

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

3 EU - Type Examination Certificate **Baseefa12ATEX0179X – Issue 7**
Number:

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **Model 8600D Vortex Flowmeter**

5 Manufacturer: **Emerson – Rosemount, Micro Motion Inc.**

6 Address: **12001 Technology Drive, Eden Prairie, MN 55344, USA**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa12ATEX0179X to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of 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 confidential Report No. **See Certificate History**

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

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

except in respect of those requirements listed at item 18 of 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. 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 :

Ex II 1 G Ex ia IIC T4 Ga (-60°C ≤ T_a ≤ +70°C)

SGS Baseefa Customer Reference No. **7305**

Project File No. **19/0148**

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa12ATEX0179X – Issue 7**

15 **Description of Product**

The Model 8600D Vortex Flowmeter is a two-wire, piezoelectric-based flowmeter designed to measure the flow of a fluid within a pipe.

It consists of a sensor board, 4-20mA HART output board, terminal board and optional Liquid Crystal Display (LCD) unit mounted within a coated aluminium alloy or stainless steel enclosure forming the transmitter assembly. This is either mounted on a stainless steel meter body or connected via a coaxial cable to a remote meter body, which contains the piezoelectric sensor. The transmitter converts the signal input to a 4-20mA HART digital output or pulse totalizer signal output.

Connection to the external circuits is achieved by the use of a 4-way terminal block within the transmitter enclosure, entry to which is gained by a threaded conduit entry point.

Input Parameters

- $U_i = 30V$
- $I_i = 185mA$
- $P_i = 1W$
- $C_i = 0$
- $L_i = 0.97mH$

16 **Report Number**

See Certificate History

17 **Specific Conditions of Use**

1. When fitted with 90V transient suppressors, the equipment is not capable of passing the 500V insulation test. This must be taken into account upon installation.
2. The enclosure may be made from aluminium alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion when located in Zone 0. The polyurethane paint finish may constitute an electrostatic hazard and must only be cleaned with a damp cloth.
3. When the equipment is installed, particular precautions must be taken to ensure, taking into account the effect of process fluid temperature, that the ambient temperature of the electrical housing of the equipment meets the marked protection type temperature range.

18 **Essential Health and Safety Requirements**

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 **Drawings and Documents**

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
08600-0101	1 to 4	AF	3/12/19	Model 8600D Intrinsically Safe Configuration, ATEX / IECEx, 4-20mA / HART

Number	Sheet	Issue	Date	Description
08800-7609	1 of 1	AB	3/26/18	Schematic Diagram Vortex LCD Board
08800-7611	1 & 2	AL	3/26/18	PCA, Vortex Shrouded, LCD Board, 2 Line
08800-7701	1 to 10	AM	10/18/17	Printed Wiring Board, Phoenix Vortex Sensor Board
08800-7703	1 & 2	AR	03/08/18	8800D HART Output Board Schematic

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
08800-5506	1 of 1	AD	7/12/17	Filter: EMI
08800-7019	1 to 5	AE	10/22/15	Coplanar Transformer I.S. 250V Spaced
08800-7020	1 to 3	AJ	7/7/15	Transformer, Vortex
08800-7022	1 to 3	AE	2/14/17	Transformer, 250V IS, Vortex
08800-7606	1 of 1	AG	02/14/17	Schematic Diagram, Vortex Terminal Board
08800-7607	1 to 3	AD	02/14/17	PCB, Vortex Terminal Blk Common Electronics
08800-7608	1 to 4	BD	2/15/17	Terminal Block Assembly
08800-7610	1 to 3	AF	08/09/17	Printed Circuit Board, LCD Board, 2 Line
08800-7700	1 to 4	AP	12/19/16	Phoenix Vortex Sensor Board
08800-7702	1 & 2	AY	12/19/16	PCA Phoenix Vortex Sensor Board
08800-7704	1 to 9	AJ	12/19/16	Printed Wiring Board Phoenix Vortex HART Output Board
08800-7705	1 & 2	AP	12/19/16	PCA, Phoenix Vortex HART Output Board

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 12.0053X, and are also associated with IECEx Certificate No's. IECEx BAS 12.0054X & IECEx BAS 17.0018X, and ATEX Certificate No's. Baseefa12ATEX0180X & Baseefa17ATEX0019X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa12ATEX0179X	8 November 2012	The release of the prime certificate. The associated test and assessment is documented in Certification Report No's GB/BAS/ExTR12.0102/00 & GB/BAS/ExTR12.0266/00.
Baseefa12ATEX0179X Issue 1	28 May 2014	This issue of the certificate permits: - i) The change of the manufacturer's address. The new address is listed on page 1 of the certificate. ii) Minor circuit and drawing changes not affecting the original assessment. The above changes are documented in Certification Report No. GB/BAS/ExTR14.0123/00 (held with IECEx Certificate No. IECEx BAS 12.0053X Iss.3).
Baseefa12ATEX0179X Issue 2	9 March 2015	This issue of the certificate permits: - i) The fitting of an alternative transformer 08800-7022 on the Vortex Sensor Board. The fitting of the alternative transformer does not affect the original assessment. ii) Minor circuit and PCB layout changes to the Vortex HART Output Board not affecting the original assessment. The above changes are documented in Certification Report No.

Certificate No.	Date	Comments
		GB/BAS/ExTR15.0055/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 10)
Baseefa12ATEX0179X Issue 3	18 February 2016	<p>This issue of the certificate permits: -</p> <ul style="list-style-type: none"> i) Minor changes to the design of the transformers fitted on the equipment not affecting the original assessment. ii) Minor PCB and drawing changes not affecting the original assessment. iii) To confirm the current design of the Model 8600D Vortex Flowmeter has been reviewed against the requirements of EN 60079-0: 2012 + A11: 2013 with respect to the differences from EN 60079-0: 2012, and none of the differences affect the equipment. The standards listed on page 1 of the certificate were updated. <p>The above changes are documented in Certification Report No. GB/BAS/ExTR16.0044/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 11)</p>
Baseefa12ATEX0179X Issue 4	5 May 2017	<p>This issue of the certificate permits minor drawing changes not affecting the original assessment.</p> <p>The above changes are documented in Certification Report No. GB/BAS/ExTR17.0041/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 12).</p>
Baseefa12ATEX0179X Issue 5	20 October 2017	<p>This issue of the certificate permits minor PCB and drawing changes not affecting the original assessment.</p> <p>The above changes are documented in Certification Report No. GB/BAS/ExTR17.0223/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 13).</p>
Baseefa12ATEX0179X Issue 6	12 February 2018	<p>This issue of the certificate permits the fitting of an alternative piezo sensor in all variants of the equipment, and the fitting of an alternative fire rated cable on remote sensor mounted variants of the equipment.</p> <p>The above changes are assessed not to affect the original assessment of the equipment, and are documented in Certification Report No. GB/BAS/ExTR17.0375/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 14), Project File No. 17/0626.</p>
Baseefa12ATEX0179X Issue 7	11 April 2019	<p>This issue of the certificate permits minor circuit and drawing changes not affecting the previous assessment.</p> <p>This issue also confirms the current design of the Model 8600D Vortex Flowmeter has been reviewed against the requirements of EN IEC 60079-0: 2018 in respect of the differences to EN 60079-0: 2012 + A11: 2013, and none of the differences affect the equipment. The standards listed on page 1 of the certificate were updated.</p> <p>The above changes are documented in Certification Report No. GB/BAS/ExTR19.0066/00 (held with IECEx Certificate No. IECEx BAS 05.0028X Iss. 15).</p>
For drawings applicable to each issue, see original of that issue.		