



Confirmation of Product Type Approval

Company Name: F-R TECNOLOGIAS DE FLUJO, S.A. DE C.V.

Address: AV. MIGUEL DE CERVANTES NO. 111 COMPLEJO INDUSTRIAL CHIHUAHUA 31136 Mexico

Product: Vortex Flow Measuring System

Model(s): 8800D

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	18-HS1745164-1-PDA-DUP	19-SEP-2019	26-JUN-2023
Manufacturing Assessment (MA)	19-MZ3685272	26-JUN-2019	24-JUL-2024
Product Quality Assurance (PQA)	NA	NA	NA

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3

Intended Service

Measure Fluid Flow in Pipelines.

Description

Flanged, Wafer, Reducer and Dual-Sensor, 0.5"-12" Line Sizes;

Ratings

Sensor Temperature Rating (standard): -40 to 450° F (-40 to 232 °C);

Pressure Rating: 1600 psi;

Output Signal: Digital HART signal - 4-20 mA;

Optional Scalable Pulse Output - 0-10 kHz;

Transistor switch closure w/ adjustable scaling up to 30 vdc;

120mA (maximum);

Digital Foundation Fieldbus Signal - Manchester-encoded digital signal;

Operating Temperature: -50 °C to 85 °C and -20 °C to 85 °C for flowmeters with local indicators;

Power Supply: HART Analog - 10.8 to 30 vdc;

Foundation fieldbus: 9 to 32 vdc, 17.8 mA (nominal) 20mA (maximum).

Hazardous Area Suitability:

Intrinsically Safe for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G: Temperature Class T4 Ta=70°C; Class 1, Zone 0 AEx ia IIC T4 Ta=70°C; Nonincendive for use in Class 1, Division 2, Groups A, B, C and D: Temperature Class T4 Ta=60°C.

Indoor and Outdoor (Type 4X) Hazardous Locations. Please refer to the attached "Rosemount 8800D Approval Document no. 00825-VA00-0001, rev. AA , May 2019" for additional details.

Ex db [ia] IIC T6...T1 Ga/Gb (integral transmitter) (IECEX KEM 05.0017X)

Ex db [ia Ga] IIC T6 Gb (remote transmitter)

Ex ia IIC T6...T1 Ga (remote sensor)

Ex ia IIC T4 Ga (-60°C# Ta#+70°C) -HART Versions (IECEX BAS 05.0028X)

Ex ia IIC T4 Ga (-60°C#Ta#+60°C) - Fieldbus & FISCO Versions

Ex nA ic IIC T5 Gc (-50°C #Ta # +70°C) - HART Versions (IECEX BAS 05.0029X)

Ex nA ic IIC T5 Gc (-50°C # Ta #+60°C) - Fieldbus Versions

Ex tb IIIC T85°C Db (-20°C =< Ta =< +70°C) (IECEX BAS 17.0019X)

Ex II 1/2 G Ex db [ia] IIC T6...T1 Ga/Gb (integral transmitter) (KEMA99ATEX3852 X)

Ex II 2(1) G Ex db [ia Ga] IIC T6 Gb (remote transmitter)

Ex II 1G Ex ia IIC T6...T1 Ga (remote sensor)

Ex II 1 G Ex ia IIC T4 Ga (-60°C#Ta# +70°C) - HART Versions (Baseefa05ATEX0084X)

Ex II 1 G Ex ia IIC T4 Ga (-60°C# Ta# +60°C) - Fieldbus & FISCO Versions

Ex II 3 G Ex nA ia IIC T5 Gc (-50°C#Ta#+70°C) - HART Versions, Maximum Working Voltage = 42Vdc (Baseefa05ATEX0085X)

Ex II 3 G Ex nA ic IIC T5 Gc (-50°C#Ta #+60°C) - Fieldbus Versions, Maximum Working Voltage = 32Vdc

ATEX II 2 D Ex tb IIIC T85°C Db (-20°C#Ta#+70°C) (Baseefa17ATEX0020X)

HART versions, Maximum Working Voltage = 42 Vdc

Fieldbus versions, Maximum Working Voltage = 32 Vdc

Service Restrictions

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments

- The Manufacturer has provided a declaration about the control of, or lack of Asbestos in this product.

- To be installed in accordance with Control drawing 08800-0112 (IS) and 08800-0019 (XP/IS).

Notes, Drawings and Documentation

Drawings:

Rosemount 8800D Approval Document 00825-VA00-0001, rev AA dated May 2019, pgs:28;

Dwg. 08800-0019, Approval Drawing 8800D CSA Explosion Proof Flameproof and Intrinsically Safe Configuration, Rev.AE, Pgs:8;

Dwg. 08800-0112, Installation Drawing for MODEL 8800D and 8600D CSA IS Installation or Non-Incendive Field Wiring Installation Approval for HART and Fieldbus, Rev.AE, Pgs:8;

Certificates:

Cert no. KEMA99ATEX3852X, DEKRA EU-Type Examination Certificate, issue 8 dated 17 May 2019, pgs:3;

Annex 1 to IECEx Report NL/DEK/Ex TR11.0057/06, to Certificate of Conformity IECEx KEM 05.0017X, to EU-Type Examination Certificate KEMA 99ATEX 3852X issue 8; pgs:2;

Cert no. Bassefa05ATEX0084X,EU-Type Examination Certificate, issue 13 dated 11 April 2019, pgs:6;

Cert no. Bassefa05ATEX0085X,EU-Type Examination Certificate, issue 13 dated 11 April 2019, pgs:7;

Cert no. Bassefa17ATEX0020X,EU-Type Examination Certificate, issue 3 dated 11 April 2019, pgs:4;

Cert no. 70054084, project no. 70220457, CSA Certificate of Compliance, issued on 6 June 2019, pgs:7;

Report no. 70054084X, project no. 70220457,CSA Descriptive Report and Test Results, edition 6 issued on 6 June 2019, pgs:49;

Cert no. IECEx KEM 05.0017X,IECEX Certificate of Conformity, issue 8 dated 17 May 2019, pgs:4;

Cert no. IECEx BAS05.0028X,IECEX Certificate of Conformity, issue 15 dated 11 April 2019, pgs:5;

Cert no. IECEx BAS05.0029X,IECEX Certificate of Conformity, issue 15 dated 11 April 2019, pgs:4;

Cert no. IECEx BAS17.0019X,IECEX Certificate of Conformity, issue 3 dated 11 April 2019, pgs:4;

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 26/Jun/2023 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2019 Rules for Conditions of Classification, Part 1, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2019 Marine Vessels Rules: 4-6-2/3, 4-6-2/5.15, 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17.1, 4-8-4/27.1, 4-8-4/27.5.1, 5C-1-7/31.9 & Table 1;

2019 Steel Vessels Rules: 4-6-2/3, 4-6-2/5.15, 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17.1, 4-8-4/27.1, 4-8-4/27.5.1, 5C-1-7/31.9 & Table 1.

2019 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Mobile Offshore Units Rules: 4-2-2/5, 4-2-2/13, 4-3-1/11, 4-3-1/15, 4-3-1/17, 4-3-3/9.1;

2019 Mobile Offshore Drilling Unit Rules: 4-2-2/5, 4-2-2/13, 4-3-1/11, 4-3-1/15, 4-3-1/17, 4-3-3/9.1.

International Standards

- IEC 60079-0: 2011 (Edition 6);
- IEC 60079 -1: 2014-06 (Edition 7);
- IEC 60079 -11: 2011 (Edition 6);
- IEC 60079-15:2010 (Edition 4);
- IEC 60079 -26: 2014-10 (Edition 3),
- IEC 60079-31:2013 (Edition 2);

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'James J. White'.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 23-Oct-2019 8:17

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and

quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.