



Member state
Czech Republic

OIML Certificate No.
R49/2006-CZ-12.01

OIML CERTIFICATE OF CONFORMITY

Issuing Authority

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Applicant

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Manufacturer of the certified type
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Identification of the certified type

Ultrasound Water Meter
Type: FLOMIC FL5024 and FLOMIC FL5044

Further characteristics see page 3, 4 and 5

This certificate attests the conformity of above identified type (represented by the sample or samples identified in the associated test report) with the requirements of the following Recommendation(s) of the International Organization of Legal Metrology (OIML):

R 49, edition 2006, 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 provided in the associated Test report: No. 6015-PT-P0008-10 that includes 39 pages (plus annexes).

Measuring system description:

The water meters are intended for metering cold potable water. The water meters consist of flow sensor and of measuring transducer with the electronic calculator. The water meters are based on the ultrasonic principle. The flow sensor and the transducer is compact version, powered by battery. The body of flow sensor is made by shaped casting from material called ductile iron with standard flanges and installed by ultrasonic sensors which count is either one pair for single-beam model (type FL5024) or two pairs for double-beam model (type FL5044).

The measuring transducer is made by an aluminum box with a plastic lid and a plastic transparent sight hole for LCD display, by a button, by a valve for pressure equalization, by plate for communication by the optical probe and by three connectors designated for communication by RS232, by an impulse output and by a current output. Connectors which are not used must be blind. Maximum length of cable for communication is 2 meters.

The water meter type FL5024 with nominal diameter DN32 must be installed with cross type of flow straighter.



The Issuing Authority
Jan Kalandra



The OIML Member
Pavel Klenovský

13 April 2012

13 April 2012

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 the associated test report is not permitted although either may be reproduced in full.

Characteristics:

Ultrasound Water Meter FLOMIC FL5024

Nominal diameter (DN) [mm]	32	40	50	65	80
Overload flowrate (Q_4) [m^3/h]	≤ 12.5	≤ 20.0	≤ 31.3	≤ 50.0	≤ 78.8
Permanent flowrate (Q_3) ¹ [m^3/h]	≤ 10	≤ 16	≤ 25	≤ 40	≤ 63
Transitional flowrate (Q_2) [m^3/h]	≥ 0.32	≥ 0.51	≥ 0.80	≥ 1.28	≥ 2.02
Minimum flowrate (Q_1) [m^3/h]	≥ 0.20	≥ 0.32	≥ 0.50	≥ 0.80	≥ 1.26
Ratio Q_3 / Q_1	≤ 50 ²				≤ 40 ²
Ratio Q_2 / Q_1	1.6				
Ratio Q_4 / Q_3	1.25				
Orientation limitation	arbitrary				
Accuracy class	2				
Maximum permissible error for the lower flowrate zone (MPE _l)	$\pm 5\%$				
Maximum permissible error for the upper flow zone (MPE _u)	$\pm 2\%$ for water with temperature $\leq 30\text{ }^\circ\text{C}$				
Temperature class	T30				
Water pressure classes	MAP 16				
Pressure-loss classes	ΔP 25				
Indicating range [m^3]	99 999 to 999 999				
Resolution of the indicating device [L]	1				10
Resolution of the device for the rapid testing [pulse/L]	1.6	1.6	0.64	0.32	0.32
Flow profile sensitivity classes	U10S D5	U10 D5			
Length [mm]	260	300	300	300	350
Connection type	standard flange				
Environmental class	B				
Electromagnetic class	E1 and E2				
Version of software	M16V400 – FL50X4				
W&M checksum	B543DAA9				
Power supply	3.6 V / 19 Ah				
Effective life (of the battery) [years]	8				

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

² The ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 10.

Nominal diameter (DN) [mm]	100	125	150	200
Overload flowrate (Q_4) [m^3/h]	≤ 125.0	≤ 200.0	≤ 312.5	≤ 500.0
Permanent flowrate (Q_3) ¹ [m^3/h]	≤ 100	≤ 160	≤ 250	≤ 400
Transitional flowrate (Q_2) [m^3/h]	≥ 3.20	≥ 5.12	≥ 8.00	≥ 12.80
Minimum flowrate (Q_1) [m^3/h]	≥ 2.00	≥ 3.20	≥ 5.00	≥ 8.00
Ratio Q_3 / Q_1	≤ 50 ²			
Ratio Q_2 / Q_1	1.6			
Ratio Q_4 / Q_3	1.25			
Orientation limitation	arbitrary			
Accuracy class	2			
Maximum permissible error for the lower flowrate zone (MPE _l)	$\pm 5 \%$			
Maximum permissible error for the upper flow zone (MPE _u)	$\pm 2 \%$ for water with temperature $\leq 30 \text{ }^\circ\text{C}$			
Temperature class	T30			
Water pressure classes	MAP 16			
Pressure-loss classes	$\Delta P 25$			
Indicating range [m^3]	999 999 to 9 999 999			
Resolution of the indicating device [L]	10			
Resolution of the device for the rapid testing [pulse/L]	0.16	0.16	0.16	0.064
Flow profile sensitivity classes	U10 D5			
Length [mm]	350			
Connection type	standard flange			
Environmental class	B			
Electromagnetic class	E1 and E2			
Version of software	M16V400 – FL50X4			
W&M checksum	B543DAA9			
Power supply	3.6 V / 19 Ah			
Effective life (of the battery) [years]	8			

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

² The ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 10.

Ultrasound Water Meter FLOMIC FL5044

Nominal diameter (DN) [mm]	65	80	100	125	150	200
Overload flowrate (Q_4) [m^3/h]	≤ 50	≤ 79	≤ 125	≤ 200	≤ 313	≤ 500
Permanent flowrate (Q_3) [m^3/h]	$\leq 40^1$	$\leq 63^1$	$\leq 100^1$	$\leq 160^1$	$\leq 250^1$	$\leq 400^1$
Transitional flowrate (Q_2) [m^3/h]	≥ 0.64	≥ 2.50	≥ 2.50	≥ 2.56	≥ 4.00	≥ 6.40
Minimum flowrate (Q_1) [m^3/h]	≥ 0.40	≥ 1.58	≥ 1.59	≥ 1.60	≥ 2.50	≥ 4.00
Ratio Q_3/Q_1	$\leq 100^2$	$\leq 40^2$	$\leq 63^2$	$\leq 100^2$	$\leq 100^2$	$\leq 100^2$
Ratio Q_2/Q_1	1.6					
Ratio Q_4/Q_3	1.25					
Orientation limitation	arbitrary					
Accuracy class	2					
Maximum permissible error for the lower flowrate zone (MPE _l)	$\pm 5\%$					
Maximum permissible error for the upper flow zone (MPE _u)	$\pm 2\%$ for water with temperature $\leq 30\text{ }^\circ\text{C}$					
Temperature class	T30					
Water pressure classes	MAP 16					
Pressure-loss classes	ΔP 25					
Indicating range [m^3]	999 999 to 9 999 999					
Resolution of the indicating device [L]	1	10				
Resolution of the device for the rapid testing [pulse/L]	0.32	0.32	0.16	0.16	0.16	0.064
Flow profile sensitivity classes	U5 D3					
Length [mm]	300	350				
Connection type	Standard flange					
Environmental class	B					
Electromagnetic class	E1 and E2					
Version of software	M16V400 – FL50X4					
W&M checksum	B543DAA9					
Power supply	3.6 V / 19 Ah					
Effective life (of the battery) [years]	8					

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

² The ratio Q_3/Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 10.