National Measurement Office

Member State of OIML
United Kingdom of Great Britain
and Northern Ireland

OIML Certificate No
R49/2006/GB1-10.01
Revision 2

OIML CERTIFICATE OF CONFORMITY

Issuing authority: **National Measurement Office**

Person responsible: **Paul Dixon – Product Certification Manager**

Applicant: **ABB Limited**
Oldends Lane
Stonehouse
Gloucestershire, GL10 3TA
United Kingdom

Manufacturer: **The applicant**

Identification of the certified pattern: **FEV1 & FET1. A family of cold-water meters named WaterMaster, utilising a common, electromagnetic principle. Further characteristics see page 2.**

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report) with the requirements of the following Recommendation of the International Organisation of Legal Metrology (OIML):

OIML R 49 - Edition 2006(E) for accuracy class: 1 & 2

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

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

Important note: Apart from the mention of the certificates reference number and the name of the OIML Member State in which the certificate was issued, partial quotation of the certificate or of the associated test report is not permitted, though they may be reproduced in full.

Issue Date: **15 May 2012**
Reference No: **T23/0017**

Signatory: **P R Dixon**

UKAS PRODUCT CERTIFICATION 0135

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The conformity was established by tests described in the associated test report WMFEV1 having 51 pages, test report TR0550 having 26 pages and the associated pattern evaluation checklist included in report WMFEV1.

This revision replaces previous versions of the certificate.

Characteristics:

			WaterMaster OIML R49 Class 2			
DN	Q4	Q3	Q0.4%	Q2	Q1	R
	(m3/h)	(m3/h)	(m3/h)	(m3/h)	(m3/h)	
40	50	40	4.2	0.2	0.13	315
50	79	63	4.2	0.32	0.20	315
65	125	100	6.7	0.50	0.32	315
80	200	160	10.7	0.81	0.51	315
100	313	250	16.7	1.3	0.79	315
125	313	250	16.7	1.3	0.79	315
150	788	630	42	3.2	2.0	315
200	1,250	1,000	67	5.1	3.2	315
250	2,000	1,600	107	8.1	5.1	315
300	3,125	2,500	167	12.7	7.9	315

			WaterMaster OIML R49 Class 1			
DN	Q4	Q3	Q0.2%	Q2	Q1	R
	(m3/h)	(m3/h)	(m3/h)	(m3/h)	(m3/h)	
* 40	50	40	6	0.32	0.2	200
* 50	79	63	7.9	0.5	0.32	200
65	125	100	12.5	0.8	0.50	200
80	200	160	16	1.3	0.8	200
100	200	250	25	2	1.25	200
125	313	250	25	2	1.25	200
150	788	630	63	5	3.2	200
200	1,250	1,000	100	8	5	200
250	2,000	1,600	160	13	8	200
300	3,125	2,500	250	20	12.5	200

Note: * OIML R49-1 allows Class 1 only for meters with Q3>= 100m3/h, although the meters were tested to class 1 accuracy and passed the requirements.

Measuring principle:	Electromagnetic
Accuracy Class:	1 & 2
Q_2/Q_1	1.6
Q_3/Q_1	Class 1 = 200, Class 2= 315
Environmental class:	T50 (0.1C to 50C)
Environmental class:	C
Electromagnetic environment:	E2
Maximum admissible temperature:	50 °C
Maximum admissible pressure:	1.6 Mpa (16 bar)
Pressure Loss Class	0.25 bar

Installation details

Connection type	Flange
Minimum straight length of inlet pipe:	5D (DN x 5)
Minimum straight length of outlet pipe:	0D (0)
Flow conditioner (details if required):	None
Transmitter FET 1 location	Integral or Remote

Mounting

Orientation:	Can be installed in any position

Functionality

Checking Facilities :	Measurement transducer, Calculator & Indicator
Checking Facilities Type:	P
Flow Measurement Direction:	Bi Directional

Power Supply

Type:	Mains or DC (85 to 265V AC or 24V AC +10%-30% / 24V DC +/-30%
U_{max}:	265V AC or 26.4VAC or 31.2V DC
U_{min}:	85V AC or 18.46V AC or 18.46V DC
Frequency:	50-60Hz

Alternative Manufacturing Sites:

ABB Inc. 125 East County Line Road Warminster 18974-4995 Pennsylvania United States	ABB Engineering (Shanghai) Ltd. No.5, Lane 369, Chuangye Rd., Pudong District, Shanghai 201319 P.R. China

Certificate History:

ISSUE No..	DATE	DESCRIPTION
R49/2006-GB1-10.01	24 February 2010	Type approval first issued.
R49/2006-GB1-10.01 Revision 1	6 October 2011	Revision 1 issued. Addition of Meter sizes DN65 and DN125 to Characteristics Transmitter FET 1 location added to installation details Certificate history added.
R49/2006-GB1-10.01 Revision 2	15 May 2012	Revision 2 issued. Alternative manufacturing sites added