

LABORATORIO OFICIAL J. M. MADARIAGA



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)

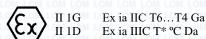
SPAIN

- 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.

- 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.
- 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.
- The marking of the product shall include the following:



Getafe,

Electronically signed by:

Certification Committee

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15 <u>Description of product</u>

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

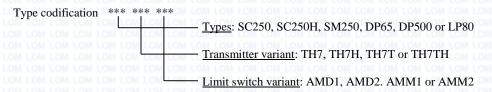
DP65 Impact disc flow meter DP500 Impact disc flow meter LP80 Float level meter

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



Specific parameters of the type of protection:

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

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



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15 Description of product (continued)

Temperature class assigned according to service temperature and input power

TH7* not encapsulated	TH7* encapsulated	om Lon Ts (°C) in Lon	OM LOW LOW Pi (W) OM LOW LOW
OM LOW LOW LOW LOW LOW LOW	IM LOW LOW LOW LOW LOW LOW L	40	TOW FOW FOW FOW FOW FOW
ом том том тТ4 ом том том	Т6	60	0.8
OM LOW LOW LOW LOW LOW LOW	M LOM LOM LOM LOM LOM LOM L	80	0.6

Maximum surface temperature assigned according to service temperature and input power

With transmitter TH7* Encapsulated ONLOW ONLOW ONLOW	LOM LO	Ts (°C)	om low low Pi (W) om low low
OM LOW	LOW TO	40	YOM TOW TOW TOW TOW TOW
The control of the c	LOM LO	60	0.8
ON LONGON LONGON LONGON TONGON LONGON	LOM LO	80	OM LOW LOW 0.6

Maximum surface temperature assigned according to service temperature and input power

With micro-switches	Ts (°C)	ow ow Pi (W)
OW FOW FOW FOW FOW FOW FOW FOW FOW FOW F	om Low 40 om Low	0.75
T135 ℃	60	0.68
OM LOM LOM LOM LOM LOM LOM LOM LOM LOM L	om Low 80 on Low	OM LOW LOW 0.62 OM LOW LOW

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 <u>Essential health and safety requirements</u>

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 <u>Drawings and Documents</u>

Number	Sheets	Issue	Date	Description ON
R-ET-AV1ATEX	10	OM 20M	2022-12-28	(*) Technical Dossier OM LON
239520083	w row raw r	0	2013-11-13	Halltec VII Schematic diagram
P239520083/02	M LOW LAW I	0	2014-01-20	Halltec VII PCB
119210053	м дом д4м д	ом 11ом	2017-08-28	List of materials ON TON TON TON TON TON TON TON TON
239520083-01	M LO 1 2 1	0	2014-04-30	List of materials
P239520063/02	M LOW LAW I	0	2009-02-11	PCB sensor Hall
P239540007/02	M LOW LAW I	0	2009-06-12	PCB display
P239560022/02	M LOW LAM L	0	2009-07-07	PCB sub-set AMM
228220100	M LO II L2M L	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	M LO M L2M L	0 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 <u>History of variations</u>

Issue	Date	Report number	Description ON TON TON TON TON TON TON TON TON TON
0	2009-12-03	LOM 09.331XP	First certificate
LOM LO	2016-11-08	LOM 16.136QP	- Variants integrating transmitter are modified. Transmitter HALLTEC VII replaces HALLTEC V.
N LOM LO	OM LOW LOW LO	LOM LOM LOM LOM	- There are changes in components and the programming system Update to the latest edition of the standards.
M LOM LO	OM LOW LOW LO	N LOM LOM LOM LOM N LOM LOM LOM LOM N LOM LOM LOM LOM	 Update the scope to include dust explosive atmospheres Group IIIC. Specific conditions of use are updated.