



**OIML Member State**  
Czech Republic

**OIML Certificate No.**  
R49/2013-A-CZ1-25.04

## **OIML CERTIFICATE ISSUED UNDER SCHEME A**

### **OIML Issuing Authority**

Name: Czech Metrology Institute  
Address: Okružní 31, 638 00 Brno, Czech Republic

Person responsible: Jan Kalandra

### **Applicant**

Name: GWF AG  
Address: Obergrundstrasse 119, 6005 Lucerne, Switzerland

### **Manufacturer**

Name: GWF AG  
Address: Obergrundstrasse 119, 6005 Lucerne, Switzerland

### **Identification of the certified type** (*the detailed characteristics will be defined in the additional pages*)

water meter - single-jet  
Unico4/Unico4coder MP; Unico4e

### **Designation of the module** (*if applicable*)

This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

OIML R 49

Edition (year): 2013

For accuracy class (if applicable): 2

This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML type evaluation report:

No. 0511-ER-V125-24 dated 19 December 2025 that includes 76 pages including annex 1-2

- Test report No. 6015-PT-P0039-25 that includes 158 pages including annex 1-2.
- Test report No. 6011-PT-SW026-25 that includes 6 pages including annex 1.

The technical documentation relating to the identified type is contained in documentation file:

0511-UL-V125-25

#### OIML Certificate History

Revision No.	Date	Description of the modification
-	22 December 2025	Issuing certificate

#### The OIML Issuing Authority

RNDr. Pavel Klenovský

Head of Certification Body

Date: 22 December 2025



*Important note:* Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML type evaluation report(s) is not permitted, although either may be reproduced in full.

## Measuring system description

The water meters are designed to measure, memorise and display the volume at metering conditions of water passing through the device. The single-jet impeller meters are intended for measuring cold and hot water, with mechanical or electronic registers.

The water meters Unico4/Unico4coder MP; Unico4e are single-jet impeller meters designed according to the dry-register principle and consist of a brass body with connecting screw threads. The water flows through a mechanical strainer, which keeps foreign objects away from the actual water meter, single-jet through the impeller cup and onto the impeller wheel. The flow-proportional rotary motion of the impeller is transmitted to the counter by means of a magnetic coupling. A sealing plate secured with a bayonet ring is located between the impeller and the totalizer.

Unico4/Unico4coder MP waters meters are with mechanical pointer roller counter with 5 rollers and reed contact or pointer roller counter with 8 rollers and absolute encoder

Unico4e water meters are with electronic counter, that senses the magnetic coupling of the hydraulics by means of TMR (resistive magnet) sensors. The firmware of the electronic counter is split and runs on two microcontrollers. The metrology and display is the legally relevant part of the embedded firmware. The communication via wMBus, LoRaWAN / NFC is not a legally relevant part of the embedded firmware.

Unico4/Unico4coder MP; Unico4e water meter can be adjusted by turning the sealing plate, which is provided with retaining ribs on the underside. Unico4e adjustments can also be made by electronically changing the pulse value.

The water meters shall be installed to operate in four positions, horizontal position with the indicating device positioned at the top, horizontal position with the indicating device positioned at the side, vertical position flow from bottom to top with the indicating device positioned at the side and vertical position flow from top to bottom with the indicating device positioned at the side.

## Marking and inscriptions

The water meter types Unico4/Unico4coder MP; Unico4e shall be clearly and indelibly marked with the following information:

- Unit of measurement ( $m^3$ )
- Numerical value  $Q_3$  in  $m^3/h$  ( $Q_3 \times \cdot \cdot$ ) and the ratio  $Q_3 / Q_1$
- OIML certificate of conformity number or/and type approval sign according to national regulations
- Name of trademark of the 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  $\times \cdot \cdot$ ), if it exceeds 1 MPa (10 bar) or 0.6 MPa (6 bar) for  $DN \geq 500$
- Letter V and/or H (vertical position and/or horizontal position with the indication device positioned on the top and at the side)
- The temperature class ( $T \times \cdot \cdot$ ), where it differs from T30
- The pressure loss class ( $\Delta p \times \cdot \cdot$ ), where it differs from  $\Delta p$  63
- The installation sensitivity class ( $U \times D \times$ ), where it differs from U0/D0
- The latest date by which the meter shall be replaced (non- replaceable battery) for Unico4e.

There are additional data required for water meter with the electronic indicating device:

- Environmental classification (B)
- Electromagnetic environmental class (E1)
- Software version / checksum (on digital display)

These markings shall comply with the requirements of OIML R 49 and shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use.

The environmental classification and electromagnetic environmental class may be given on a separate datasheet, unambiguously related to the meter by a unique identification, and not on the meter itself.

### Characteristics

Manufacturer:	GWF AG; Obergrundstrasse 119, 6005 Lucerne, CH			
Model number:	Unico4e		Unico4/Unico4coder MP	
Nominal diameter:	15	20	15	20
Type details:				
$Q_1$ [m <sup>3</sup> /h]:				
$Q_2$ [m <sup>3</sup> /h]:				
$Q_3$ [m <sup>3</sup> /h]:	flowrates are shown in Table <i>Basic metrological data (flowrates)</i>			
$Q_4$ [m <sup>3</sup> /h]:				
$Q_3/Q_1$ :	$\leq 200$ for horizontal position with the indicating device positioned at the top	$\leq 160$ for horizontal position with the indicating device positioned at the top		
			$\leq 63$	
	for horizontal position with the indicating device positioned at the side vertical position flow from bottom to top with the indicating device positioned at the side vertical position flow from top to bottom with the indicating device positioned at the side			
$Q_2/Q_1$ :	1.6			
$Q_4/Q_3$ :	1.25			
Measuring principle:	Single-jet			
Accuracy class:	2			
Temperature class:	T30; T50; T90; T30/90			
Water pressure class:	MAP 16			
Pressure loss class:	$\Delta p$ 63			
Maximum admissible temperature [°C]:	90			
Maximum admissible pressure [MPa]:	1.6			
Resolution of the indicating device [dm <sup>3</sup> ] <sup>2</sup> :	0.05			
Indicating range [m <sup>3</sup> ] <sup>2</sup> :	99 999 (9 999 for Unico4 $Q_3=2.5$ m <sup>3</sup> /h)			
Resolution of the device for rapid testing pulses/liter] <sup>2</sup> :	95.29			
Resolution of the indicating device [dm <sup>3</sup> ] <sup>1</sup> :	0.01			
Indicating range [m <sup>3</sup> ] <sup>1</sup> :	999 999			
EUT testing requirements (OIML R 49-2:2013, 8.1.8):				
Category:	turbine water meters			
Case:	B			

## Installation details:

Connection type (screw thread):	G3/4"; 3/4" NPSM	G1"; 1" NPSM	G3/4"; 3/4" NPSM	G1"; 1" NPSM
Minimum straight length of inlet pipe [mm]:		0		
Minimum straight length of outlet pipe [mm]:		0		
Flow profile sensitivity class:		U0/D0		
Flow conditioner (details if required):		No		
Mounting:		in-line		
Orientation:		-		
Length [mm]: ( $Q_3 = 2.5 \text{ m}^3/\text{h}$ )		110; 130		
Length [mm]: ( $Q_3 = 4.0 \text{ m}^3/\text{h}$ )	-	130	-	130
Reverse flow <sup>1</sup> :		Not designed to measure		
Reverse flow <sup>2</sup> :		Not designed to measure		
Environmental class:		B		
Electromagnetic environment: <sup>1</sup>		E1		
Temperature range ambient:		+5 °C / 55 °C		
Power supply <sup>1</sup> :				
Type (battery, mains AC, mains DC) <sup>1</sup> :		battery		
$U_{\max}$ (V) <sup>1</sup> :		3		
$U_{\min}$ (V) <sup>1</sup> :		1.7		
Frequency <sup>1</sup> :		-		
Minimum battery lifetime [years] <sup>1</sup> :		10		
Software version <sup>1</sup>				
Software version (of legally relevant SW) <sup>1</sup> :		1.1.26		
CRC checksum (of legally relevant SW) <sup>1</sup> :		0x6B1DD74D		
Ancillary devices (not certified):				
Reed sensor power supply ( $U_{\max}$ / $I_{\max}$ ):		-		
Type		-		
Power supply ( $U_{\max}$ / $I_{\max}$ ) <sup>2</sup> :		-		
K-factor [pulse/Litres]:		-		
Reed sensor power supply ( $U_{\max}$ / $I_{\max}$ ):		-		
Information specified by the manufacturer (information in the table below are not certified)				
The mechanical counter (Unico4coder MP) is available in versions with a composite housing with IP67 protection or in a copper housing with IP68 protection				

<sup>1</sup> Applicable for water meters equipped with electronic device.<sup>2</sup> Applicable for water meters equipped with mechanical register.<sup>3</sup> The ratio  $Q_3 / Q_1$  shall be chosen according to paragraph 4.1.4 of OIML R 49-1:2013

**Basic metrological data (flowrates)**

Manufacturer:	GWF AG							
Model number:	Unico4/Unico4coder MP; Unico4e							
<i>Nominal diameter:</i>	15 / 20							
Type details:								
$Q_1$ [m <sup>3</sup> /h]:	0.0125	0.016	0.020	0.025	0.031	0.040	0.050	0.063
$Q_2$ [m <sup>3</sup> /h]:	0.0200	0.025	0.032	0.040	0.050	0.063	0.080	0.100
$Q_3$ [m <sup>3</sup> /h]:	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
$Q_4$ [m <sup>3</sup> /h]:	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13
$Q_3/Q_1$ :	200	160	125	100	80	63	50	40

Manufacturer:	GWF AG							
Model number:	Unico4/Unico4coder MP; Unico4e							
<i>Nominal diameter:</i>	20							
Type details:								
$Q_1$ [m <sup>3</sup> /h]:	0.0200	0.025	0.032	0.040	0.050	0.063	0.080	0.100
$Q_2$ [m <sup>3</sup> /h]:	0.0320	0.040	0.051	0.064	0.080	0.102	0.128	0.160
$Q_3$ [m <sup>3</sup> /h]:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
$Q_4$ [m <sup>3</sup> /h]:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
$Q_3/Q_1$ :	200	160	125	100	80	63	50	40

**Securing components and verification marks**

To prevent tampering with the water meter type Unico4; Unico4coder MP and Unico4e sizes DN 15, DN 20 and their electronics, the counter is held by means of a retaining ring and secured to the housing via the snap-on hood. The snap-on hood and the retaining ring cannot be removed without causing damage.

Figure 1: Example of water meter Unico4 with mechanical register



Figure 2: Example of water meter Unico4coder MP with mechanical register



Figure 3: Example of water meter Unico4e with electronical register



Figure 4: Example markings of water meter types Unico4:

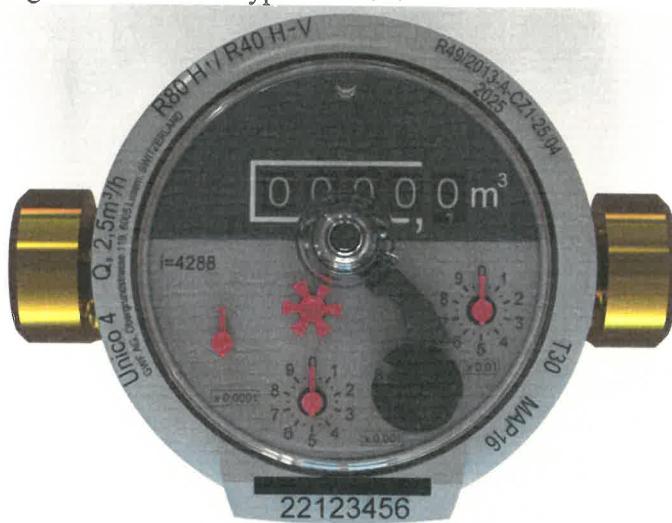


Figure 5: Example markings of water meter types Unico4coder MP:

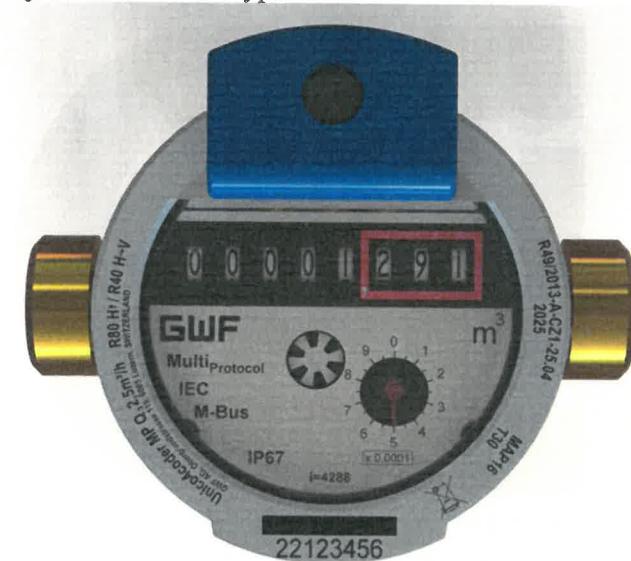


Figure 6: Example markings of water meter types Unico4e:

