

**Tłumaczenie przysięgłe z jęz. angielskiego na jęz. polski**



Slovenský metrologický ústav  
Karloveská 63, 842 55 Bratislava 4, Slovenská republika

**Certyfikat badania typu WE**

Numer dokumentu: SK 15 – MI001-SMU041 Poprawiona wersja 0

Zgodnie z: Rozporządzeniem rządowym Republiki Słowackiej nr 294/2005 (Zbiór Ustaw) dotyczącym urządzeń pomiarowych, zmienionym Rozporządzeniem rządowym nr 445/2010 (Zbiór ustaw), które przyjęło Dyrektywę nr 2004/22 / WE dotyczącą urządzeń pomiarowych, zmienioną Dyrektywą nr 2009/137 / WE Parlamentu Europejskiego i Rady.

Wydane dla (Producent): BMETERS s.r.l.  
Via Friuli, 3  
33050, Gonars (UD), Włochy

Rodzaj urządzenia: Wodomierz (MI-001)

Oznaczenie typu: CPR-M3

Zasadnicze wymagania: Załącznik nr 1 oraz Załącznik MI-001 do Rozporządzenia rządowego SR nr 294/2005 (Zbiór ustaw) zmieniony Rozporządzeniem rządowym nr 445/2010 rządu (Zbiór ustaw).

Ważne do: 8 czerwca 2025 r.

Jednostka notyfikowana: Słowacki Instytut Metrologii 1781

Data wydania: 9 czerwca 2015 r.

Zasadnicze cechy charakterystyczne, opis urządzenia oraz warunki zatwierdzenia określone są w załączniku do niniejszego dokumentu. Załącznik stanowi część niniejszego certyfikatu. Certyfikat wraz z załącznikiem zawiera 9 stron.

/okrągła pieczęć z napisem – Słowacki Instytut Metrologii – Bratislava – NB 1781 – SMU/

Emanuel Godál  
Przedstawiciel jednostki notyfikowanej  
/nieczytelny podpis/

Uwagi: Certyfikat badania typu WE bez podpisu i pieczęci jest nieważny. Niniejszy certyfikat badania typu WE może być powielany jedynie w całości. Odpisy mogą być wydawane wyłącznie za zgodą Słowackiego Instytutu Metrologii.

Nr rep. 2044/15

Stwierdzam zgodność powyższego przekładu z oryginałem dokumentu

Tytułem wynagrodzenia pobrano -

Augustów, dnia: 18.12.2015 r.

Tłumacz przysięgły języka angielskiego – mgr Piotr Szlauzys (nr TP/4453/05)



# ES CERTIFIKÁT TYPU

## EC – Type-examination certificate

Číslo dokumentu:

**SK 15-MI001-SMU041****Revision 0**

Document number:

V súlade s:

In accordance with:

nariadením vlády Slovenskej republiky č. 294/2005 Z. z. o meradlách v znení nariadenia vlády SR č. 445/2010 Z. z., ktorým sa preberá smernica Európskeho parlamentu a rady 2004/22/ES v znení smernice 2009/137/ES  
Government Ordinance of the Slovak Republic No. 294/2005 Coll., on measuring instruments as amended by Government Ordinance No. 445/2010 Coll., which implemented the Directive 2004/22/EC on measuring instruments as amended by Directive 2009/137/EC of the European Parliament and Council

Žiadateľ/Výrobca:

Issued to (Manufacturer):

**BMETERS s.r.l.****Via Friuli, 3****33050, Gonars (UD), Italy**

Druh meradla:

Type of instrument:

**Vodomer (MI-001)****Water meter (MI-001)**

Označenie typu:

Type designation:

**CPR-M3**

Základné požiadavky:

Essential requirements:

príloha č. 1 a príloha MI-001 k nariadeniu vlády SR č. 294/2005 Z. z. v znení nariadenia vlády SR č. 445/2010 Z. z.

Annex No. 1 and Annex MI-001 to Government Ordinance of SR No. 294/2005 Coll. as amended by Government Ordinance No. 445/2010 Coll.

Platnosť do:

Valid until:

**8. júna 2025****June 8, 2025**

Notifikovaná osoba:

Notified body:

**Slovenský metrologický ústav 1781****Slovak Institute of Metrology 1781**

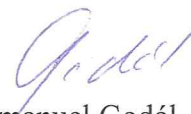
Dátum vydania:

Date of issue:

**9. júna 2015****June 9, 2015**

Základné charakteristiky, popis meradla a podmienky schválenia sú uvedené v prílohe, ktorá je súčasťou tohto certifikátu. Certifikát vrátane prílohy má spolu 9 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 9 pages.

  
**Emanuel Godál**

zástupca notifikovanej osoby  
representative of notified body

Poznámka: ES certifikát typu je bez pečiatky a podpisu neplatný. Tento ES certifikát typu môže byť rozmnožovaný len celý a nezmenený. Rozmnožovať jeho časti je možné len s písomným súhlasom Slovenského metrologického ústavu.

Note: EC-type examination certificate without signature and seal is not valid. This EC-type examination certificate may not be reproduced other than in full. Extracts may be taken only with the permission of the Slovak Institute of Metrology.

## 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. 294/2005 Coll., on measuring instruments as amended by Government Ordinance No. 445/2010 Coll. which implemented the Directive 2004/22/EC on measuring instruments as amended by Directive 2009/137/EC of the European Parliament and Council (next Government Ordinance).

Requirements are listed in No. 1 and Annex MI-001 to Government Ordinance of SR No. 294/2005 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 49-2:2006 Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods

OIML R 49-3:2006 Water meters intended for the metering of cold potable water and hot water. Part 3: Test report format

## 2 Type marking

### Vane-wheel single-jet water meter - CPR-M3

Meter is made in following subgroups:

| Type of meter | Temperature class     | Class                               | Nominal Diameter |
|---------------|-----------------------|-------------------------------------|------------------|
| CPR-M3        | T30, T50, T90, T30/90 | M1 <sup>1)</sup><br>B <sup>2)</sup> | DN15, DN20       |

## 3 Description of measuring instrument

**Meter name:** Vane-wheel single-jet wet type water meter

**Type marking:** CPR-M3

### Description of operating principle instrument design:

Vane-wheel single-jet wet type water meters CPR-M3 with permanent flow rates of 2,5 m<sup>3</sup>/h and 4 m<sup>3</sup>/h have been designed to measure actual volume of cold and hot water flowing in a completely filled up closed pipeline. The water meter for cold and hot water is composed of a body, of the measuring mechanism and the counter. Water flowing through a meter sets the vane-wheel in a rotary motion that is transferred by a magnetic clutch to the counting

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

<sup>2</sup> according to STN EN 14154-3:2005+A1 and OIML R 49-2:2004





mechanism.

Single-jet wet type water meters CPR-M3 (Picture No. 1) are composed of three basic assemblies:

1. body group
2. measuring insert
3. counting mechanism

The body group consists of the body, the cap, the lid, adjusting device and the inlet strainer. The glass or plastic cover can protect the register against the external damages, and the lid provides the further protection to the register. The adjusting device built in the body is used to calibrate the meter.

Water meters have been fitted for mounting on pipelines in horizontal and vertical positions. Accidental occurrence of a reverse flow does not affect metrological characteristics provided for a normal flow.



*Picture No.1 Vane-wheel single-jet water meter CPR-M3*

### 3.1 Description of subgroups

Marking: CPR-M3  
DN: DN15, DN20

### 3.2 Measuring insert

The main elements of the measuring unit are the following:

- a body with a strainer set in the inlet channel and a basic axle screwed into the body bottom with an regulator plate fixed to the body bottom,
- a vane-wheel,
- A packing plate.

The vane-wheel is borne on a basic axle and in a bearing sleeve mounted on the packing plate. The packing plate is fitted with an adjusting ribs angled to water flow, which allows meter adjustment.



### 3.3 Indicating device

The capacity of the counter is 99 999 m<sup>3</sup> and resolution of the reading is 0,05 dm<sup>3</sup>.

The counting mechanism includes a rear clutch, gears and a register. The register consists of 4 pointers and 5 rollers. A transparent casing facilitates readout of meter indications. On the central axle of the counting mechanism has been fixed there is a flow indicator that performs a function of a vane-wheel rotation indicator. The flow indicator is also used in the process of electronic testing of meters.

The counter design does not allow for resetting of meter indications.

Counter pointers rotate clockwise. Indicated digital values increase as the drums with digits marked on them move upwards. An indication increase by one digit is complete when a digit in a lower decade changes from 9 to 0. In a decade of the lowest values digital indications change continuously. Black digits marked on digital drums indicate cubic meters or their multiples whereas red pointers indicate submultiples of cubic meters.

The pointers move round scales marked with proper multipliers and placed on an indicating dial.

### 3.4 Principle of operation

The water meter operates on the principle of a water speed sensor by impeller wheel. The operating speed of the wheel is proportionated to the speed of overflowing water. The operating speed is proportionated to water delivered quantity. The water meter is dedicated to measure the flow and the delivered cold and hot water quantity.

### 3.5 Technical documentation

A number of drawings of technical documentation's are listed in the following list:

Water meter type CPR-M3:

| Drawing number |               |               |               |
|----------------|---------------|---------------|---------------|
| 1.1.01.01.0    | 2.1.06.01.9   | 2.1.05.49.0   | 2.1.21.11.9   |
| 1.1.01.01.9    | 2.1.07.01.9   | 2.1.10.01.9   | 2.1.22.30.9   |
| 1.1.21.06.0    | 2.1.08.01.9   | 2.1.11.01.9   | 2.1.31.07.9   |
| 1.1.21.06.9    | 2.1.09.01.9   | 2.1.12.05.9   | 2.1.44.01.9   |
| 1.2.01.01.0    | 2.1.09.02.9   | 2.1.12.06.9   | 2.2.02.01.9   |
| 1.2.01.01.9    | 2.1.09.03.9   | 2.1.13.03.9   | 2.2.09.01.9   |
| 2.1.02.01.9    | 2.1.09.04.9   | 2.1.07.04.9   | 2.2.09.02.9   |
| 2.1.04.16.7    | 2.1.09.05.9   | 2.1.15.05.9   | 3.1.03.01.9   |
| 2.1.04.16.9    | 2.1.09.06.9   | 2.1.15.06.9   | 3.1.14.01.9   |
| 2.1.05.08.0    | 2.1.09.07.9   | 2.1.17.01.9   | 5.1.20.01.9   |
| 3.1.42.01.9    | A.M3.OM.1.C.1 | A.M3.OM.1.C.4 | A.M3.OM.1.C.3 |
| 4.1.18.01.9    | A.M3.OM.1.C.2 | T.M3.1        | T.M3.2        |



All drawings, schemes and technical documentation's used during the conformity assessment are saved in document No. NO-259/14.

#### 4 Basic technical characteristics

| Type marking                         |                | CPR-M3                                         |    |
|--------------------------------------|----------------|------------------------------------------------|----|
| Nominal diameter DN                  | mm             | 15                                             | 20 |
| Indicating range                     | m <sup>3</sup> | 99 999                                         |    |
| Resolution of the reading            | m <sup>3</sup> | 0,00005                                        |    |
| Maximum admissible pressure          | -              | MAP16                                          |    |
| Working pressure range               | bar            | from 0,3 to 16                                 |    |
| Pressure loss                        | -              | $\Delta p$ 63                                  |    |
| Temperature class                    | -              | T30,T50 ,T30/90, T90                           |    |
| Flow profile sensitivity classes     | -              | U0, D0                                         |    |
| Position                             | -              | H, V                                           |    |
| Climatic and mechanical environments | -              | closed spaces /from 5°C to 55°C/mech. class M1 |    |
| Electromagnetic environments         | -              | n/a                                            |    |

#### 4.1 Additional technical characteristics

|        |                         |
|--------|-------------------------|
| Weight | from 0,62 kg to 0,69 kg |
|--------|-------------------------|

#### 5 Basic metrological characteristics

The maximum permissible error (accurate class):

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

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

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





|                        |           |   |                   |                    |                  |
|------------------------|-----------|---|-------------------|--------------------|------------------|
| Temperature class      | T         |   | -                 | 30,50, 90, 30/90   |                  |
| Diameter               | DN        |   | mm                | 15                 | 20               |
| Minimum flow rate      | $Q_1$     | H | m <sup>3</sup> /h | ≥ 0,0156           | ≥ 0,025          |
|                        |           | V | m <sup>3</sup> /h | ≥ 0,025            | ≥ 0,04           |
| Transitional flow rate | $Q_2$     | H | m <sup>3</sup> /h | ≥ 0,025            | ≥ 0,04           |
|                        |           | V | m <sup>3</sup> /h | ≥ 0,04             | ≥ 0,064          |
| Permanent flow rate    | $Q_3$     |   | m <sup>3</sup> /h | ≤ 2,5 <sup>3</sup> | ≤ 4 <sup>3</sup> |
| Overload flow rate     | $Q_4$     |   | m <sup>3</sup> /h | ≤ 3,125            | ≤ 5              |
| Measuring range R      | $Q_3/Q_1$ | H | -                 | ≤ 160 <sup>4</sup> |                  |
|                        |           | V | -                 | ≤ 100 <sup>4</sup> |                  |
| 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. 019/MI001/B/15 dated June 5, 2015 give sufficient evidence that the technical design of the measuring instrument – Vane-wheel single-jet wet type water meter type CPR-M3 is in compliance with the technical requirements of the Slovak Republic Governmental Ordinance No. 294/2005 Coll. On measuring instruments, Annex No. 1 and MI-001, and the STN EN 14154-1:2005+A2 and OIML R 49-1:2006 standards.

## 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:

- producer's name or his production mark
- type of the single-jet wet type water meter
- measuring unit m<sup>3</sup>
- numerical value of  $Q_3$  and ratio  $Q_3/Q_1$
- production number and the year of production
- number of EC certificate type and conformity mark
- the highest admissible pressure if it differs from 1 MPa
- flow direction
- the letter V or H, if the meter can only be operated in the vertical or horizontal position
- class of pressure loss if it differs from  $\Delta p_{63}$
- class of climatic and mechanical environment
- flow profile sensitivity classes



<sup>3</sup> according to EN 14154-1-2005+A2:2011, 7.1 Permanent flowrate ( $Q_3$ )

<sup>4</sup> according to EN 14154-1-2005+A2:2011, 7.2 Measuring range

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

Vane-wheel single-jet wet type water meters for cold and hot water put onto the market in line with the procedure of conformity assessment according to the D or F Annexes 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 49-1:2006. Metrological test is performed by a testing equipment which should be in compliance with the requirements determined in STN EN 14154-3:2005+A2 and water at temperature  $20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$  (for temperature class T30) and  $20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$  and  $50\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$  (for temperature class T90) at the following flowrates:

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

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 D or F Annexes of the Governmental ordinance respectively.

## 9 Measures asked for providing measuring instrument integrity

### 9.1 Identification

Vane-wheel single-jet wet type 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.

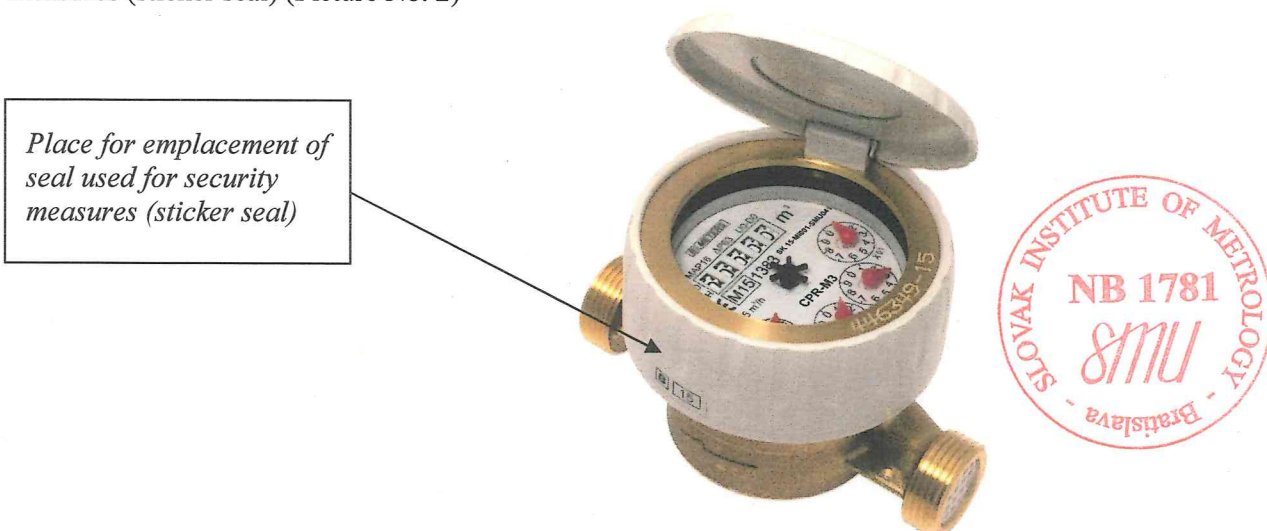
The number given to the EC certificate is put at each piece of the measuring instrument.

Emplacement of the conformity mark is followed by § 7 of the Governmental ordinance.

### 9.2 Sealing of the measuring instrument

Vane-wheel single-jet water meter shall be sealed before the conformity assessment according to the D or F Annexes by following sealing marks:

Connection of counter shelter and water meter body shall be sealed by seal used for security measures (sticker seal) (Picture No. 2)



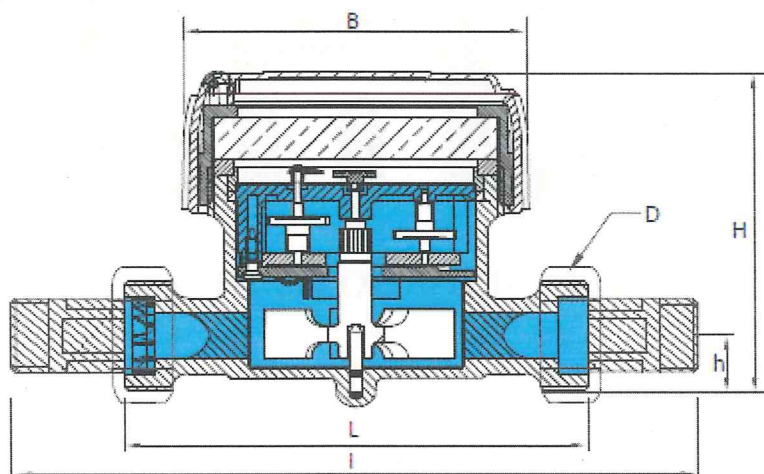
Picture No.2 Emplacement of the seal for security measures



## 10 Requirements for installation, especially conditions of using

### 10.1 Installation data

|                                  |        |            |      |
|----------------------------------|--------|------------|------|
| Nominal size                     | [mm]   | 15         | 20   |
|                                  | [inch] | 1/2"       | 3/4" |
| Construction length [mm] - $L$   |        | 110        | 130  |
| Length with couplings [mm] - $l$ |        | 190        | 228  |
| Width [mm] - $B$                 |        | 80         | 80   |
| High [mm] - $H$                  |        | 77         | 81   |
| High [mm] - $h$                  |        | 13         | 17   |
| Connection - $D$                 |        | 3/4" or 1" | 1"   |
| Weight [kg]                      |        | 0,62       | 0,69 |



Picture No.3 Installation dimensions

### 10.2 Installation requirements

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



### 10.3 Conditions of use

The measuring instrument should be used within the recommendations of a producer or manufacturer: "Instruction of installation and conditions of use of water meters".

Assessment done by: Ing. Viliam Mazúr

