



Member state  
Czech Republic

OIML Certificate No.  
R49/2013-CZ-16.02

## OIML BASIC CERTIFICATE OF CONFORMITY

### Issuing Authority

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Person responsible: Jan Kalandra

### Applicant

Name: Itron  
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### Manufacturer of the certified type

Name: Itron  
Address: 11 bvd Pasteur 67500 Haguenau France

### Identification of the certified type

**Water meter**  
**Type: ISOFLO**

For further characteristics see page 2 to 7

This certificate attests the conformity of above identified Type (represented by the sample(s) identified in the OIML Basic Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

**R 49, edition 2013, for accuracy class 2**

This certificate relates only to the metrological and technical characteristics of the type of instrument covered by the relevant OIML Recommendation(s) identified above.

This certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations of EC certificates provided in the associated Test report No. 6015-PT-P007-16 that includes 42 pages including annexes.

**Measuring system description:**

The combination water meter type ISOFLO is intended for metering cold potable water based on mechanical principles. The complete meter type ISOFLO comprises the primary (main) meter, secondary (by-pass) meter and changeover valve. At low flow rates, the change-over valve is closed. Only the secondary meter is in operation. When the flow rate increases, pressure is exerted on the primary meter until the changeover valve opens. At this point, the primary meter starts to operate along with the secondary meter. With both meters running, the overall consumption and flow rate are read by primary and secondary indicators. The changeover zone  $Z_c$  is defined according to ISO 7858/1 using the following formula:  $Q_{min} (main) < Z_c < 1.2 \times Q_n (secondary)$ .

The combination meter ISOFLO is equipped with two indicating devices, one for the primary meter and the second one for the secondary meter. The registers are mechanical, dry dial with pointers and rollers.

The displays shows the measurements in cubic meter volume and cubic meter per hour flow rate. The meter is not designed to measure reverse flow. The meter does not require any extra-mechanical housing or adjustments.

The meter is intended for mount to the connecting horizontal pipework with the flow axis in the horizontal plane and with the indicating device positioned at the top.

The primary meter is the Woltman meter type WOLTEX (WE) with mechanical dry-dial register, the secondary meter is the single jet type meter TU1M20 or TU1M25 or TU1 40F or rotary piston type meter Aquadis+ with mechanical dry-dial register. The combination of primary and secondary meters and basic technical parameters of water meters type ISOFLO DN50 TO DN 150 are given in the following tables 1 to 4.



  
**The OIML Issuing Authority**  
Pavel Klenovský

26 May 2016

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**Characteristics:**

Table 1 Basic technical parameters of water meters type ISO FLO DN 50

Model number:	ISO FLO		
Primary meter:	Woltex (WE50)	Woltex (WE50)	
Secondary meter:	TU1M20 DN20	Aquadis+ P1 DN20	
Nominal diameter:	50	50	50
Type details:			
Q <sub>1</sub> [m <sup>3</sup> /h]:	0.025	0.016	0.010
Q <sub>2</sub> [m <sup>3</sup> /h]:	0.040	0.026	0.016
Q <sub>3</sub> [m <sup>3</sup> /h]:	40.00	40.00	40.00
Q <sub>4</sub> [m <sup>3</sup> /h]:	50.00	50.00	50.00
Q <sub>3</sub> /Q <sub>1</sub> :	1600	2500	4000
Q <sub>x1</sub> [m <sup>3</sup> /h]:	0.75	0.75	0.75
Q <sub>x2</sub> [m <sup>3</sup> /h]:	3	3	3
Measuring principle:	mechanical water meter		
Accuracy class:	2		
Temperature class:	T30		
Pressure loss class:	25		
Environmental class:	-		
Electromagnetic environment:	-		
Maximum admissible temperature [°C]:	30		
Maximum admissible pressure [MPa]:	16		
Orientation limitation:	H		
Indicating range [m <sup>3</sup> ] - primary meter:	999 999 or 9 999 999		
Indicating range [m <sup>3</sup> ] - secondary meter:	99 999	99 999	
Resolution of the indicating device [dm <sup>3</sup> ] - primary meter:	0.2 or 2		
Resolution of the indicating device [dm <sup>3</sup> ] - secondary meter:	0.02 or 0.05	0.02	
EUT testing requirements (OIML R 49-2:2013, 8.1.8):			
Category:	Positive displacement meters and turbine water meters		
Case:	A		
Installation details:			
Connection type (flange, screw thread, concentric manifold):	flange DN50		
Flow profile sensitivity class:	U0S D0		
Mounting:	-		
Orientation:	H		
Other relevant information:	-		
Length [mm] - secondary meter:	190	190	
Length [mm] - combination meter:	300	300	

Table 2 Basic technical parameters of water meters type ISO FLO DN 65 and DN 80

Model number:	ISO FLO					
Primary meter:	Woltex (WE65)	Woltex (WE65)		Woltex (WE100)	Woltex (WE100)	
Secondary meter:	TU1M20 DN20	Aquadis+ P1 DN20		TU1M20 DN20	Aquadis+ P1 DN20	
Nominal diameter:	65	65	65	80	80	80
Type details:						
Q <sub>1</sub> [m <sup>3</sup> /h]:	0.016	0.016	0.010	0.025	0.016	0.010
Q <sub>2</sub> [m <sup>3</sup> /h]:	0.025	0.025	0.016	0.041	0.026	0.016
Q <sub>3</sub> [m <sup>3</sup> /h]:	63.00	63.00	63.00	160.00	160.00	160.00
Q <sub>4</sub> [m <sup>3</sup> /h]:	78.75	78.75	78.75	200.00	200.00	200.00
Q <sub>3</sub> /Q <sub>1</sub> :	4000	4000	6300	6300	10000	16000
for combination meters:						
Q <sub>x1</sub> [m <sup>3</sup> /h]:	0.75	0.75	0.75	0.75	0.75	0.75
Q <sub>x2</sub> [m <sup>3</sup> /h]:	3	3	3	3	3	3
Measuring principle:	mechanical water meter					
Accuracy class:	2			2		
Temperature class:	T30			T30		
Pressure loss class:	40			40		
Environmental class:	-			-		
Electromagnetic environment:	-			-		
Maximum admissible temperature [°C]:	30			30		
Maximum admissible pressure [MPa]:	16			16		
Orientation limitation:	H			H		
Indicating range [m <sup>3</sup> ] - primary meter:	999 999 or 9 999 999					
Indicating range [m <sup>3</sup> ] - secondary meter:	99 999	99 999		99 999	99 999	
Resolution of the indicating device [dm <sup>3</sup> ] - primary meter:	0.2 or 2					
Resolution of the indicating device [dm <sup>3</sup> ] - secondary meter:	0.02 or 0.05	0.02		0.02 or 0.05	0.02	
EUT testing requirements (OIML R 49-2:2013, 8.1.8):						
Category:	Positive displacement meters and turbine water meters					
Case:	A					
Installation details:						
Connection type:	flange DN65			flange DN80		
Flow profile sensitivity class:	U0S D0			U0S D0		
Mounting:	-			-		
Orientation:	H			H		

Other relevant information:	-			
Length [mm] - secondary meter:	190	190	190	190
Length [mm] - combination meter:	300	300	350	350

Table 3 Basic technical parameters of water meters type ISO FLO DN 100

Model number:	ISO FLO					
Primary meter:	Woltex (WE100)	Woltex (WE100)				Woltex (WE100)
Secondary meter:	TU1M20 DN20	TU1M25 DN25				Aquadis+P111 DN25
Nominal diameter:	100	100	100	100	100	100
Type details:						
Q <sub>1</sub> [m <sup>3</sup> /h]:	0.025	0.064	0.051	0.040	0.032	0.020
Q <sub>2</sub> [m <sup>3</sup> /h]:	0.041	0.102	0.081	0.064	0.051	0.032
Q <sub>3</sub> [m <sup>3</sup> /h]:	160.00	160.00	160.00	160.00	160.00	160.00
Q <sub>4</sub> [m <sup>3</sup> /h]:	200.00	200.00	200.00	200.00	200.00	200.00
Q <sub>3</sub> /Q <sub>1</sub> :	6300	2500	3150	4000	5000	8000
for combination meters:						
Q <sub>x1</sub> [m <sup>3</sup> /h]:	1.8	1.8	1.8	1.8	1.8	1.8
Q <sub>x2</sub> [m <sup>3</sup> /h]:	4.2	4.2	4.2	4.2	4.2	4.2
Measuring principle:	mechanical water meter					
Accuracy class:	2					
Temperature class:	T30					
Pressure loss class:	25					
Environmental class:	-					
Electromagnetic environment:	-					
Maximum admissible temperature [°C]:	30					
Maximum admissible pressure [MPa]:	16					
Orientation limitation:	H					
Indicating range [m <sup>3</sup> ] - primary meter:	999 999 or 9 999 999					
Indicating range [m <sup>3</sup> ] - secondary meter:	99 999	99 999				99 999
Resolution of the indicating device [dm <sup>3</sup> ] - primary meter:	0.2 or 2					
Resolution of the indicating device [dm <sup>3</sup> ] - secondary meter:	0.02 or 0.05	0.02				0.02
EUT testing requirements (OIML R 49-2:2013, 8.1.8):						
Category:	Positive displacement meters and turbine water meters					
Case:	A					
Installation details:						

Connection type (flange, screw thread, concentric manifold):	flange DN100		
Flow profile sensitivity class:	U0S D0		
Mounting:	-		
Orientation:	H		
Other relevant information:	-		
Length [mm] - secondary meter:	190	260	260
Length [mm] - combination meter:	350	350	350

Table 4 Basic technical parameters of water meters type ISO FLO DN 150

Model number:	ISO FLO						
Primary meter:	Woltex (WE150)				Woltex (WE150)	Woltex (WE150)	
Secondary meter:	TU1M25 DN25				TU1 40F DN40	P290+ DN40	
Nominal diameter:	150	150	150	150	150	150	150
Type details:							
Q <sub>1</sub> [m <sup>3</sup> /h]:	0.063	0.050	0.040	0.032	0.100	0.100	0.050
Q <sub>2</sub> [m <sup>3</sup> /h]:	0.102	0.080	0.064	0.051	0.160	0.160	0.080
Q <sub>3</sub> [m <sup>3</sup> /h]:	400.00	400.00	400.00	400.00	400.00	400.00	400.00
Q <sub>4</sub> [m <sup>3</sup> /h]:	500.00	500.00	500.00	500.00	500.00	500.00	500.00
Q <sub>3</sub> /Q <sub>1</sub> :	6300	8000	10000	12500	4000	4000	8000
for combination meters:							
Q <sub>x1</sub> [m <sup>3</sup> /h]:	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Q <sub>x2</sub> [m <sup>3</sup> /h]:	12	12	12	12	12	12	12
Measuring principle:	mechanical water meter						
Accuracy class:	2						
Temperature class:	T30						
Pressure loss class:	25						
Environmental class:	-						
Electromagnetic environment:	-						
Maximum admissible temperature [°C]:	30						
Maximum admissible pressure [MPa]:	16						
Orientation limitation:	H						
Indicating range [m <sup>3</sup> ] - primary meter:	9 999 999 or 99 999 999						
Indicating range [m <sup>3</sup> ] - secondary meter:	99 999				999 999		
Resolution of the indicating device [dm <sup>3</sup> ] - primary meter:	2 or 20 (where 20 dm <sup>3</sup> can be use up to Q <sub>1</sub> = 3.125 m <sup>3</sup> /h included)						

Resolution of the indicating device [dm <sup>3</sup> ] - secondary meter:	0.02	0.50
EUT testing requirements (OIML R 49-2:2013, 8.1.8):		
Category:	Positive displacement meters and turbine water meters	
Case:	A	
Installation details:		
Connection type (flange, screw thread, concentric manifold):	flange DN150	
Flow profile sensitivity class:	U5S D0	
Mounting:	-	
Orientation:	H	
Other relevant information:	-	
Length [mm] - secondary meter:	260	300
Length [mm] - combination meter:	500	500

### Marking and inscriptions

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

- Unit of measurement (m<sup>3</sup>)
- Numerical value Q<sub>3</sub> in m<sup>3</sup>/h (Q<sub>3</sub> ×.×) and the ratio Q<sub>3</sub> / Q<sub>1</sub>,
- OIML certificate of conformity number
- Manufacturer's name, registered trade name or registered trade mark
- 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 (MAP10 or MAP16)
- Letter H (horizontal position)
- The temperature class (T30)
- The pressure loss class ( $\Delta p$  40,  $\Delta p$  25)
- The installation sensitivity class

### Marking of the secondary meter :

- Manufacturer's name, registered trade name or registered trade mark
- type of the second meter
- Unit of measurement (m<sup>3</sup>)
- Numerical value Q<sub>3</sub> in m<sup>3</sup>/h (Q<sub>3</sub> ×.×) and the ratio Q<sub>3</sub> / Q<sub>1</sub>,
- 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)

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.