

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

OIML Certificate No  
R49/2006-GB1-09.01  
Revision 5

## OIML CERTIFICATE OF CONFORMITY

Issuing authority: **NMO**  
Person responsible: **Mannie Panesar – Head of Technical Services**  
Applicant: **Elster Water Metering Limited  
130 Camford Way  
Sundon Park  
Luton, Bedfordshire  
LU3 3AN  
United Kingdom**  
Manufacturer: **The applicant**  
Identification of the certified pattern: **Family of cold-water meters utilising a common, volumetric measuring element, with a nominal capacity of 16.5 revs/litre and having a rated permanent flowrate  $Q_3$  of 1.6 m<sup>3</sup>/h (R100), 2.5 m<sup>3</sup>/h (R250) or 4.0 m<sup>3</sup>/h (R400).**

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 R49 - Edition 2006(E) for accuracy class: 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.

This revision replaces previous versions of the certificate.

**Issue Date: 08 June 2017**



**Grégory Glas**  
**Technical Manager**  
*For and on behalf of the Head of Technical Services*



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The conformity was established by tests described in the associated evaluation report P00211 having 30 pages (which references WRc-NSF test report M064305-R49 having 64 pages).

**Characteristics of the instrument:**

**Meters with  $Q_3 = 4.0 \text{ m}^3/\text{h}$**

Table 1 Permitted flow designations by model

Model Name	$Q_3/Q_1$ (R)							
	400	315	250	200	160	100	80	40
V100, V110, V200, V210	✓	✓	✓	✓	✓	✓	✓	✓
V220			✓	✓	✓	✓	✓	✓

Table 2 Related flowrates according to each  $Q_3/Q_1$  designation

$Q_3/Q_1$ (R)	400	315	250	200	160	100	80	40
$Q_2/Q_1$	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
$Q_1$ Minimum flowrate ( $\text{m}^3/\text{h}$ )	0.01	0.0127	0.016	0.02	0.025	0.04	0.05	0.1
$Q_2$ Transitional flowrate ( $\text{m}^3/\text{h}$ )	0.016	0.0203	0.0256	0.032	0.04	0.064	0.08	0.16
$Q_3$ Permanent flowrate ( $\text{m}^3/\text{h}$ )	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
$Q_4$ Overload flowrate ( $\text{m}^3/\text{h}$ )	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

**Meters with  $Q_3 = 2.5 \text{ m}^3/\text{h}$**

Table 3 Permitted flow designations by model

Model Name	$Q_3/Q_1$ (R)				
	250	200	160	100	80
V100, V110, V200 and V210	✓	✓	✓	✓	✓
V220			✓	✓	✓

Table 4 Related flowrates according to each  $Q_3/Q_1$  designation

$Q_3/Q_1$ (R)	250	200	160	100	80
$Q_2/Q_1$	1.6	1.6	1.6	1.6	1.6
$Q_1$ Minimum flowrate ( $\text{m}^3/\text{h}$ )	0.01	0.0125	0.01562	0.025	0.03125
$Q_2$ Transitional flowrate ( $\text{m}^3/\text{h}$ )	0.016	0.02	0.025	0.04	0.05
$Q_3$ Permanent flowrate ( $\text{m}^3/\text{h}$ )	2.5	2.5	2.5	2.5	2.5
$Q_4$ Overload flowrate ( $\text{m}^3/\text{h}$ )	3.125	3.125	3.125	3.125	3.125

**Meter with  $Q_3 = 1.6 \text{ m}^3/\text{h}$**

Table 5 Permitted flow designation by model

Model Name	$Q_3/Q_1$ (R)
	100
V100, V110, V200, V210	✓
V220	✓

Table 6 Related flowrates according to  $Q_3/Q_1$  designation

$Q_3/Q_1$ (R)	100
$Q_2/Q_1$	1.6
$Q_1$ Minimum flowrate ( $\text{m}^3/\text{h}$ )	0.016
$Q_2$ Transitional flowrate ( $\text{m}^3/\text{h}$ )	0.0256
$Q_3$ Permanent flowrate ( $\text{m}^3/\text{h}$ )	1.6
$Q_4$ Overload flowrate ( $\text{m}^3/\text{h}$ )	2.0

Measuring principle:	Semi-positive displacement meter (16.5 revs/litre)
Accuracy Class:	2
Environmental class:	T30 (MAT)
Electromagnetic environment:	N/A
Maximum admissible temperature:	30 °C
Maximum admissible pressure:	1.6 Mpa (16 bar)
Orientation requirements:	None

Installation details

Connection type(flange, screw thread, concentric manifold):	V100, V110, V200, V210, V220
Minimum straight length of inlet pipe:	non specified
Minimum straight length of outlet pipe:	non specified
Flow conditioner (details if required):	This type of meter is not susceptible to flow disturbances

Mounting

Orientation:	Can be installed in any position
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Other relevant information:

**V200 meters**

The V200 meter can be of 3 different designs of manufacture, the measuring assembly being arranged in a brass alloy body, or the measuring assembly being arranged in an injection moulded thermoplastic body with either thermoplastic or brass alloy threaded connections.

**V200, V210 and V220 meters**

**Inductive or resonant pointer and sensor unit (optional)**

The meter register is equipped with a metallic pointer on the first element of the verification scale. Two bosses and two holes on the shroud enable the option of an inductive sensor to be fitted to the meter shroud.

**Reed switch sensor (optional)**

The meter register is equipped with a magnetic pointer on the first element of the verification scale. The reed switch sensor is fitted to the meter shroud.

**V100 and V110 meters**

**Reed switch sensor (optional)**

The meter register is equipped with a magnet on the first element of the verification scale. The reed switch sensor is fitted in a pocket within the meter housing, in close proximity to the magnet.

**CERTIFICATE HISTORY**

<b>ISSUE NO.</b>	<b>DATE</b>	<b>DESCRIPTION</b>
R49/2006-GB1-09.01	30 June 2009	Certificate first issued.
R49/2006-GB1-09.01 Revision 1	2 December 2009	Meter model V220 added. Certificate history added.
R49/2006-GB1-09.01 Revision 2	27 October 2011	Other relevant information - V200 meter descriptions added.
R49/2006-GB1-09.01 Revision 3	9 July 2013	Front page: Elster Water Metering name change. Tables 1 R40 Meter added. Other relevant information: V200: resonant pointer added.
R49/2006-GB1-09.01 Revision 4	25 March 2015	Table 1 and 2 R40 V220 option added. Table 2 R40 $Q_1$ and $Q_2$ corrected from 0.0625 and 0.1 to 0.1 and 0.16 respectively. Annex A; Alternative manufacturer ELSTER MEDICIÓN, S.A.U added.
R49/2006-GB1-09.01 Revision 5	08 June 2017	Tables 5 and 6 added (Meter with $Q_3 = 1.6 \text{ m}^3/\text{h}$ , R100)

## Annex A

### Alternative Manufacturers

ELSTER METERING PTY LTD - 55 Northcorp Boulevard - Victoria - Australia

ELSTER METERING SA - Rue de Birmingham - 66 Molenbeek St Jean – Brussels - Belgium

COMPANIA COLOMBIANA DE MEDIDORES TAVIRA SA - Avenida de las Americas No. 66 A-08 - Bogota - Colombia

ELSTER MESSTECHNIK GMBH - Otto-Hahn-Strasse 25 – Lampertheim - Germany

ELSTER COMPTAGE SA - 23 Rue Papin - Villeneuve D'Ascq - France

ELSTER-INTROMET B.V. METERS BV - Minervum 7146 - Breda - Netherlands

ELSTER AMCO WATER, INC - PO Box 225 – Isabela - Puerto Rico

PREMAGAS S.R.O. - Nám. Dr. A. Schweitzera 194 - Stará Turá - Slovakia

ELSTER KENT METERING (PTY) LTD - 64 Commando Road - Johannesburg - South Africa

GEORGE KENT (MALAYSIA) BERHAD - Lot 1115 - Jalan Dengkil - Selangor Darul Ehsan - Malaysia.

THAI METERS CO. LTD - 262-268 Vorachak Road – Bangkok - Thailand

ELSTER MEDICIÓN, S.A.U. Pol. Masti-Loidi, nº 13, 20100 Erreñería, Guipúzcoa, España