



LABORATORIO OFICIAL J. M. MADARIAGA



(1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or protective system intended for use in potentially explosive atmospheres
Directive 94/9/EC

(3) EC-Type Examination Certificate nr. **LOM 14ATEX2075 X**

(4) Equipment or protection system
Magnetic level sensors
Types M**_***F

(5) Manufacturer **KOBOLD MESURA, S.L.U.**

(6) Address
Avda. Conflent, 68. Nave 15
08915 Badalona (Barcelona)
SPAIN

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

(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system 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 report nr. **LOM 14.477 VP**

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

Standards	EN 60079-0:2012	EN 60079-1:2007
	EN 60079-26:2007	EN 60079-31:2009

(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system 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 and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.

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

	II 1/2 G	Ex d IIC T1..T6 Ga/Gb
	II 2D	Ex t IIIC T410..T85 °C Db

Getafe, 2015-07-28

Carlos Fernández Ramón
Head of Certification Committee

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

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RCPCEP 07.3/2
Rev.2

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)



Los certificados del LOM son emitidos con firma digital para asegurar la autenticidad del firmante. Es posible comprobar su validez pulsando sobre la firma LOM certificates are issued with digital signature to ensure the authenticity of the signer. It is possible to check its validity clicking on the signature



(A1) SCHEDULE

(A2) EC-Type Examination Certificate nr.: LOM 14ATEX2075 X

(A3) Description of equipment or protective system

Magnetic level sensors series M**-*F, MM-*F and MS*-*F consist of a float containing a magnet and sliding on the outside of a stainless steel tube, said tube containing in its interior switches type "reed" actuated by the magnet. They are designed for level measurement of liquids in containers. The electrical connections are made in a head which have flameproof and protection by enclosure type of protection.

Three variants of heads are used

- Type TTE* with component certificate CESI 08 ATEX 029U
Maximum service temperature 95 °C and 100 °C

- Type XD-A* with component certificate FTZU 03 ATEX 0074U
Maximum service temperature 100 °C, 150 °C y 200 °C

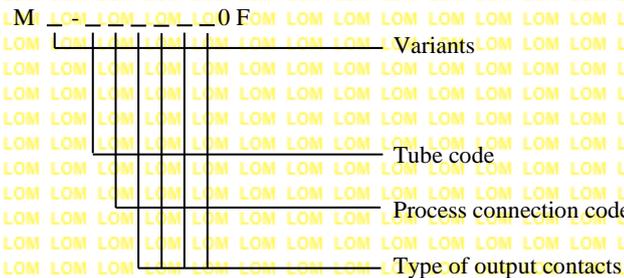
- Type XD-A*win with component certificate FTZU 03 ATEX 0074U
Enclosure with window glass when the equipment incorporates a display
Maximum service temperature 85 °C

Variants M**-*F y MS*-*F consist in direct contact outputs working at 230 V / 1 A / 60 VA.

Variants M**-*F have to head straight tube provided to connect on top of the containers.

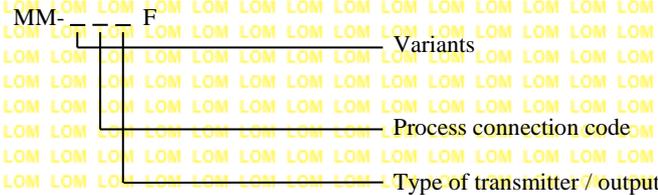
Variants MS*-*F have an elbow pipe with connection head expected to connect on the side of the containers.

Type codification:



The MM-*F variants have resistive output, or transmitter in the head with analog output 4-20 mA or digital communication.

Type codification:



The sensors are designed for process temperature up to 400 °C, but the temperature of the head shall not exceed the indicated for this head.

The process connection is made using standardized threaded or flanged.

Ambient temperature: -20 °C ≤ Ta ≤ +60 °C

The temperature class and surface temperature of the equipment depends on the process temperature:

Process temperature	≤ 80 °C	≤ 95 °C	≤ 130 °C	≤ 195 °C	≤ 290 °C	≤ 400
Temperature class	T6	T5	T4	T3	T2	T1
Surface temperature	T85 °C	T100 °C	T135 °C	T200 °C	T300 °C	T410 °C



LABORATORIO OFICIAL J. M. MADARIAGA

(A1) SCHEDULE

(A2) EC-Type Examination Certificate nr.: **LOM 14ATEX2075 X**

(A3) Description of equipment or protective system (continued):

Marking



II 1/2 G Ex d IIC T* Ga/Gb
II 2D Ex t IIIC T* °C Db

T* according process temperature

(A4) Test report nr.: **LOM 14.477 VP**

(A5) Special conditions for safe use

- The maximum temperature in the enclosure head depends on the process temperature and may not exceed the maximum service temperature indicated for the junction box

- The tube must be mechanically protected or in locations with low risk of impact.

- When the container inside is a zone 0 a degree of protection of at least IP67 must be ensured in the process connection.

(A6) Individual tests

Overpressure tests required on the head enclosures.

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in the first page of this certificate.

(A8) Descriptive documents

	<u>Rev.</u>	<u>Date</u>
- Technical description n°:		
DT0603	3	2015-07
DT0611	1	2014-03
DT0612	1	2014-03
DT0618	1	2014-07
DT0619	1	2014-09-10
DT0620	1	2014-10
IN0028	1	2014-09-15
- Drawings n°:		
DT0613R2	2	2015-07
PM1186R0	0	2014-09-23