile sensitivity classes	-	U0, D0	
Position	-	H, V	
Climatic and mechanical environments	-	closed space /from 5°C to 55°C/mech. class M1	
Contact impulse transducer NK	dm <sup>3</sup> /imp	25; 100; 250; 1000; 2500; 10000	250; 1000; 2500; 10000

#### 4.1 Additional technical characteristics

IP Code	IP 66, IP 68
Weight	from 7,9 kg to 103,1 kg

#### 5 Basic metrological characteristics

The maximum permissible error (accuracy class):

$$\pm 5 \% (Q_1 \leq Q < Q_2)$$

$$\pm 2 \% (Q_2 \leq Q \leq Q_4) \text{ for water temperature (from 0,1 to 30) } ^\circ\text{C}$$

$$\pm 3 \% (Q_2 \leq Q \leq Q_4) \text{ for water temperature greater than 30 } ^\circ\text{C}$$

Diameter	DN	mm	40	50	65	80	100	125	150	200	250	300
Minimum flowrate	$Q_1$	m <sup>3</sup> /h	0,625	0,625	1	1,575	2,5	4	6,25	10	25	40
Transitional flowrate	$Q_2$	m <sup>3</sup> /h	1	1	1,6	2,52	4	6,4	10	16	40	64
Permanent flowrate	$Q_3$	m <sup>3</sup> /h	25	25	40	63	100	160	250	400	1000	1600
Overload flowrate	$Q_4$	m <sup>3</sup> /h	31,25	31,25	50	78,75	125	200	312,5	500	1250	2000
Measuring range R	$Q_3/Q_1$	-	40									
Ratio	$Q_2/Q_1$	-	1,6									



## 6 Results of conformity assessment

The results of tests, assessments and evaluations given in the evaluation report No. NO-445/20/B/ER dated July 27, 2020 give sufficient evidence, that the technical design of the measuring instrument – Woltman water meter type **MWN130** is in compliance with the technical requirements of the Slovak Republic Governmental Ordinance No. 145/2016 Coll. relating to the making available on the market of measuring instruments as amended by Government Ordinance of the Slovak Republic No. 328/2019 Coll., Annex No. 1 and Annex No. 3 Water Meters (MI-001) and the EN 14154-1:2005+A2:2011, EN 14154-2:2005+A2:2011, EN 14154-3:2005+A2:2011 and OIML R49-1:2006, OIML R49-2:2004 (harmonised standards and normative documents) and other instructions OIML R49-2:2013, EN ISO 4064-1:2017, EN ISO 4064-2:2017 and EN ISO 4064-3:2014 standards, which are relevant for this type of meter.

## 7 Data placed on the measuring instrument

On the shroud, the dial of the indicating device or on an identification plate of every water meter or in the product documentation minimum the following data should be marked:

- a) Manufacturer's name, registered trade name or registered mark
- b) Postal address of manufacturer at which they can be contacted
- c) Type of the Woltman meter
- d) Measuring unit ( $m^3$ )
- e) Numerical value of  $Q_3$  in  $m^3/h$  ( $Q_3$  x,x) and ratio  $Q_3/Q_1$  (Rxxx)
- f) Year of production
- g) Production serial number
- h) Number of EU-type examination certificate and conformity mark
- i) The highest admissible pressure if it differs from 1 MPa (MAP xx)
- j) Flow direction
- k) The letter V or H, if the meter can only be operated in the vertical or horizontal position
- l) Class of pressure loss if it differs from  $\Delta p_{63}$  ( $\Delta p$  XX)
- m) Flow profile sensitivity classes ( $U_x D_x$ )
- n) The temperature class where it differs from T30
- o) Environmental classification
- p) Output signal of impulse transducer



## 8 Conditions of conformity assessment of measuring instruments produced with type approval

Woltman meters put onto the market in line with the procedure of conformity assessment according to the Annex No.2 (Module D or F) of the Governmental ordinance should be in compliance with the technical description by the item 3 of this report and at test should be in compliance with the requirements determined in OIML R 49-1:2013 and ISO4064-1:2017. Metrological test is performed by testing equipment which should be in compliance with the requirements determined in STN EN 14154-3:2005+A2 and ISO4064-2:2017 and water at temperature  $20\text{ }^\circ\text{C} \pm 10\text{ }^\circ\text{C}$  and  $50\text{ }^\circ\text{C} \pm 10\text{ }^\circ\text{C}$  in following points of flowrate:

- a) Minimum flowrate  $Q_1 \leq Q \leq 1,1Q_1$
- b) Transitional flowrate  $Q_2 \leq Q \leq 1,1Q_2$
- c) Permanent flowrate  $0,9 Q_3 \leq Q \leq Q_3$

A metrological test may only be performed by a producer, or a notified body respectively in line with the conformity assessment procedure according to the Annex No.2 (Module D or F) of the Governmental ordinance respectively.

## 9 Measures asked for providing measuring instrument integrity

### 9.1 Identification

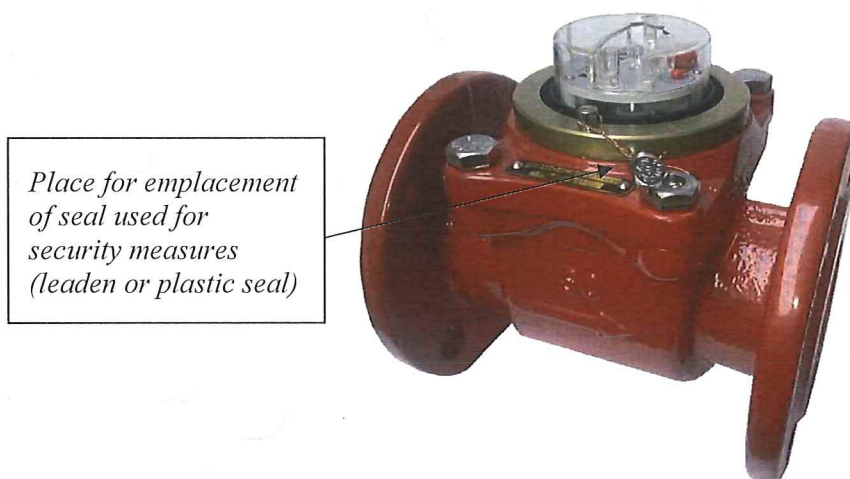
The Woltman water meter should be in compliance with the description provided on item 3 of this Annex and should be in compliance with the marking specified the item 7 of this Annex. The number given to the EU-type examination certificate is put at each piece of the measuring instrument.

Emplacement of the conformity mark is determined by § 15 of the Governmental ordinance.

### 9.2 Sealing of the measuring instrument

The Woltman water meter shall be sealed before the conformity assessment according to the Annex No.2 (Module D or F) of the Governmental ordinance sealed by following sealing marks:

Connexion of counter shroud and water meter body shall be sealed by seal used for security measures (leaden or plastic seal) (Picture No. 2)



Picture No.2 Emplacement of the seal for security measures

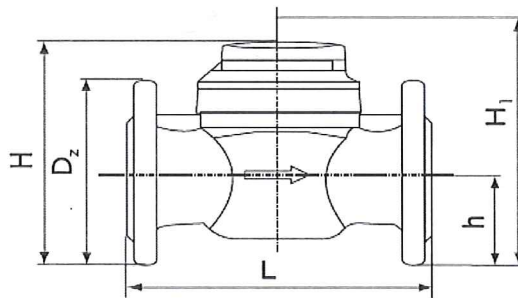




**10 Requirements for installation, especially conditions of usage**
**10.1 Installation data**

Nominal diameter	DN40	DN50	DN65	DN80	DN100
Construction length [mm] - $L$	200	200	200	225/200	250
Flange diameter [mm] - $D_z$	150	165	185	200	220
Weight [kg]	7,9	9,9	10,6	13,3	15,6
Hight [mm] - $H$	177	187	197	219	229
Distance axle from edge [mm] - $h$	65	72	83	95	105
Space hight for remove insert - $H_1$	277	287	297	339	349

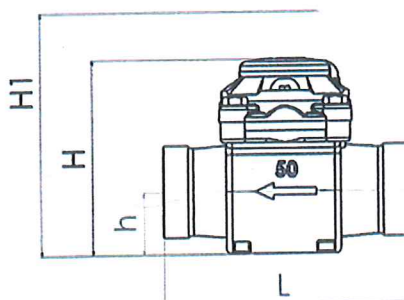
Diameter	DN125	DN150	DN200	DN250	DN300
Construction length [mm] - $L$	250	300	350	450	500
Flange diameter [mm] - $D_z$	250	285	340	400	460
Weight [kg]	18,1	40,1	51,1	75,1	103,1
Hight [mm] - $H$	257	357	382	427	497
Distance axle from edge [mm] - $h$	120	135	160	193	230
Space hight for remove insert - $H_1$	377	582	607	652	722



Picture No.3 Installation dimensions

Nominal diameter	DN50
Construction length [mm] - $L$	200
Flange diameter [in] - $D_z$	2 1/2
Weight [kg]	5,5
Hight [mm] - $H$	160
Distance axle from edge [mm] - $h$	50
Space hight for remove insert - $H_1$	260





Picture No.4 Installation dimensions MWN130-G

## 10.2 Installation requirements

The Woltman water meter is introduced into the operation by a worker having a certificate for this activity performance. The Woltman meter is possible to be put into use after a construction in line with this report and in line with a producer instruction by “Instruction of installation and conditions of use of flanged water meters”. A measuring instrument should be installed in direction of water flow arrow marked on the meter body.

## 10.3 Conditions of use

Within using the measuring instrument it is needed to be managed by recommendations of a producer by “Instruction of installation and conditions of use of flanged water meters”.

Assessment done by:  Ing. Viliam Mazúr

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