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PROD Reg.nr. 7025

FORCE TECHNOLOGY
FORCE-Dantest CERT

EC-Type Examination Certificate
Measuring Instrument Directive

Number: DK-0200-MI001-005

Issued by FORCE-Dantest CERT, Denmark
EC-notified body number 0200

In accordance with The Danish Safety Technology Authority´s statutory order no. 436 of 16 May 2006 which implements the Directive 2004/22/EC of the European Parliament and Council of March 31, 2004 on measuring instruments (MID)

Issued to:	**Siemens Flow Instruments A/S** **Nordborgvej** **DK-6430 Nordborg**
Reference No.:	80.970.6-004A /06
Type of instrument:	Coldwater meter, electro magnetic flowmeter
Type designation:	MAG5100W DN50-300 with MAG5000CT or MAG6000CT
Valid until:	April 29, 2009
Number of pages:	6, including appendix
Date of issue:	November 15, 2007

Approved by
Hans Falster
Director

Processed by
Birger Lind-Nielsen
Certification Manager

The conformity markings may only be affixed to the above type approved equipment. The manufacturer's Declaration of Conformity may only be issued and the notified body identification number may only be affixed on the instrument when the production/product assessment module (D or F) of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

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Appendix to
EC-Type Examination Certificate
Measuring Instrument Directive

Number: DK-0200-MI001-005

Issued by FORCE-Dantest CERT, Denmark
EC-notified body number 0200

Applied standards and documents:
OIML R49: 2006

The instruments/measuring systems shall correspond with the following specifications:

Type designation

MAG5100W DN50-300 with MAG5000CT or MAG6000CT

Description

The construction consists of an electromagnetic flow sensor, MAG5100W, and a signal transmitter, MAG5000CT or MAG6000CT.

The design principle is, as for any electro magnetic flow sensor, that a constant pulsed DC electrical current through the coil circuit results in a magnetic field through the sensor bore with direction from coil to coil. When a conductive liquid passes through the magnetic field a differential DC voltage is introduced between the measuring electrodes.
The MAG5000CT and MAG6000CT signal converter operates at 3.125 – 12.5Hz depending on sensors size. All sensors are charged with 125mA constant current. The sensitivity of the sensors gives a nominal signal of 125 µV per m/s flow.

The sensor has a steel tube and steel flanges and the bore is fitted with an electrically insulating lining which is coned to optimise the velocity profile of the fluid. Between the lining and the steel tube is fitted coils which generate the magnetic field.

Only approved for cold water

Technical documentation
FORCE-Dantest CERT File no. 80.970.6-004A /06

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Technical data

Instrument tested according to: OIML R49:2006

Software version	: 3.03
Verification tolerance	± 5% $Q_1 \leq Q < Q_2$ ± 2% $Q_2 \leq Q \leq Q_4$
Unit of measurement	: Cubic metre
Temperature	: 0.1 - 30°C
Pressure	: PN = 16 bar or PN =10 bar
Power supply	: 230 VAC
Environment class	: E2, M1
Climatic class	: -25...55°C, condensing, closed
Durability specification	: 10 years

Size	50 (2")	65 (2½")	80 (3")	100 (4")	125 (5")	150 (6")	200 (8")	250 (10")	300 (12")
"R" Q3/Q1	1000	1000	1000	1000	1000	1000	1000	1000	630
Q1 [m^3/h]	0.063	0.10	0.16	0.25	0.40	0.63	1.0	1.6	2.5
Q2 [m^3/h]	0.250	0.40	0.63	1.00	1.60	2.50	4.00	6.40	10.0
Q3 [m^3/h]	63	100	160	250	400	630	1000	1600	1600
Q4 [m^3/h]	78.75	125	200	312.5	500	787.5	1250	2000	2000

Above mentioned table describe the maximum specification of flow area other dynamic ranges is allowed if "R" is 10, 25, 63, 80, 100, 160, 250, 400, 630.

and

Q1 >= values in table

and

Q2/Q1 = 2.5, or 4, or 6.3, provided that Q3/Q2 > 5

and

Q4/Q3 = 1,25

Verification

Errors: Maximum permissible errors according to Directive 2004/22/EC of the European Parliament and Council of March 31, 2004 on measuring instruments (MID), Annex MI-001

Procedure:
Test points and verification requirements according to OIML R49:2006

The water temperature range shall be 20 ± 10°C

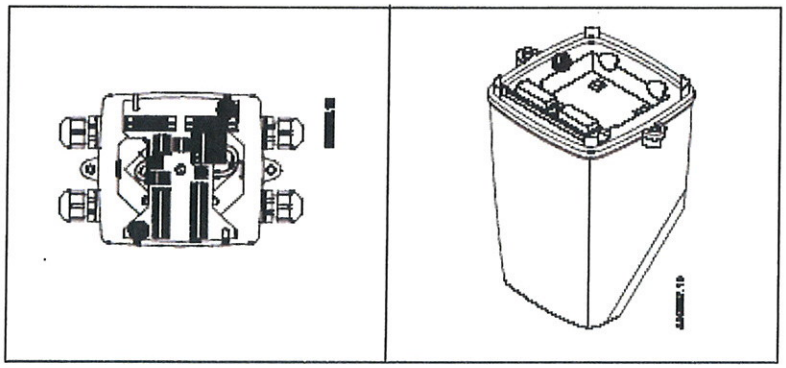
At least the following three flow rates shall be used for verification:

$Q_1 \leq Q \leq 1.1Q_1$ (5 %)
$Q_2 \leq Q \leq 1.1Q_2$ (2 %)
$0.9Q_3 \leq Q \leq Q_3$ (2 %)

Sealing

Internal sealing

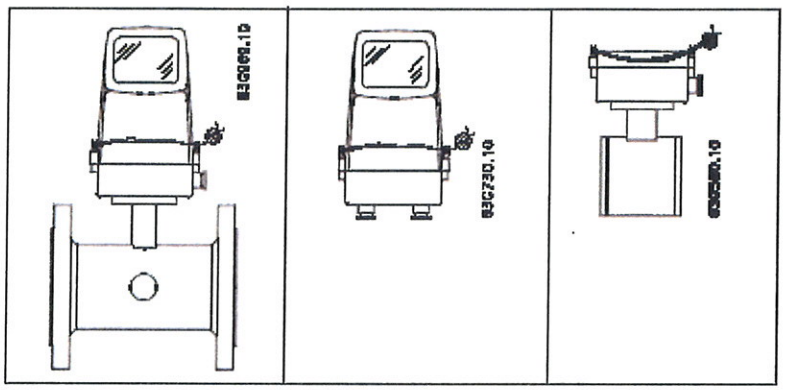
After setup of settings and calibration of the unit the hardware key is removed again. This locks the menu structure and the selected settings. The transmitter and sensor must then be sealed to prevent unauthorized access.The connection plate is sealed to prevent access to the SENSORPROM memory unit. Ⓟ indicates locations of sealing



Installation

MAG 6000 CT is installed as shown in the instructions for a standard MAG 6000, except for the external sealing.

The external sealing is carried out as shown.



Installation

The product requires minimum 5 x [Dia] of straight pipe upstream from the sensor and minimum 3 x [Dia] of straight pipe downstream from the sensor.

The sensor can only be installed in a horizontal condition.

The signal transmitter can be fitted compact on the sensor or remotely with up to 3m of cable. Cable specification according to manufacturer (Siemens) specification.

Labeling and inscriptions

Manufacturer, type, year
Serial no.
EC-Type examination certificate number
Tmax and Pmax
Application temperature range.
Power supply
Accuracy class
Software version
Unit of measurements: Cubic metre.
Direction of flow
Letter H, for the position

SIEMENS

SITRANS F M MAG6000/5100W CT

7ME6920-2YC11-1AA1

System no	7ME692 123456N123	Certification no:	DK-0200-MI001-005
DN50	EN 1092-1 PN16 PED	Accuracy:	Class 2 OIML R49
Meter orientation:	Horizontal (H)	Year:	2007
Environmental class:	E2,M1	Q3:	m3/h
Pressure max.	PN16 Temp.max 30°C	Q2/Q1:	
Software version	3.03	Q3/Q1:	
Amb. Temp.:	-25 to +55°C	CE	M07 0200
Supply:	115/230 VAC 50/60 Hz 17VA		

Siemens Flow Instruments A/S

Made in Denmark