

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

OIML Certificate No  
R49/2006/GB1-10.03  
Revision 1

## 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: **MM/GA & FER2, Battery Powered and Explorer AM/E. A family of cold-water meters named AquaMaster with Battery powering, 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**



**BIS**

**Department for Business  
Innovation & Skills**

The conformity was established by tests included in the R49 Evaluation Checklist filed in T23/0017/9/0004 having 49 pages and test report TR0569 having 27 pages.

This revision replaces previous versions of the certificate.

Characteristics:

<b>AquaMaster Battery OIML Class 1 Spec</b>						
<b>DN</b>	<b>Q4</b>	<b>Q3</b>	<b>Q<sub>0.5%</sub></b>	<b>Q2</b>	<b>Q1</b>	<b>R</b>
	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	
<b>* 40</b>	<b>31</b>	<b>25</b>	<b>1.5</b>	<b>0.25</b>	<b>0.16</b>	<b>160</b>
<b>* 50</b>	<b>50</b>	<b>40</b>	<b>2.4</b>	<b>0.4</b>	<b>0.25</b>	<b>160</b>
<b>* 80</b>	<b>125</b>	<b>100</b>	<b>5.9</b>	<b>1</b>	<b>0.63</b>	<b>160</b>
<b>100</b>	<b>200</b>	<b>160</b>	<b>9.4</b>	<b>1.6</b>	<b>1</b>	<b>160</b>
<b>150</b>	<b>500</b>	<b>400</b>	<b>23.5</b>	<b>4</b>	<b>2.5</b>	<b>160</b>
<b>200</b>	<b>788</b>	<b>630</b>	<b>37</b>	<b>6.3</b>	<b>3.9</b>	<b>160</b>
<b>250</b>	<b>1,250</b>	<b>1,000</b>	<b>60</b>	<b>10</b>	<b>6.3</b>	<b>160</b>
<b>300</b>	<b>2,000</b>	<b>1,600</b>	<b>90</b>	<b>16</b>	<b>10</b>	<b>160</b>

<b>AquaMaster Battery OIML Class 2 Spec</b>						
<b>DN</b>	<b>Q4</b>	<b>Q3</b>	<b>Q<sub>0.5%</sub></b>	<b>Q2</b>	<b>Q1</b>	<b>R</b>
	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	<b>(m3/h)</b>	
<b>40</b>	<b>31</b>	<b>25</b>	<b>1.5</b>	<b>0.16</b>	<b>0.1</b>	<b>250</b>
<b>50</b>	<b>50</b>	<b>40</b>	<b>2.4</b>	<b>0.26</b>	<b>0.16</b>	<b>250</b>
<b>80</b>	<b>125</b>	<b>100</b>	<b>5.9</b>	<b>0.64</b>	<b>0.4</b>	<b>250</b>
<b>100</b>	<b>200</b>	<b>160</b>	<b>9.4</b>	<b>1.0</b>	<b>0.63</b>	<b>250</b>
<b>150</b>	<b>500</b>	<b>400</b>	<b>23.5</b>	<b>2.56</b>	<b>1.6</b>	<b>250</b>
<b>200</b>	<b>788</b>	<b>630</b>	<b>37</b>	<b>4.0</b>	<b>2.5</b>	<b>250</b>
<b>250</b>	<b>1,250</b>	<b>1,000</b>	<b>60</b>	<b>6.4</b>	<b>4</b>	<b>250</b>
<b>300</b>	<b>2,000</b>	<b>1,600</b>	<b>90</b>	<b>10</b>	<b>6.3</b>	<b>250</b>

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 <sub>2</sub> /Q <sub>1</sub>	1.6
Q <sub>3</sub> /Q <sub>1</sub>	Class 1 = 160, Class 2 = 250
Environmental class:	T50 (0.1C to 50C)
Environmental class:	C
Electromagnetic environment:	E1
Maximum admissible temperature:	50 °C
Maximum admissible pressure:	1.6 Mpa (16 bar)
Pressure Loss Class	0.63 bar

Installation details

Connection type	Flange
Minimum straight length of inlet pipe:	0D (0)
Minimum straight length of outlet pipe:	0D (0)
Flow conditioner (details if required):	None

Mounting

Orientation:	Can be installed in any position
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Power Supply

Type:	ABB Supplied Battery Pack
U <sub>max</sub> :	Main Pack = 10V DC Standby Pack = 5.1V
U <sub>min</sub> :	Main Pack = 6V DC Standby Pack = 3.3V DC
Frequency:	N/A

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-GB1-10.03	24 February 2010	Type approval first issued.
R49/2006-GB1-10.03 Revision 1	15 May 2012	Revision 1 issued: Alternative manufacturing sites and certificate history added