



# 1 TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective systems intended for use in Potentially  
Explosive Atmospheres - Directive 94/9/EC

3 Type Examination Certificate No: FM08ATEX0038X

4 Equipment or protective system: FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ /FEH5\_\_  
(Type Reference and Name) HygienicMaster Electromagnetic Flowmeters and FET3\_\_  
/ FET5\_\_ Transmitters

5 Name of Applicant: ABB Automation Products GmbH

6 Address of Applicant: Dransfelder Straße 2  
D-37079 Göttingen  
GERMANY

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

8 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3030760EC dated 18<sup>th</sup> December, 2008

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012, EN 60079-11:2012, EN 60079-15:2010, and EN 60529:1991 + A1:2000.

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 Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process 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:



**FET325/FET525 - Transmitter Only**

II 3 G Ex nA ic mc IIC T4...T3 Gc Ta = -40°C to +60°C; FISCO+  
IP65 and IP67 when Option n = 1 or 4  
\* when option q = E or F

**FET325/FET525 - Transmitter Only**

II 3 G Ex nA nC mc IIC T4...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4

**Mick Gower**  
Certification Manager, FM Approvals Ltd.

Issue date: 29<sup>th</sup> February 2016

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS  
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: [atex@fmapprovals.com](mailto:atex@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

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



**FET325/FET525 – Transmitter Only**

II 3 G Ex nA nC IIC T4...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4  
When option u = H1

**FEH315/FEH515**

II 3 G Ex nA nC ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
IP65 and IP67 when Option n = 1 or 4  
+ when option q = E or F

**FEH315/FEH515**

II 3 G Ex nA nC mc IIC T4...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4

**FEH315/FEH515**

II 3 G Ex nA mc IIC T4...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4  
When option u = H1

**FEP315/FEP515**

II 3 G Ex nA nC ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
IP65 and IP67 when Option n = 1 or 4  
+ when option q = E or F

**FEP315/FEP515**

II 3 G Ex nA nC IIC T4...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4

**FEH325/FEH525**

II 3 G Ex nA IIC T6...T3 Gc Ta = -40°C to +60°C  
IP65 and IP67 when Option n = 1 or 4; IP65. IP67 and IP68 when option n= 2 or 3.

**FEP325/FEP525**

II 3 G Ex nA IIC T6...T3 Gc Ta = -40°C to +60°C; IP6\*.  
IP65 and IP67 when Option n = 1 or 4; IP65. IP67 and IP68 when option n= 2 or 3.

- 13 **Description of Equipment or Protective System:**

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are series of electromagnetic flowmeters. The electronics enclosure is a cylindrical stainless steel or aluminium enclosure identified as a Type 3, a dual compartment rectangular enclosure identified as the Field Housing or a single compartment a rectangular housing identified as a Type 4.

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are both available as integral and remote designs. In the case of the remote version an optional pre-amplifier can be located on the Primary. A high process temperature version is available and uses a 100 mm stand-off between the Primary and the electronics or remote connection facilities.

The FET3\_\_ /FET5\_\_ is a separate transmitter for use with the ProcessMaster or HygienicMaster sensors. This is based on the housings and electronics used in the FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster flowmeters.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

The sensor is available in two different versions: Process Sensor and Hygienic Sensor. The Process Sensor is available in meter size DN3 to DN2000, the Hygienic Sensor is available in meter size DN3 to DN100. The medium temperature range for the Hygienic Sensor and the medium temperature range for the Process Sensor are -40°C to 130°C for the normal temperature version and -40°C to +180°C for the high temperature version. The FEP sensor is also available in low pressure and high pressure variants.

## Electrical Ratings:

100 ... 230 V (-15/+10%) AC:

24 V (- 30/+10%) AC:

24 V (- 30/+30%) DC, Ripple: < 5 %. This is identified by option "p".

		Operating Value	
		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
<b>FEP_15 ... (M)</b> <b>FEH_15 ... (M)</b> <b>FET_25 ... (M)</b>			
<b>Current Output 1</b> active/ passive	Terminal 31/32	30	30
<b>Digital Output</b> DO2 passive	Terminal 41/42	30	220
<b>Digital Output</b> DO1 active/ passive	Terminal 51/52	30	220
<b>Digital Input</b> passive	Terminal 81/82	30	10

<b>FEP_15...(M)</b> <b>FEH_15...(M)</b> <b>FET_25...(M)</b> <b>PA/FF communication</b>		FNICO					
		U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	C <sub>ipa</sub>	L <sub>i</sub>
		[V]	[mA]	[mW]	[nF]	[nF]	[uH]
<b>Fieldbus</b> Passive	Terminal 97/98	60	500	7000	1	1	5

		Operating Value	
<b>PA/FF communication</b>		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
<b>Pulse</b> <b>Output</b> DO2 Passive	Terminal 41/42	30	220

The following options available are:

**FET325jk0Mnopqr.u Transmitter**

**FET525jk0Mnopqr.u Transmitter**

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B

p = Power supply; 1, 2, 3, or 4

q = Input and output signal type; A, B, C, D, E, or F

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

u = Transmitter housing design; H1, H2 or H4

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

**FEH315abcdefghijklm0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**  
**FEH515abcdefghijklm0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100  
b = liner material: A, P or T  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W  
e = Grounding accessories; 1, or 2  
f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters  
g = Process connection material; any single character  
h = Usage certifications; any single character  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; any single character  
n = Protection Class: 1, or 4  
o = Cable Conduits; A, or B  
p = Power supply; 1, 2, 3, or 4  
q = Input and output signal type; A, B, C, D, E, or F  
r = Configuration type/Diagnostics; 1, 2, 3, or 4.  
t = Laid length; any two characters.  
u = Transmitter housing design; H1, H2 or H4

**FEP315abcdefghijklm0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**  
**FEP515abcdefghijklm0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.  
b = liner material: A, E, F, H, M, P, S, U, D, T or W  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W  
e = Grounding accessories; 1, 2, 3, or 4.  
f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9.  
g = Process connection material; any single character  
h = Usage certifications; any single character  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; any single character  
n = Protection Class: 1 or 4  
o = Cable Conduits; A, or B  
p = Power supply; 1, 2, 3, or 4  
q = Input and output signal type; A, B, C, D, E, or F  
r = Configuration type/Diagnostics; 1, 2, 3, or 4.  
t = Laid length; any two characters.  
u = Transmitter housing design; H1, H2 or H4.  
w = Sensor housing material; SMA or SMS

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

**FEP325abcdefghijklmnopqrstuvwxyzYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

**FEP525abcdefghijklmnopqrstuvwxyzYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material: A, E, F, H, M, P, S, U, D, T or W

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9

g = Process connection material; any single character

h = Usage certifications; any single character

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

l = Signal Cable Length and Type; any single character

n = Protection Class: 1, 2, 3, or 4

o = Cable Conduits; A, or B

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

s = Accessories: AY or AP

t = Laid length; any two characters.

v = Connection Box material; UTA or UTS

w = Sensor Housing Material; SMA or SMS

**FEH325abcdefghijklmnopqrstuvwxyzYr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

**FEH525abcdefghijklmnopqrstuvwxyzYr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100

b = Liner material: A, P or T

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, or 2

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two Characters.

g = Process connection material; any single character

h = Usage certifications; any single character

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

l = Signal Cable Length and Type; any single character

n = Protection Class; 1, 2, 3, or 4

o = Cable Conduits; A, or B

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

s = Accessories; AY or AP

t = Laid length; any two characters.

## 14 Special Conditions for Safe Use:

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

**15 Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

**16 Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

**17 Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the FM Approvals Ltd.

**18 Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
18 <sup>th</sup> December 2008	Original Issue.
14 <sup>th</sup> January 2009	<u>Supplement 1:</u> Report Reference: 3030760EC Supplement 1 dated 14 <sup>th</sup> January, 2009. Description of the Change: Ingress protection ratings increased to IPx7 and IPx8
24 <sup>th</sup> July 2009	<u>Supplement 2:</u> Report Reference: 3030760EC Supplement 2 dated 24 <sup>th</sup> July, 2009. Description of the Change: Addition of model code options and IP ratings.
7 <sup>th</sup> September 2009	<u>Supplement 3:</u> Report Reference: 3030760EC Supplement 3 dated 7 <sup>th</sup> September, 2009. Description of the Change: Addition of FET325 with Field Housing
16 <sup>th</sup> November 2009	<u>Supplement 4:</u> Report Reference: 3030760EC Supplement 4 dated 16 <sup>th</sup> November, 2009 Description of the Change: Addition of elastomer liner; option b = M
31 <sup>st</sup> August 2010	<u>Supplement 5:</u> Report Reference: 3030760EC Supplement 5 dated 31 <sup>st</sup> August, 2010. Description of the Change: 1) Addition of FEP5**, FEH5** and FET5** 2) Adding meter sizes DN1050, DN1100 and DN1500 3) Adding liner material 4) Adding electrode materials 5) Adding types of process connections 6) Adding types of protection class for climatic resistance 7) Adding intrinsically safe signal inputs and outputs 8) Adding types of flowmeter laid length

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

Date	Description
17 <sup>th</sup> September 2010	<p><u>Supplement 6:</u> Report Reference: 3030760EC Supplement 6 dated 16<sup>th</sup> September, 2010 Description of the Change:</p> <ol style="list-style-type: none"> <li>1) Addition of alternate material for the Type 3 Transmitter Housing</li> <li>2) Addition of an alternate line bushing</li> <li>3) The use of selected film coating as applicable.</li> <li>4) Addition of Profibus and Foundation Fieldbus (PA/FF) communications options.</li> </ol>
11 <sup>th</sup> January 2011	<p><u>Supplement 7:</u> Report Reference: 3030760rev101103 dated 15<sup>th</sup> December, 2010. Description of the Change:</p> <ol style="list-style-type: none"> <li>1. Modification of electronic circuit boards.</li> <li>2. Addition of the alternate manufacturing location in Shanghai, China</li> </ol>
18 <sup>th</sup> July 2011	<p><u>Supplement 8:</u> Report Reference: 3030760rev110120 dated 15<sup>th</sup> July, 2011. Description of the Change:</p> <ol style="list-style-type: none"> <li>1. Addition of two alternative liner options.</li> <li>2. An alternative manufacturer for the Terminal Box high version.</li> <li>3. An alternate manufacturer for the I/O Transformers.</li> <li>4. Removal of components on the IR-Diode circuit</li> </ol>
9 <sup>th</sup> January 2012	<p><u>Supplement 9:</u> Report Reference: 3030760rev111025 dated 13<sup>th</sup> December, 2011. Description of the Change: Alternative materials for the coils and liner DN450 to DN2000</p>
4 <sup>th</sup> December 2012	<p><u>Supplement 10:</u> Report Reference: 3034391rev120113 dated 8<sup>th</sup> November, 2012. Description of the Change: Addition of Type 4 enclosure option</p>
9 <sup>th</sup> July 2013	<p><u>Supplement 11:</u> Report Reference: 3040495rev130429 dated 2<sup>nd</sup> July 2013 Description of the Change: Update to Type 4 Remote Housing.</p>
07 <sup>th</sup> March 2014	<p><u>Supplement 12:</u> Report Reference: 3050589 dated 27<sup>th</sup> February 2014 Description of the Change:</p> <ol style="list-style-type: none"> <li>1. Addition of LP-MAG and HP-MAG versions.</li> <li>2. Addition of stainless steel transmitter enclosure option</li> <li>3. Update to the European standards used.</li> </ol>
15 <sup>th</sup> June 2015	<p><u>Supplement 13:</u> Report Reference: 3030760rev141218 dated 09<sup>th</sup> June 2015 Description of the Change: Correction to drawing list.</p>
29 <sup>th</sup> February 2016	<p><u>Supplement 14:</u> Report Reference: RR203355 dated 26<sup>th</sup> February 2016 Description of the Change:</p> <ol style="list-style-type: none"> <li>1. Updated EPL protection levels.</li> <li>2. Updated IP code for the FEH325/525 and FEP325/525.</li> <li>3. Added three digit diameters 550 and 650 to the FEP325/FEP525.</li> <li>4. Revised option "g" for the FEP315/FEP515 to read – "any single character".</li> <li>5. Updated option "t" to read – "any two characters".</li> <li>6. Updated option "u" for the FEP315/FEP515 to include option "H4".</li> <li>7. Changed electrical parameter in schedule from FEH_25 to FET_25.</li> <li>8. Changed electrical parameter under FA/FF (Pulse Output Terminal) from 14/42 to 41/42.</li> </ol>

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# 1 TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

3 Type Examination Certificate No: FM08ATEX0038X

4 Equipment or protective system: FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ /FEH5\_\_ HygienicMaster Electromagnetic Flowmeters and FET3\_\_ /FET5\_\_ Transmitters

5 Name of Applicant: ABB Automation Products GmbH

6 Address of Applicant: Dransfelder Straße 2  
D-37079 Göttingen  
GERMANY

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

8 FM Approvals Europe Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3030760EC dated 18<sup>th</sup> December, 2008

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012,  
EN 60079-18:2015+A1:2017 and EN 60529:1991+A1:2000+A2:2013.

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 Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process 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:



**FET325/FET525 - Transmitter Only**

II 3 G Ex ec ic mc IIC T4...T3 Gc Ta = -40°C to +60°C; FISCO+  
+ when option q = E or F

**FET325/FET525 - Transmitter Only**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

 Digitally signed by  
Richard Zammitt  
DN: cn=Richard Zammitt,  
o=FM Approvals  
Europe Limited,  
email=richard.zammitt@fmaprovals.com, c=IE

**Richard Zammitt**  
Certification Manager, FM Approvals Europe Ltd.

Issue date: 17<sup>th</sup> June 2019

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

029F ATEX (Mar/2019)

Page 1 of 6



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

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



**FET325/FET525 – Transmitter Only**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C  
When option u = H1

**FEH315/FEH515**

II 3 G Ex ec ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
\* when option q = E or F

**FEH315/FEH515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

**FEH315/FEH515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C  
When option u = H1

**FEP315/FEP515**

II 3 G Ex ec ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
\* when option q = E or F

**FEP315/FEP515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

**FEH325/FEH525**

II 3 G Ex ec IIC T6...T3 Gc Ta = -40°C to +60°C

**FEP325/FEP525**

II 3 G Ex ec IIC T6...T3 Gc Ta = -40°C to +60°C

- 13 **Description of Equipment or Protective System:**

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are series of electromagnetic flowmeters. The electronics enclosure is a cylindrical stainless steel or aluminium enclosure identified as a Type 3, a dual compartment rectangular enclosure identified as the Field Housing or a single compartment a rectangular housing identified as a Type 4.

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are both available as integral and remote designs. In the case of the remote version an optional pre-amplifier can be located on the Primary. A high process temperature version is available and uses a 100 mm stand-off between the Primary and the electronics or remote connection facilities.

The FET3\_\_ /FET5\_\_ is a separate transmitter for use with the ProcessMaster or HygienicMaster sensors. This is based on the housings and electronics used in the FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster flowmeters.

The sensor is available in two different versions: Process Sensor and Hygienic Sensor. The Process Sensor is available in meter size DN3 to DN2000, the Hygienic Sensor is available in meter size DN3 to DN100. The medium temperature range for the Hygienic Sensor and the medium temperature range for the Process Sensor are -40°C to 130°C for the normal temperature version and -40°C to +180°C for the high temperature version. The FEP sensor is also available in low pressure and high pressure variants.

The enclosures have an ingress protection rating of IP65 and IP67 when Option n = 1 or 4, or IP65, IP67 and IP68 when option n= 2 or 3.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

## Electrical Ratings:

100 ... 230 V (-15/+10%) AC:

24 V (- 30/+10%) AC:

24 V (- 30/+30%) DC, Ripple: < 5 %. This is identified by option "p".

		Operating Value	
		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
FEP_15 ... (M) FEH_15 ... (M) FET_25 ... (M)			
Current Output 1 active/ passive	Terminal 31/32	30	30
Digital Output DO2 passive	Terminal 41/42	30	220
Digital Output DO1 active/ passive	Terminal 51/52	30	220
Digital Input passive	Terminal 81/82	30	10

FEP_15...(M) FEH_15...(M) FET_25...(M) PA/FF communication		FNICO					
		U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	C <sub>ipa</sub>	L <sub>i</sub>
		[V]	[mA]	[mW]	[nF]	[nF]	[uH]
Fieldbus Passive	Terminal 97/98	60	500	7000	1	1	5

		Operating Value	
PA/FF communication		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
Pulse Output DO2 Passive	Terminal 41/42	30	220

The following options available are:

**FET325jk0Mnopqr.u Transmitter**

**FET525jk0Mnopqr.u Transmitter**

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B

p = Power supply; 1, 2, 3, or 4

q = Input and output signal type; A, B, C, D, E, or F

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

u = Transmitter housing design; H1, H2 or H4

**FEH315abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

**FEH515abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100

b = liner material: A, P or T

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, or 2

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters

g = Process connection material; any single character

h = Usage certifications; any single character

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

- i = Calibration type; any single character
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; any single character
- n = Protection Class: 1, or 4
- o = Cable Conduits; A, or B
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- t = Laid length; any two characters.
- u = Transmitter housing design; H1, H2 or H4

**FEP315abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

**FEP515abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U, D, T or W
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9.
- g = Process connection material; any single character
- h = Usage certifications; any single character
- i = Calibration type; any single character
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; any single character
- n = Protection Class: 1 or 4
- o = Cable Conduits; A, or B
- p = Power supply; 1, 2, 3, or 4
- q = Input and output signal type; A, B, C, D, E, or F
- r = Configuration type/Diagnostics; 1, 2, 3, or 4.
- t = Laid length; any two characters.
- u = Transmitter housing design; H1, H2 or H4.
- w = Sensor housing material; SMA or SMS

**FEP325abcdefghijklmnopqrstuvwxyz0MnoYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

**FEP525abcdefghijklmnopqrstuvwxyz0MnoYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

- a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.
- b = liner material: A, E, F, H, M, P, S, U, D, T or W
- c = Electrode design; 1, 2, 5, or 6.
- d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W
- e = Grounding accessories; 1, 2, 3, or 4.
- f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9
- g = Process connection material; any single character
- h = Usage certifications; any single character
- i = Calibration type; any single character
- j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4
- k = Name plate language and type; any single character
- l = Signal Cable Length and Type; any single character
- n = Protection Class: 1, 2, 3, or 4
- o = Cable Conduits; A, or B

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories: AY or AP  
t = Laid length; any two characters.  
v = Connection Box material; UTA or UTS  
w = Sensor Housing Material; SMA or SMS

**FEH325abcdefghijklMno0Yr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

**FEH525abcdefghijklMno0Yr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100  
b = Liner material: A, P or T  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W  
e = Grounding accessories; 1, or 2  
f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two Characters.  
g = Process connection material; any single character  
h = Usage certifications; any single character  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; any single character  
l = Signal Cable Length and Type; any single character  
n = Protection Class; 1, 2, 3, or 4  
o = Cable Conduits; A, or B  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories; AY or AP  
t = Laid length; any two characters.

## 14 **Special Conditions for Safe Use:**

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

## 15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

## 17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the FM Approvals Europe Ltd. These drawings are maintained under Project ID 3034391.

## 18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
18 <sup>th</sup> December 2008	Original Issue.
14 <sup>th</sup> January, 2009 to 9 <sup>th</sup> January, 2012	<u>Supplement 1 to 9:</u> See certificate dated 9 <sup>th</sup> January, 2012.
4 <sup>th</sup> December 2012	<u>Supplement 10:</u> Report Reference: 3034391rev120113 dated 8 <sup>th</sup> November, 2012. Description of the Change: Addition of Type 4 enclosure option
9 <sup>th</sup> July 2013	<u>Supplement 11:</u> Report Reference: 3040495rev130429 dated 2 <sup>nd</sup> July 2013 Description of the Change: Update to Type 4 Remote Housing.
07 <sup>th</sup> March 2014	<u>Supplement 12:</u> Report Reference: 3050589 dated 27 <sup>th</sup> February 2014 Description of the Change: 1. Addition of LP-MAG and HP-MAG versions. 2. Addition of stainless steel transmitter enclosure option 3. Update to the European standards used.
15 <sup>th</sup> June 2015	<u>Supplement 13:</u> Report Reference: 3030760rev141218 dated 09 <sup>th</sup> June 2015 Description of the Change: Correction to drawing list.
29 <sup>th</sup> February 2016	<u>Supplement 14:</u> Report Reference: RR203355 dated 26 <sup>th</sup> February 2016 Description of the Change: 1. Updated EPL protection levels. 2. Updated IP code for the FEH325/525 and FEP325/525. 3. Added three digit diameters 550 and 650 to the FEP325/FEP525. 4. Revised option "g" for the FEP315/FEP515 to read – "any single character". 5. Updated option "t" to read – "any two characters". 6. Updated option "u" for the FEP315/FEP515 to include option "H4". 7. Changed electrical parameter in schedule from FEH_25 to FET_25. 8. Changed electrical parameter under FA/FF (Pulse Output Terminal) from 14/42 to 41/42.
14 <sup>th</sup> October 2016	<u>Supplement 15:</u> Report Reference: 3055837 dated 19 <sup>th</sup> July 2016 Description of the Change: Addition of Trade Agent related documents to controlled drawing list. Certificate updates related to Directive 2014/34/EU.
17 <sup>th</sup> June 2019	<u>Supplement 16:</u> Report Reference: RR218336 dated 5 <sup>th</sup> June 2019 Description of the Change: Update to the standards used, EN IEC 60079-0:2018, EN 60079-7:2015+A1:2018 and EN 60529:1991+A1:2000+A2:2013 Certificate transferred from FM Approvals Ltd., Notified Body No. 1725, to FM Approvals Europe Ltd., Notified Body No. 2809.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# 1 TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

3 Type Examination Certificate No: FM08ATEX0038X

4 Equipment or protective system: FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ /FEH5\_\_ HygienicMaster Electromagnetic Flowmeters and FET3\_\_ /FET5\_\_ Transmitters

5 Name of Applicant: ABB Automation Products GmbH

6 Address of Applicant: Dransfelder Straße 2  
D-37079 Göttingen  
GERMANY

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

8 FM Approvals Europe Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3030760EC dated 18<sup>th</sup> December 2008

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012,  
EN 60079-18:2015+A1:2017 and EN 60529:1991+A1:2000+A2:2013.

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 Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process 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:




**FET325/FET525 - Transmitter Only**

II 3 G Ex ec ic mc IIC T4...T3 Gc Ta = -40°C to +60°C; FISCO+  
\* when option q = E or F

**FET325/FET525 - Transmitter Only**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

 Digitally signed by  
Richard Zammitt  
DN: cn=Richard  
Zammitt, o, ou=FM  
Approvals Europe  
Limited,  
email=richard.zammitt@  
fmaprovals.com, c=IE

**Richard Zammitt**  
Certification Manager, FM Approvals Europe Ltd.

Issue date: 06<sup>th</sup> January 2020

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

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



**FET325/FET525 – Transmitter Only**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C  
When option u = H1

**FEH315/FEH515**

II 3 G Ex ec ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
\* when option q = E or F

**FEH315/FEH515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

**FEH315/FEH515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C  
When option u = H1

**FEP315/FEP515**

II 3 G Ex ec ic mc IIC T6...T3 Gc Ta = -40°C to +60°C: FISCO+  
\* when option q = E or F

**FEP315/FEP515**

II 3 G Ex ec mc IIC T4...T3 Gc Ta = -40°C to +60°C

**FEH325/FEH525**

II 3 G Ex ec IIC T6...T3 Gc Ta = -40°C to +60°C

**FEP325/FEP525**

II 3 G Ex ec IIC T6...T3 Gc Ta = -40°C to +60°C

- 13 **Description of Equipment or Protective System:**

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are series of electromagnetic flowmeters. The electronics enclosure is a cylindrical stainless steel or aluminium enclosure identified as a Type 3, a dual compartment rectangular enclosure identified as the Field Housing or a single compartment a rectangular housing identified as a Type 4.

The FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster are both available as integral and remote designs. In the case of the remote version an optional pre-amplifier can be located on the Primary. A high process temperature version is available and uses a 100 mm stand-off between the Primary and the electronics or remote connection facilities.

The FET3\_\_ /FET5\_\_ is a separate transmitter for use with the ProcessMaster or HygienicMaster sensors. This is based on the housings and electronics used in the FEP3\_\_ /FEP5\_\_ ProcessMaster, and FEH3\_\_ / FEH5\_\_ HygienicMaster flowmeters.

The sensor is available in two different versions: Process Sensor and Hygienic Sensor. The Process Sensor is available in meter size DN3 to DN2000, the Hygienic Sensor is available in meter size DN3 to DN100. The medium temperature range for the Hygienic Sensor and the medium temperature range for the Process Sensor are -40°C to 130°C for the normal temperature version and -40°C to +180°C for the high temperature version. The FEP sensor is also available in low pressure and high pressure variants.

The enclosures have an ingress protection rating of IP65 and IP67 when Option n = 1 or 4, or IP65, IP67 and IP68 when option n= 2 or 3.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

## Electrical Ratings:

100 ... 230 V (-15/+10%) AC:

24 V (- 30/+10%) AC:

24 V (- 30/+30%) DC, Ripple: < 5 %. This is identified by option "p".

FEP_15 ... (M) FEH_15 ... (M) FET_25 ... (M)		Operating Value	
		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
Current Output 1 active/ passive	Terminal 31/32	30	30
Digital Output DO2 passive	Terminal 41/42	30	220
Digital Output DO1 active/ passive	Terminal 51/52	30	220
Digital Input passive	Terminal 81/82	30	10

FEP_15...(M) FEH_15...(M) FET_25...(M) PA/FF communication		FNICO					
		U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub>	C <sub>ipa</sub>	L <sub>i</sub>
		[V]	[mA]	[mW]	[nF]	[nF]	[uH]
Fieldbus Passive	Terminal 97/98	60	500	7000	1	1	5

		Operating Value	
PA/FF communication		U <sub>N</sub> [V]	I <sub>N</sub> [mA]
Pulse Output DO2 Passive	Terminal 41/42	30	220

The following options available are:

**FET325jk0Mnopqr.u Transmitter**

**FET525jk0Mnopqr.u Transmitter**

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B

p = Power supply; 1, 2, 3, or 4

q = Input and output signal type; A, B, C, D, E, or F

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.

u = Transmitter housing design; H1, H2 or H4

**FEH315abcdefghijk0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

**FEH515abcdefghijk0Mnopqr.AY.t.u HygienicMaster Electromagnetic Flowmeter – Integral version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100

b = liner material: A, P or T

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, or 2

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters

g = Process connection material; any single character

h = Usage certifications; any single character

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

- i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; any single character  
n = Protection Class: 1, or 4  
o = Cable Conduits; A, or B  
p = Power supply; 1, 2, 3, or 4  
q = Input and output signal type; A, B, C, D, E, or F  
r = Configuration type/Diagnostics; 1, 2, 3, or 4.  
t = Laid length; any two characters.  
u = Transmitter housing design; H1, H2 or H4

**FEP315abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

**FEP515abcdefghijklmnopqrstuvwxyz0Mnopqr.AY.t.u.w ProcessMaster Electromagnetic Flowmeter – Integral version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material: A, E, F, H, M, P, S, U, D, T or W

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9.

g = Process connection material; any single character

h = Usage certifications; any single character

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

n = Protection Class: 1 or 4

o = Cable Conduits; A, or B

p = Power supply; 1, 2, 3, or 4

q = Input and output signal type; A, B, C, D, E, or F

r = Configuration type/Diagnostics; 1, 2, 3, or 4.

t = Laid length; any two characters.

u = Transmitter housing design; H1, H2 or H4.

w = Sensor housing material; SMA or SMS

**FEP325abcdefghijklmnopqrstuvwxyz0MnoYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

**FEP525abcdefghijklmnopqrstuvwxyz0MnoYr.s.t.v.w ProcessMaster Electromagnetic Flowmeter –Remote version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 760, 800, 900, 001, 051, 101, 201, 401, 505, 601, 801, or 002.

b = liner material: A, E, F, H, M, P, S, U, D, T or W

c = Electrode design; 1, 2, 5, or 6.

d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W

e = Grounding accessories; 1, 2, 3, or 4.

f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two characters or A7, A8, A9, H7, H8 or H9

g = Process connection material; any single character

h = Usage certifications; any single character

i = Calibration type; any single character

j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4

k = Name plate language and type; any single character

l = Signal Cable Length and Type; any single character

n = Protection Class: 1, 2, 3, or 4

o = Cable Conduits; A, or B

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**



# SCHEDULE

to Type Examination Certificate No. FM08ATEX0038X

r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories: AY or AP  
t = Laid length; any two characters.  
v = Connection Box material; UTA or UTS  
w = Sensor Housing Material; SMA or SMS

**FEH325abcdefghijklMno0Yr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

**FEH525abcdefghijklMno0Yr.s.t. HygienicMaster Electromagnetic Flowmeter –Remote version**

a = 3 digit number representing the bore diameter; 003, 004, 006, 008, 010, 015, 020, 025, 032, 040, 050, 065, 080, or 100  
b = Liner material: A, P or T  
c = Electrode design; 1, 2, 5, or 6.  
d = Measuring electrode material; A, C, D, E, F, G, H, J, K, N, R, S, T, or W  
e = Grounding accessories; 1, or 2  
f = Process connection type; Up to PN100/Cl600 or equivalent pressure rating any two Characters.  
g = Process connection material; any single character  
h = Usage certifications; any single character  
i = Calibration type; any single character  
j = Temperature range of sensor/Ambient temperature range; 1, 2, 3, or 4  
k = Name plate language and type; any single character  
l = Signal Cable Length and Type; any single character  
n = Protection Class; 1, 2, 3, or 4  
o = Cable Conduits; A, or B  
r = Configuration type/Diagnostics; 0, 1, 2, 3, or 4.  
s = Accessories; AY or AP  
t = Laid length; any two characters.

## 14 Special Conditions for Safe Use:

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.

## 15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 Test and Assessment Procedure and Conditions:

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# **SCHEDULE**

to Type Examination Certificate No. FM08ATEX0038X

## **17 Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the FM Approvals Europe Ltd. These drawings are maintained under Project ID 3034391.

## **18 Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
18 <sup>th</sup> December 2008	Original Issue.
14 <sup>th</sup> January, 2009 to 09 <sup>th</sup> January, 2012	<u>Supplement 1 to 9:</u> See certificate dated 09 <sup>th</sup> January 2012.
04 <sup>th</sup> December 2012	<u>Supplement 10:</u> Report Reference: 3034391rev120113 dated 08 <sup>th</sup> November 2012. Description of the Change: Addition of Type 4 enclosure option
09 <sup>th</sup> July 2013	<u>Supplement 11:</u> Report Reference: 3040495rev130429 dated 02 <sup>nd</sup> July 2013. Description of the Change: Update to Type 4 Remote Housing.
07 <sup>th</sup> March 2014	<u>Supplement 12:</u> Report Reference: 3050589 dated 27 <sup>th</sup> February 2014. Description of the Change: 1. Addition of LP-MAG and HP-MAG versions. 2. Addition of stainless steel transmitter enclosure option 3. Update to the European standards used.
15 <sup>th</sup> June 2015	<u>Supplement 13:</u> Report Reference: 3030760rev141218 dated 09 <sup>th</sup> June 2015. Description of the Change: Correction to drawing list.
29 <sup>th</sup> February 2016	<u>Supplement 14:</u> Report Reference: RR203355 dated 26 <sup>th</sup> February 2016. Description of the Change: 1. Updated EPL protection levels. 2. Updated IP code for the FEH325/525 and FEP325/525. 3. Added three digit diameters 550 and 650 to the FEP325/FEP525. 4. Revised option "g" for the FEP315/FEP515 to read – "any single character". 5. Updated option "t" to read – "any two characters". 6. Updated option "u" for the FEP315/FEP515 to include option "H4". 7. Changed electrical parameter in schedule from FEH_25 to FET_25. 8. Changed electrical parameter under FA/FF (Pulse Output Terminal) from 14/42 to 41/42.
14 <sup>th</sup> October 2016	<u>Supplement 15:</u> Report Reference: 3055837 dated 19 <sup>th</sup> July 2016. Description of the Change: Addition of Trade Agent related documents to controlled drawing list. Certificate updates related to Directive 2014/34/EU.
17 <sup>th</sup> June 2019	<u>Supplement 16:</u> Report Reference: RR218336 dated 5 <sup>th</sup> June 2019. Description of the Change: Update to the standards used, EN IEC 60079-0:2018, EN 60079-7:2015+A1:2018 and EN 60529:1991+A1:2000+A2:2013 Certificate transferred from FM Approvals Ltd., Notified Body No. 1725, to FM Approvals Europe Ltd., Notified Body No. 2809.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# **SCHEDULE**



to Type Examination Certificate No. FM08ATEX0038X

Date	Description
06 <sup>th</sup> January 2020	Supplement 17: Report Reference: RR220973 dated 23 <sup>rd</sup> December 2019. Description of the Change: Removal of project 3034391 related documents.

FM Approvals

FM Approvals

FM Approvals

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)