



**Member State**  
**Switzerland**

**OIML Certificate**  
**No R49/2006-CH1-09.01**

## OIML CERTIFICATE OF CONFORMITY

### *Issuing authority*

*Name* Federal Office of Metrology METAS  
Certification Body METAS-Cert

*Address* METAS, Lindenweg 50, CH-3003 Bern-Wabern

*Person responsible* Jürg Ramseyer, Head of METAS-Cert

### *Applicant*

*Name* HEMINA SPA

*Address* Via Piemonte 1, IT-35044 Montagnana (Pd)

*Manufacturer* The manufacturer of the certified pattern is the Applicant

### *Identification of the certified pattern*

**Family of electromagnetic flow meters intended for the  
metering of cold water**

*Type* **ISOMAG**

For further characteristics see page 3 and ff.

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

R 49-1, 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 identified above.

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



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The conformity was established by the results of tests and examinations provided in the associated Test Reports:

No 135-10706 that includes 27 pages

**The Issuing Authority**

Jürg Ramsey, Head of METAS-Cert

**The OIML Member**

Dr. Philippe Richard, Vice Director

CH-3003 Bern-Wabern, July 1<sup>st</sup>, 2009

**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.



## OIML Certificate No R49/2006-CH1-09.01

### 1 Description of the Type

The family of water meters ISOMAG covers the nominal diameters in the range of DN25 to DN200 consisting of 10 nominal diameters. The water meters are designed for a nominal pressure of 16 bar and a maximal water temperature of 60 °C.

### 2 Design

The family of water meters ISOMAG is designed for measuring the flow of electrically conductive mediums (water) by means of the electromagnetic flow measuring system. The conductive medium flows through a magnetic field which induces a voltage that is proportional to the mean flow speed as the magnitude of the magnetic field is kept constant and the nominal pipe diameter is a constant factor. The converter of the sensor manages the input and output signals and converts the data.

Versions:

Compact flow meter

The converter and the flow sensor are fixed together.

Splitversion:

The converter and the flow sensor are connected via cable.

### 3 Sensor

Typ MS 2500

Process connection	Flanges: ANSI, DIN, JIS
Flanges material	Carbon steel Stainless steel AISI 304- AISI316 (op.)
Liquid temperature	0°C + 60°C
Vacuum resistance	20 kPa ( absolute ) at 100 °C ( 60/80 °C for PP/Ebon )
Lining material	Polypropylene Ebonite PTFE
Electrodes material	Stainless steel AISI 316 Hastelloy Platinum-Rhodium Titanium Tantalum
Version – protection rate	Compact version – IP 67 Separate version – Sensor IP 68 / Sensorelektronik IP 67

Adjustment:

- The converter corrects the sensor linearly with the k-factor.



## OIML Certificate No R49/2006-CH1-09.01

### 4 Converter of the sensor

Type ML 110 or ML 210

- Upper part of the housing AZ.020420.A1
- Lower part of the housing AZ.020421.A1
- Software revision 3.xx

### 5 Accessory components

none

### 6 Technical specifications

DN	Q(1)	Q(2)	Q(3)	Q(4)	Orientation	Disturbance	T	Meter Class	Length
mm	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h	m <sup>3</sup> /h			°C	R	mm
25	0.100	0.160	<b>16</b>	20	H / V	U0 / D0	60	160	200
32	0.156	0.250	<b>25</b>	31.3	H / V	U0 / D0	60	160	200
40	0.250	0.400	<b>40</b>	50	H / V	U0 / D0	60	160	200
50	0.394	0.630	<b>63</b>	78.8	H / V	U0 / D0	60	160	200
65	0.625	1	<b>100</b>	125	H / V	U0 / D0	60	160	200
80	1	1.6	<b>160</b>	200	H / V	U0 / D0	60	160	200
100	1.563	2.5	<b>250</b>	312.5	H / V	U0 / D0	60	160	250
125	2.5	4	<b>400</b>	500	H / V	U0 / D0	60	160	250
150	3.938	6.3	<b>630</b>	787.5	H / V	U0 / D0	60	160	300
200	6.250	10	<b>1000</b>	1250	H / V	U0 / D0	60	160	350