KEMA

(1) # EC-TYPE EXAMINATION CERTIFICATE

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 09ATEX0170 X** Issue Number: **1**

(4) Equipment: **Compact Electromagnetic Flowmeter, types VersaFlow Mag 1000-1 C and 4000-1 C**

(5) Manufacturer: **Honeywell International, HFS**

(6) Address: **512 Virginia Drive, Fort Washington PA 19304, USA**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number 212967800/2.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2006	**EN 60079-1 : 2007**	**EN 60079-7 : 2003**
EN 60079-11 : 2007	**EN 60079-18 : 2004**	**EN 61241-0 : 2006**
EN 61241-1 : 2004	**EN 50014 : 1997 + A1, A2**	**EN 50017 : 1998**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2 G Ex e ia mb IIC T4 or
Ex d e ia mb IIC T4 or
Ex e ia mb q IIC T4/T3
II 2 D Ex tD A21 IP64 T120 °C

This certificate is issued on November 18, 2009 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.

C.G. van Es
Certification Manager

PRODUCTS RvA C 001

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(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 09ATEX0170 X** Issue No. **1**

(15) **Description**

The Compact Electromagnetic Flowmeter, types VersaFlow Mag 1000-1 C and 4000-1 C is used for measuring, counting and displaying the linear flow of an electrically conductive liquid.
The flowmeter consists of a steel primary head and an aluminium signal converter housing containing the electronics.

The marking of the flowmeters includes the following:

Ex e ia mb IIC T4	for primary head sizes DN10 to DN20
Ex d e ia mb IIC T4 or Ex e ia mb q IIC T4/T3	for primary head sizes DN25 to DN150
Ex e ia mb IIC T4 or Ex e ia mb q IIC T4	for primary head sizes DN200 to DN300
Ex e ia mb IIC T4	for primary head sizes DN350 to DN3000
Ex tD A21 IP64 T120 °C	for all types

Ambient temperature range: -20 °C to +40 °C.
Process temperature range: -20 °C to +100 °C for T4 for primary head Ex q sizes DN25-DN150
-20 °C to +120 °C for T4 for all other primary heads
-20 °C to +120 °C for T3 for primary head Ex q sizes DN25-DN150
-20 °C to +120 °C for equipment category 2 D (dust)

The degree of protection of the apparatus enclosure is at least IP64 according to EN 60529.

Electrical data

Power supply ..... (terminals L, N or L+, L-)	U_n = 100 - 230 Vac, +10 % / -15 %, 8 VA resp. U_n = 24 Vdc, +30 % / -25 %, 4 W U_n = 24 Vac, +10 % / -15 %, 8 VA U_m = 253 V
Current output ..... (terminals A+, A, A-)	$U_n \leq$ 32 Vdc, passiv or activ, HART U_m = 253 V for connection to a PELV circuit
Status / Pulse / Frequency output .... (terminals C, C-, D, D-, S)	$U_n \leq$ 32 Vdc, I ≤50 mA U_m = 253 V for connection to a PELV circuit
Electrode and display circuit	in type of protection intrinsic safety Ex ia IIC, (internal circuit)

The intrinsically safe electrode circuit and the intrinsically safe display circuit are galvanically connected with each other and with the non-intrinsically safe field coil circuit. These three circuits are infallibly galvanically isolated from all other non-intrinsically safe circuits to a peak value of the nominal voltage of 375 V.

Installation instructions

Certified cable glands and blanking elements shall be used that are suitable for the application and correctly installed. The devices shall provide a degree of protection of at least IP64 according to EN 60529.

(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 09ATEX0170 X** Issue No. **1**

(16) **Test Report**

KEMA No. 212967800/2.

(17) **Special conditions for safe use**

- The relation between process temperature and temperature class is as in description (15) above.
- The property class of the special fasteners of the Ex d primary heads shall be at least A*-70.
- For details of the flameproof joint between the Ex d primary head and the cable feedthrough the manufacturer shall be contacted.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 212967800/2.