LNE
National
Laboratory for
Metrology and
Testing

Notified body no. 0071

# EU DESIGN EXAMINATION CERTIFICATE

**No. LNE - 23189 rev. 4 of October 8, 2018**
Amended the certificate 23189-3

| | |
|---|---|
| **Issued by** | : National Laboratory for Metrology and Testing |
| **In accordance with** | : Directive 2014/32/EU, Module B |
| **Manufacturer** | : GANZ METER COMPANY Ltd – Tancsics Mihalyutca 11<br>HUNGARY – 2101 - GODOLLO |
| **Authorized** | : - - - - |
| **In respect of** | : Water meter ITRON type WOLTEX (WE) |
| **Characteristics** | : See appendix |
| **Valid until** | : April 23, 2022 |

The principal characteristics, approval conditions are set out in the appendix hereto, which forms part of the approval documents and consists of 12 page(s). All the plans, schematic diagrams and documentations are recorded by National Laboratory for Metrology and Testing under reference file P186178-1.

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National Laboratory for Metrology and Testing

Issued on October 08, 2018

On behalf of the General Director

Thomas LOMMATZSCH
Head of the Instrumentation and IT Certification

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CIM2-V9-12-2018

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# Annex to the EU examination certificate type with no. LNE-23189 rev. 4

## Supplement relating to the designation of the type

These instruments can be marketed under different trade names, which differ only in relation to their presentation.

## Description

The Woltex-type ITRON cold water meter comprises a dry register and direct magnetic drive.

Operation:
Water enters the measuring mechanism via the inlet nozzle, causes the rotation of the propeller by flowing into the chamber and is evacuated by the outlet nozzle.
The rotation of propeller is passed through the meter and the door wheel, magnet meter that displays the volume of water passed through the meter.

View of a model:

It consists of:
- a sealed housing
- a measuring unit
- an indicator device
- an adjustment system.

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## Housing

It consists of:

A metal cover fitted with two :

- flanged nozzles
- two arrows located on each side indicating the direction of the water flow and in which a conditioner is integrated for the WE100 / WE125 / WE150

A metal plate fitted with:

- a housing for receiving the totalizer on its upper part
- an O-ring ensuring the sealing by means of screws

## Measuring unit

It is Woltmann-type unit, fitted with a horizontal propeller, and consists of:

- A stator and an outlet bearing which is the chamber of the entire propeller
- An overmolded in plastic, on which is assembled a stone

This is guided in rotation by means:

- o of the stator in which:
  - the conditioner is integrated for WE50/WE65/WE80
  - encapsulated a pivot.
- o Of the output bearing without which a pivot is encapsulated. The axial support of the propeller is ensured on a ball.

- An encapsulated transmission shaft, guided by a tread, a pinion and a magnet wheel, which provide communication between the propeller and the totaliser.

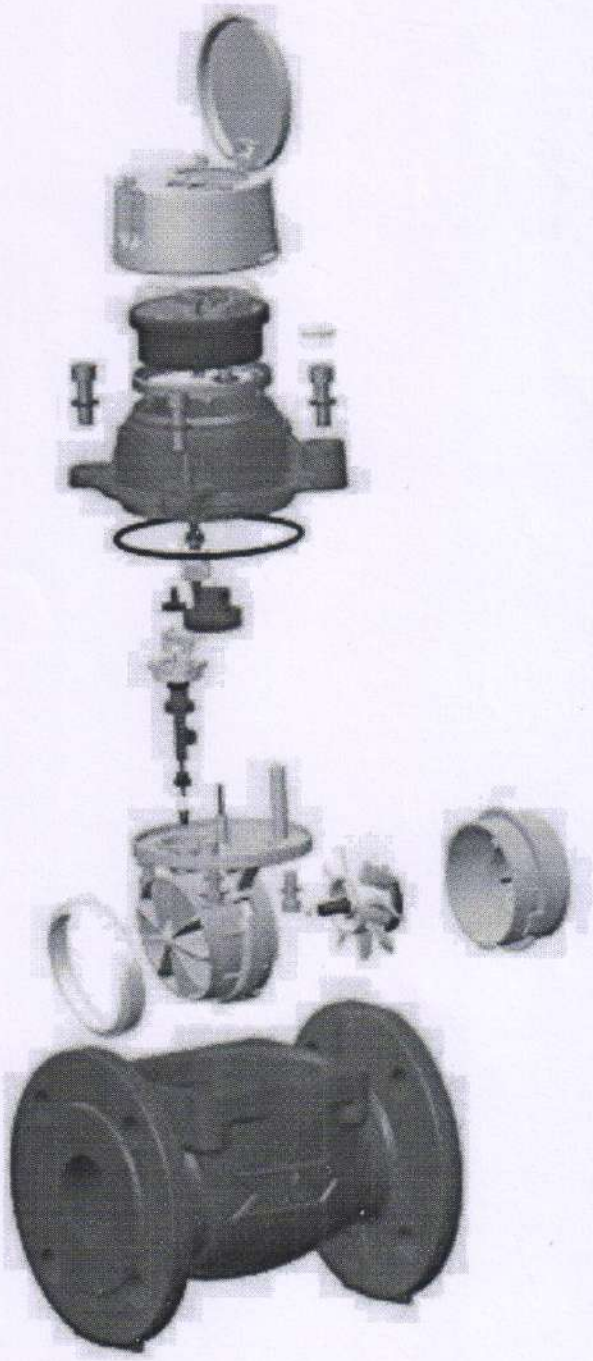
## The indicator device

This device consists of a glass-metal totaliser.
The totaliser can be rotated in right direction on site. It is protected by a cap, a crenellated disc bearing the regulatory registrations and an indicator cover. Two totaliser resolutions exist.

## Adjusting device

This device consists of an assembled damper, held by the adjustment plug and the o-ring, and then communicates with an adjustment quadrant, which meshes with the overmolded adjusting pinion. The setting is performed manually on the overmolded adjusting pinion, whose rotation is transmitted to the adjustment quadrant. The adjustment quadrant transmits the rotation to the damper, which deviates part of the flow.

## Annex to the EU examination certificate type with no. LNE-23189 rev. 4



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*Exploded view of the ITRON Woltex type water meter*

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## Characteristics

| Type | WE50/ MWE50 | WE65/ MWE65 | WE80/ MWE80 | WE100-WE125/ MWE100-MWE125 | | WE150/MWE150 | |
|---|---|---|---|---|---|---|---|
| Nominal Diameter DN (mm) | 50 | 65 | 80 | 100/125 | | 150 | |
| Length (mm) | 200/210/ 300/312 | 200/220/ 225/300 | 200/220/ 225/350 | 250/290 | | 300/340 | |
| Connections | Flange DN 50 | Flange DN65 | Flange DN80 | Flange DN 100 and DN125 | | Flange DN 150 | |
| Totalisers | TVM/Glass Metal | | | | | | |
| Range of totalisers ($m^3$) | 999 999 or 9 999 999 | | | | | 9 999 999* | |
| Scale of verification ($dm^3$) | 0.2 or 2 | | | | | 2* | |
| Theoretical cyclic volume ($dm^3$) | 19 | | | | | 200 | |
| Permanent Flow rate Q3 ($m^3/h$) | 40 | 63 | 100 | 100 | 160 | 250 | 400 |
| Overhead Flowrate Q4 ($m^3/h$) | 50 | 78.7 | 125 | 125 | 200 | 312.5 | 500 |
| Dynamic Q3/Q1 | 100 | 100 | 100 | 100 | 160 | 100 | 160 |
| Dynamic Q2/Q1 | 1.6 | | | | | | |

For a given nominal flowrate (Q3), the values of $Q_3/Q_1$ smaller than the values listed in the above table are authorised. However, the values of this ratio cannot be lower than 40.

* The totaliser version with a range of 99 999 999 $m^3$ (verification scale 20 $dm^3$) can be used up to $Q_1$= 3.125 $m^3/h$ inclusive.

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**Characteristics (continued)**

| Type | WE50/ MWE50 | WE65/ MWE65 | WE80/ MWE80 | WE100-WE125/MWE100-MWE125 | | WE150/MWE150 |
|---|---|---|---|---|---|---|
| Orientation | Horizontal or Vertical | | | | | |
| Accuracy Class | 2 | | | | | |
| Maximum permissible pressure (bar) | 20 | | | | | |
| Class of sensitivity to the flow profile according to EN14154 S= stab, type SD3 | U0D0 | | | | | |
| Pressure loss class (according to En 14154 at Q3) | Δp16 | Δp40 | | Δp10 (DN100) Δp16 (DN125) | Δp25 (DN100) Δp40 (DN125) | Δp16 |
| Water temperature class | +0.1°C°....+30°C | | | | | |
| Climatic Environment | -10°C°....+70°C | | | | | |
| Mechanical environment class | N/A | | | | | |
| Magnetic environment class | N/A | | | | | |
| Reverse flow measurement ** | No | | | | | |

** The meter is not designed to measure reverse flows but can withstand an accidental reverse flow without undergoing any damage or change in metrological properties.

# Annex to the EU examination certificate type with no. LNE-23189 rev. 4

| Type | WE200/MWE200 | WE250/MWE250 | WE300/MWE300 |
|---|---|---|---|
| Nominal Diameter DN (mm) | 200 | 250 | 300 |
| Length (mm) | 350 | 450 | 500 |
| Connections | Flange DN 200 | Flange DN 250 | Flange ND 300 |
| Totalisers | TVM/Glass Metal | | |
| Range of totalisers ($m^3$) | 9 999 999 or 99 999 999 | | |
| Scale of verification ($dm^3$) | 2 or 20 | | |
| Theoretical cyclic volume ($dm^3$) | 200 | | |
| Permanent Flow rate Q3 ($m^3/h$) | 630 ; 400 ; 250 | 1000 | 1600 |
| Overhead Flow rate Q4 ($m^3/h$) | 787.5 | 1250 | 2000 |
| Dynamic Q3/Q1 | 40 | 40 | 80 |
| Dynamic Q2/Q1 | 1.6 | | |

For a given nominal flow rate (Q3), the values of Q3/Q1 smaller than the values listed in the above table are authorised. However, the values of this ratio cannot be lower than 40.

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## Annex to the EU examination certificate type with no. LNE-23189 rev. 4

| Type | WE200/MWE200 | WE250/MWE250 | WE300/MWE300 |
|---|---|---|---|
| Orientation | Horizontal | | |
| Accuracy Class | 2 | | |
| Maximum allowable pressure (bar) | 20 | | |
| Class of sensitivity to the flow profile according to EN14154 S= stab, type SD3 | U0D0 | | |
| Class of pressure loss (according to En 14154 at Q3) | Δp25 | | |
| Scope of the water temperature | +0.1°C ... +30°C | | |
| Climatic environment | -10°C ...+70°C | | |
| Mechanical environmental class to mechanical | N/A | | |
| Magnetic Environment | N/A | | |
| Reverse flow measurement** | No | | |

** The meter is not designed to measure reverse flows but can withstand an accidental reverse flow without undergoing any damage or change in metrological properties.

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**Special installation conditions**

See class of sensitivity of the flow profile in the table of characteristics.

**Special operating conditions.**

Horizontal or vertical position

**Special verification conditions (if required)**

The WE-type ITRON cold water meter must be verified in a horizontal position, with a water temperature between 10 °C and 30 °C and with the following flow rates and maximum permissible errors:

- between $Q_1$ and 1.1 x $Q_1$ : **± 5%,**
- between $Q_2$ and 1.1 x $Q_2$ : **± 2%,**
- between 0.9 x Q3 and $Q_3$ : **± 2%,**

The tested flow rates must match the values of $Q_3$, of $Q_3/Q_1$ and of $Q_2/Q_1$ shown on the WOLTEX-type ITRON water meter.

The test conditions must meet the provisions set forth in the harmonized standard:
EN 14154-1:2005+A2:2011 §9.2

If all the errors (of indication) of the water meter have the same sign, one of the errors at least should not exceed half of the maximum permissible error.

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# Annex to the EU examination certificate type with no. LNE-23189 rev. 4

## Interchangeable mechanisms

The mechanism of the Woltex meter meets the interchange ability requirements of standard EN 14154-1:2005+A2:2011 §8.2.

Enveloppe étanche et mécanisme

Compteur assemblé

## Securing and sealing

**DN50 to DN80**

The seal is made:

- By clipping the cap on the plate, this seal prevents the access to the indicator device and the setting of the measuring assembly.
- a sealing pellet masking the head of the fixing/mounting screw for the plate in its counter bore, this seal prevents the access to the whole measuring system.
- These pellets will be marked with the logo "Itron" in accordance with the representation of the below figure.

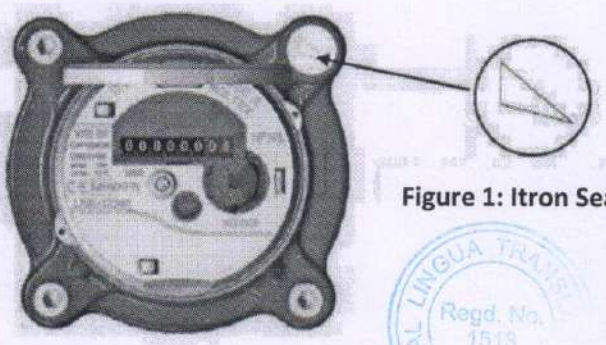

**Figure 1: Itron Sealing**

# Annex to the EU examination certificate type with no. LNE-23189 rev. 4

**DN 100 to 300**

Sealing is made by embedding:

- The two sealing pellets masking the head of the fixing/mounting screw for the cap, this seal prevents the access to the indicator device and the setting of the measuring assembly.

- a sealing pellet by masking the head of the fixing/mounting screw for the plate in its counter bore, this seal prevents the access to the whole measuring system.

These pellets will be marked with the logo "Itron" in accordance with the representation of the below figure:

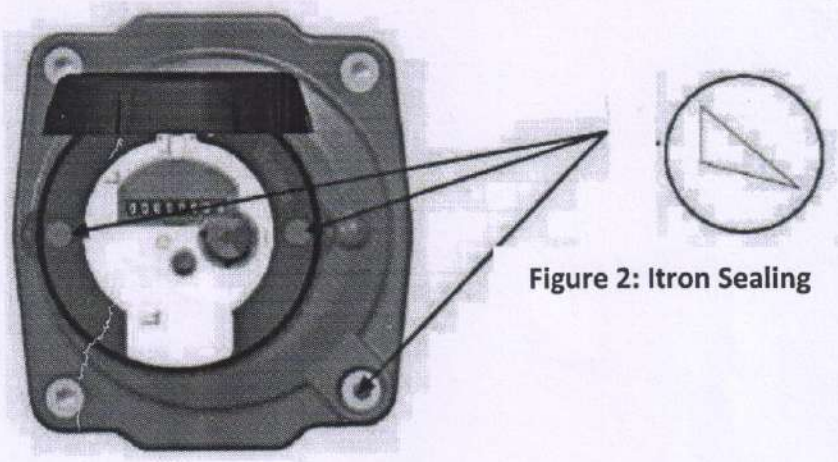

**Figure 2: Itron Sealing**

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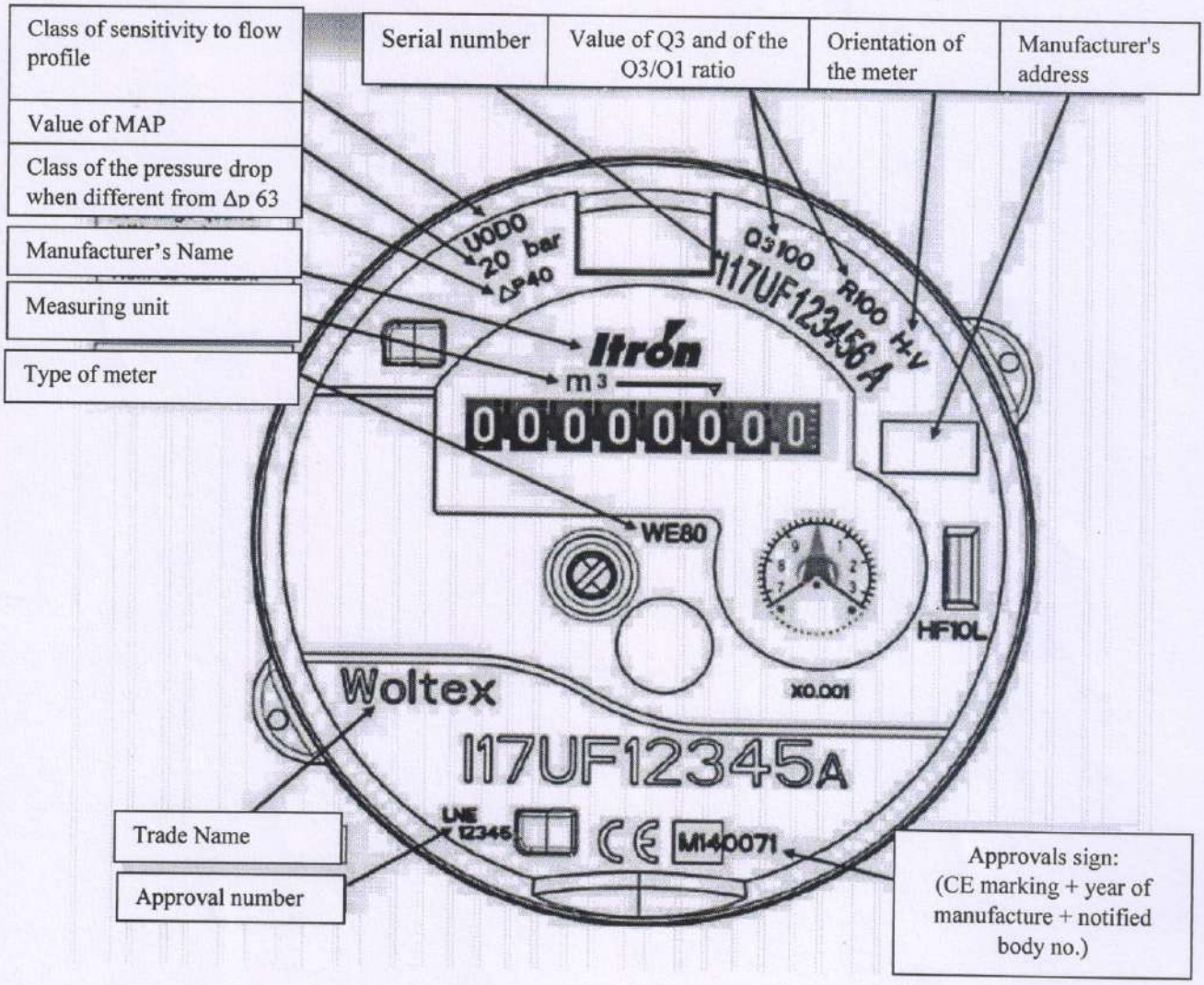
## Marking and inscriptions

The additional metrology marking consists of capital letter "M" and the last two digits of the year during which it was affixed, surrounded by a rectangle.

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# Appendix of the EC design examination certificate No. LNE-23696 rev. 4

**Revision History**

| Revision | Date | Subject |
|---|---|---|
| 0 | 24/04/2012 | Initial certification |
| 1 | 06/02/2015 | Modification of the design of the Woltex DN150 (addition of an integrated flow conditioner, double $Q_3$), addition of DN80 to the certified family |
| 2 | 23/06/2017 | Addition of the interchangeable mechanisms paragraph<br>Modification of $Q_3/Q_1$, for Woltex 100/125<br><br>Addition of new calibres DN200, DN250 and DN300<br><br>Add to the mention: "The postal address to which the manufacturer can be contacted must also appear on the meter."<br><br>Modification of the design to improve performance (dynamics and sensitivity to the flow profile) |
| 3 | 31/01/2018 | Modification of the seal: replacing A67 by the ITRON logo |
| 4 | 08/10/2018 | Addition to $Q_3 = 400m^3/h$ et $Q_3 = 250m^3/h$ for DN 200 |

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