

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **KEMA 99ATEX3852 X** Issue Number: **9**

(4) Product: **Vortex Flowmeter Model 8800D**

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

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

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

(8) DEKRA Certification B.V., Notified Body number 0344 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 test report number NL/DEK/ExTR11.0057/07.

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

EN 60079-0 : 2012 + A11 : 2013
EN 60079-11 : 2012

EN 60079-1 : 2014
EN 60079-26 : 2015

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:



II 1/2 G
II 2(1) G
II 1 G

Ex db [ia] IIC T6 ... T1 Ga/Gb
Ex db [ia Ga] IIC T6 Gb
Ex ia IIC T6 ... T1 Ga

(integral transmitter)
(remote transmitter)
(remote sensor)

Date of certification: 12 November 2019

DEKRA Certification B.V.

L.G. van Schie
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 99ATEX3852 X**

Issue No. **9**

(15) **Description**

The Model 8800D Vortex Flowmeter consists of a cast aluminum or stainless steel electronics housing in type of protection flameproof enclosures Ex db and an integral or remote mounted stainless steel meter body/sensor assembly in type of protection intrinsic safety Ex ia. The electronics processes and converts the sensor signal into a 4-20 mA, HART digital, pulse or Foundation Fieldbus output signal.

Remote mounted sensor: in type of protection Ex ia IIC, only to be connected to the associated Model 8800D Vortex Flowmeter electronics. The maximum allowable length of the interconnecting cable is 152 m (500 ft.).

For the type designation, thermal and electrical data see Annex 1 to NL/DEK/ExTR11.0057/07.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR11.0057/07.

(17) **Specific conditions of use**

When the equipment is installed, precautions shall be taken to ensure the ambient temperature of the transmitter lies between -50 °C to +70 °C, taking into account process fluid effects. If the ambient temperature is outside this range remote transmitters shall be used.

For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.

The Flowmeter is provided with special fasteners of property class A2-70 or A4-70.

Units marked with "Warning: Electrostatic Charging Hazard" may use non-conductive paint thicker than 0,2 mm. Precautions shall be taken to avoid ignition due to electrostatic charge on the enclosure.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR11.0057/07.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 99ATEX3852 X**

Issue No. **9**

(20) **Certificate history**

Issue 1 - 93852	initial certificate
Issue 2 - 212953300	update to EN 60079-0:2009, EN 60079-1:2007, EN 60079-11:2007, EN 60079-26:2007, drawings revised
Issue 3 - 217188400	update to EN 60079-11:2012, assessment of non safety related items
Issue 4 - 218187400	minor constructional changes
Issue 5 - 381580000	minor constructional changes
Issue 6 - 381847500	update to EN 60079-0:2012, EN 60079-1:2014, EN 60079-26:2015, minor constructional changes and change rating of remote sensor and integral transmitter from T6 to T6 ... T1
Issue 7 - 381995000	minor constructional and editorial document changes
Issue 8 - 382429200	additional multi-variable options added not affecting the types of protection and editorial document changes
Issue 9 - 382620100	QUAD Vortex option added, editorial document changes



Note: In this document [.] is used as decimal separator.

Description

The Model 8800D Vortex Flowmeter consists of a cast aluminum or stainless steel electronics housing in type of protection flameproof enclosures Ex db and an integral or remote mounted stainless steel meter body/sensor assembly in type of protection intrinsic safety Ex ia. The electronics processes and converts the sensor signal into a 4-20 mA, HART digital, pulse or Foundation Fieldbus output signal.

Remote mounted sensor: in type of protection Ex ia IIC, only to be connected to the associated Model 8800D Vortex Flowmeter electronics. The maximum allowable length of the interconnecting cable is 152 m (500 ft.).

Type designation

8800D **E** **6** **D** **MTA** **GN** **M5** **A20** **V5**
I **II** **III** **IV** **V** **VI** **VII** **VIII** **IX**

Designation	Explanation	Value	Explanation
I	Model	8800D	Vortex flowmeter
II	Sensor temperature range	N E S	Standard: -40 °C to +232 °C Extended: -200 °C to +427 °C Severe service: -200 °C to + 427 °C
III	Conduit entry	1 2 6 7	½-14 NPT – aluminum housing M20x1.5 – aluminum housing ½-14 NPT – SST housing M20x1.5 – SST housing
IV	Output	D P F C	4-20 mA digital HART 4-20 mA digital HART with pulse FOUNDATION FIELDBUS One 4-20 mA digital HART with scaled output and one FOUNDATION FIELDBUS
V	Multivariable	MTA MPA MCA Blank	Multivariable output with integral temperature sensor Multivariable output with pressure compensation Multivariable output with pressure and temperature compensation with integral temperature sensor No multivariable output
VI	Electrical connector	GN Blank	ATEX flameproof A size, mini connector (minifast) No connector
VII	Display	M5 Blank	LCD display No display
VIII	Remote Electronics	R10 R20 R30 R33 R50 Rxx A10 A20 A33 A50 A75 Blank	10 ft. (3 m) cable 20 ft. (6.1 m) cable 30 ft. (9.1 m) cable 33 ft. (10 m) cable 50 ft. (15.2 m) cable Customer specified cable length, up to 75 ft. (23 m) 10 ft. (3 m) armored cable 20 ft. (6.1 m) armored cable 33 ft. (10 m) armored cable 50 ft. (15.2 m) armored cable 75 ft. (22.9 m) armored cable Integral mount electronics
IX	Ground screw	V5	External ground screw

Note: * Other types of protection that appear on the marking of the equipment are not relevant to this certificate.



Model Type Designation – QUAD Configuration

8800D Q E 6 D D D F M5 A20 V5
 I II III IV V VI VII VIII IX X XI

Designation	Explanation	Value	Explanation
I	Model	8800D	Vortex flowmeter
II	Meter Type	Q	Quad Transmitter Configuration
III	Sensor Temperature Range	N E S	Standard: -40 °C to +232 °C Extended: -200 °C to +427 °C Severe service: -200 °C to + 427 °C
IV	Conduit entry	1 2 6 7	½-14 NPT – aluminum housing M20x1.5 – aluminum housing ½-14 NPT – SST housing M20x1.5 – SST housing
V	Transmitter 1 Output	D P F	4-20 mA digital HART 4-20 mA digital HART with pulse FOUNDATION FIELDBUS
VI	Transmitter 2 Output	D P F	4-20 mA digital HART 4-20 mA digital HART with pulse FOUNDATION FIELDBUS
VII	Transmitter 3 Output	D P F	4-20 mA digital HART 4-20 mA digital HART with pulse FOUNDATION FIELDBUS
VIII	Transmitter 4 Output	D P F	4-20 mA digital HART 4-20 mA digital HART with pulse FOUNDATION FIELDBUS
IX	Display	M5 Blank	LCD display No display
X	Remote Electronics	R10 R20 R30 R33 R50 Rxx A10 A20 A33 A50 A75 Blank	10 ft. (3 m) cable 20 ft. (6.1 m) cable 30 ft. (9.1 m) cable 33 ft. (10 m) cable 50 ft. (15.2 m) cable Customer specified cable length, up to 75 ft. (23 m) 10 ft. (3 m) armored cable 20 ft. (6.1 m) armored cable 33 ft. (10 m) armored cable 50 ft. (15.2 m) armored cable 75 ft. (22.9 m) armored cable Integral mount electronics
XI	Ground screw	V5	External ground screw
Note: * Other types of protection that appear on the marking of the equipment are not relevant to this certificate.			

Thermal data

Ambient temperature range: -50 °C to +70 °C
 Process temperature range: -200 °C to +427 °C

Temperature class transmitter: T6
 Temperature class sensor: see table below

Ambient Temperature [°C]	Process Temperature [°C]	T-Class Sensor
-50 to +70	-200 to +75	T6
-50 to +70	-200 to +95	T5
-50 to +70	-200 to +130	T4
-50 to +70	-200 to +195	T3
-50 to +70	-200 to +290	T2
-50 to +70	-200 to +427	T1

Electrical data

Power supply: 32 Vdc max (Fieldbus, digital output), $U_m = 250\text{ V}$
 42 Vdc max (4-20 mA HART analog and pulse outputs), $U_m = 250\text{ V}$