



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment or protective systems Intended for use in Potentially Explosive Atmospheres – Directive 2014/34/EU

3 EU-Type Examination Certificate Number **LOM 09ATEX2087X** **Issue: 2**

4 Product Flow and level meters  
Types SC250 \*, SC250H \*, SM250 \*, DP65 \*, DP500 \* and LP80 \*

5 Manufacturer Tecfluid S.A.

6 Address Narcís Monturiol, 33  
08090 Sant Just Desvern (BARCELONA)  
SPAIN

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

8 El Laboratorio Oficial J.M. Madariaga (LOM), Notified Body No. 0163, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.  
The examination and test results are recorded in the confidential Report **LOM 22.204Z**

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

- Standards **EN IEC 60079-0:2018** **EN 60079-11:2012**

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:



II 1G Ex ia IIC T6...T4 Ga  
II 1D Ex ia IIIC T\* °C Da

Getafe,  
*Electronically signed by:*

Certification Committee

RCPCR 25.7/7

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# LABORATORIO OFICIAL J. M. MADARIAGA

## 13 SHEDULE

14 EU-Type Examination Certificate Number **LOM 09ATEX2087X** **Issue: 2**

### 15 Description of product

The product series of variable area flow meters and level indicators are intended to measure fluids in pipelines in potentially explosive atmospheres. They are based on a section of pipe through which a fluid passes. In variants SC250, SC250H, SM250 and LP80 by displacing a float and in variants DP65 and DP500 by moving a disk.

Adjacent to the section of the pipe the enclosure containing the flow/level reading system is placed. The displacement is measured by magnetic coupling which moves a measuring dial. The movement of the needle can act on limit switch elements or can be associated with Hall effect sensor in the variants with transmitter TH7\*.

The limit switch can be either NAMUR inductive sensors type SJ3,5-N from manufacturer Pepperl+Fuchs GmbH which are intrinsically safe with certificate PTB 99ATEX2219X, or can be free contacts considering as simple apparatus.

The enclosure of all series is the same and can be made of three different materials (aluminium, stainless steel and polypropylene). Those made from aluminium and polypropylene contain a plastic window. In the stainless steel variants this window is made of glass.

Types and variants:

SC250	Flow meter with conical float
SC250H	Flow meter with conical float and spring
SM250	Flow meter with cylindrical float
DP65	Impact disc flow meter
DP500	Impact disc flow meter
LP80	Float level meter

The equipment with two wire signal transmitter includes and electronic circuit called HALLTEC VII with four variants:

TH7	4-20 mA transmitter
TH7H	4-20 mA transmitter compatible with the HART protocol
TH7T	4-20 mA transmitter with 9 digit display for totalizing
TH7TH	4-20 mA transmitter compatible with the HART protocol and totalizer

Type codification \*\*\* \*\* \*

- \*\*\* — Types: SC250, SC250H, SM250, DP65, DP500 or LP80
- \*\* — Transmitter variant: TH7, TH7H, TH7T or TH7TH
- \* — Limit switch variant: AMD1, AMD2, AMM1 or AMM2

Specific parameters of the type of protection:

With transmitter TH7* Not encapsulated	With transmitter TH7* Encapsulated	AM* sensors	Incorporating micro-switches	
Ex ia IIC T4 Ga	Ex ia IIC T6 Ga Ex ia IIIC T <sub>200</sub> 85 °C Da Ex ia IIIC T <sub>200</sub> 90 °C Da	Ex ia IIC T6 Ga Ex ia IIIC T* Da	Ex ia IIC T6 Ga	Ex ia IIIC T135 °C Da
<i>Ui:</i> 30 V <i>Ii:</i> 100 mA <i>Ci:</i> 57.3 nF <i>Li:</i> 0 <i>Pi:</i> (*) W	<i>Ui:</i> 30 V <i>Ii:</i> 100 mA <i>Ci:</i> 57.3 nF <i>Li:</i> 0 <i>Pi:</i> (*) W	Same as AM* sensors parameters	<i>Ci:</i> 0 <i>Li:</i> 0	<i>Ii:</i> 250 mA <i>Ci:</i> 0 <i>Li:</i> 0 <i>Pi:</i> (*) W

(\*) Pi depends on ambient temperature and the service temperature. This service temperature Ts includes the maximum ambient temperature +40°C (-20 °C ≤ Ta ≤ +40 °C) and any possible process temperature.



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## 13 SHEDULE

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## 15 Description of product (continued)

Temperature class assigned according to service temperature and input power

TH7* not encapsulated	TH7* encapsulated	Ts (°C)	Pi (W)
T4	T6	40	1
		60	0.8
		80	0.6

Maximum surface temperature assigned according to service temperature and input power

With transmitter TH7* Encapsulated	Ts (°C)	Pi (W)
T <sub>200</sub> 85 °C	40	1
	60	0.8
T <sub>200</sub> 90 °C	80	0.6

Maximum surface temperature assigned according to service temperature and input power

With micro-switches	Ts (°C)	Pi (W)
T135 °C	40	0.75
	60	0.68
	80	0.62

### Changes in this issue

- Update to the standard EN IEC 60079-0:2018
- Update of the type of protection specific parameters

## 16 Report LOM 22.204Z

## 17 Specific conditions of use

- The variants with aluminium enclosures shall only be installed in locations with low risk of mechanical impact.
- There is a risk of electrostatic charge due to the part of the enclosure in polypropylene and to the plastic window part. The manufacturer's safety manual shall be followed.
- In variants with TH7 transmitter programing via USB interface can only be done in safe area following the manufacturer's instructions.
- The wiring of the variants that incorporate a transmitter and inductive detector must be kept separately

## 18 Essential health and safety requirements

Met by compliance with the requirements mentioned in item 9.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission, supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.



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## 19 Drawings and Documents

Number	Sheets	Issue	Date	Description
R-ET-AV1ATEX	10	2	2022-12-28	(*) Technical Dossier
239520083	1	0	2013-11-13	Halltec VII Schematic diagram
P239520083/02	1	0	2014-01-20	Halltec VII PCB
119210053	1	1	2017-08-28	List of materials
239520083-01	2	0	2014-04-30	List of materials
P239520063/02	1	0	2009-02-11	PCB sensor Hall
P239540007/02	1	0	2009-06-12	PCB display
P239560022/02	1	0	2009-07-07	PCB sub-set AMM
228220100	2	0	2009-10-06	SC/SM/LP set and part list
228220101	2	0	2009-10-06	SC-SM-LP + 1 AMM set and part list
228220102	2	0	2009-10-06	SC-SM-LP + 2 AMM set and part list
228220103	2	0	2009-10-06	SC-SM-LP + 1 AMD set and part list
228220104	2	0	2009-10-06	SC-SM-LP + 2 AMD set and part list
P228220105/00	2	0	2009-10-06	SC-SM-LP + TH set and part list
P228220111/00	2	0	2009-10-06	SC-SM-LP + TH set and part list
R-MI- SC250	64	10	2022-12	(*) Series SC250 Instruction Manual
R-MI- DP	48	8	2022-12	(*) Series DP Instruction Manual
R-MI- LP	48	7	2022-12	(*) Series LP Instruction Manual

Note: An \* is included before the title of documents that are new or revised.

## 20 History of variations

Issue	Date	Report number	Description
0	2009-12-03	LOM 09.331XP	First certificate
1	2016-11-08	LOM 16.136QP	<ul style="list-style-type: none"> <li>- Variants integrating transmitter are modified. Transmitter HALLTEC VII replaces HALLTEC V.</li> <li>- There are changes in components and the programming system.</li> <li>- Update to the latest edition of the standards.</li> <li>- Update the scope to include dust explosive atmospheres Group IIIC.</li> <li>- Specific conditions of use are updated.</li> </ul>