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## Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

Issued by Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK		
Applicant	Emerson Japan, Ltd. 1-2-5 Higashi-Shinagawa, Shinagawa-ku, Tokyo, Japan	
Manufacturer name	Emerson – Rosemount, Micro Motion Inc. 12001 Technology Drive, Eden Prairie, MN 55344 USA	
Product name	Vortex flowmeter	
Type/model code	Model 8800D For details see attachment 1	
Type of protection	Flameproof, Intrinsic Safety	
Group, Temperature Class and EPL	IIC T6...T1 Ga/Gb	
The equipment shall be marked with the following	Ex db [ia] IIC T6...T1 Ga/Gb (See attachment 2)	
Ratings	See attachment 2	
Special condition for safe use	See attachment 3	
Certificate number	<b>CML 17JPN1145X</b>	<b>Issue 3</b>
Term of validity	From 05-07-2017 to 04-07-2020	

This is to certify that the equipment specified above complies with the requirements stipulated in Ordinance on Examination of Machines and Other Equipment of the Ministry of Health, Labour and Welfare, Japan.

Issue date: 14-01-2020

Signature of chief examiner:



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Issue: 3

## Attachment 1: Model code details

Type designations,

### Model 8800D a b c ddd ee ff ggg hh

Where,

8800D = Vortex flowmeter model number

a = Sensor Temperature Range:

- N - Standard -40 °C to +232 °C
- E - Extended -200 °C to +427 °C
- S - Severe service -200 °C to +427 °C

b = Conduit Entry: 1 - 1/2-14NPT- aluminium housing  
4 - G1/2 - One conduit entry – aluminium housing  
5 - G1/2 - Two conduit entries – aluminium housing  
6 - 1/2-14NPT – SST housing

c = Output: D - 4-20 mA digital HART  
P - 4-20 mA digital HART with pulse  
F - FOUNDATION FIELDBUS  
C - One 4-20 mA digital HART with scaled output and one FOUNDATION FIELDBUS

ddd = Multivariable: MTA – Multivariable output with integral temperature sensor  
MPA – Multivariable output with pressure compensation  
MCA - Multivariable output with pressure and temperature compensation with integral temperature sensor  
Blank – No Multivariable output

ee = Electrical Connector:  
GN – ATEX flameproof A size, mini connector (minifast)  
Blank – No connector

ff = Display: M5 – LCD display  
Blank – No display

ggg = Remote Electronics:  
R10 - 10 ft. (3 m) cable  
R20 - 20 ft. (6.1 m) cable  
R30 - 30 ft. (9.1 m) cable  
R33 - 33 ft. (10 m) cable  
R50 - 50 ft. (15.2 m) cable  
Rxx – Customer specific cable length, up to 75 ft. (23 m)  
A10 - 10 ft. (3 m) cable  
A20 - 20 ft. (6.1 m) cable  
A33 - 33 ft. (10 m) cable  
A50 - 50 ft. (15.2 m) cable  
A75 - 75 ft. (22.9 m) cable



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Blank – Integral mount electronics

hh = Ground Screw: V5 – External ground screw

## Type Designation – QUAD Configuration:

**Model 8800D Q a b c d e f gg hhh ii**

Where,

8800D = Vortex flowmeter model number

Q = Quad transmitter configuration

a = Sensor Temperature Range:

N - Standard -40 °C to +232 °C

E - Extended -200 °C to +427 °C

S – Severe service -200 °C to +427 °C

b = Conduit Entry: 1 - 1/2-14NPT- aluminium housing

4 - G1/2 - One conduit entry – aluminium housing

5 - G1/2 - Two conduit entries – aluminium housing

6 - 1/2-14NPT – SST housing

c = Transmitter 1 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

d = Transmitter 2 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

e = Transmitter 3 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

f = Transmitter 4 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

gg = Display:

M5 – LCD display

Blank – No display

hhh = Remote Electronics:

R10 - 10 ft. (3 m) cable

R20 - 20 ft. (6.1 m) cable

R30 - 30 ft. (9.1 m) cable

R33 - 33 ft. (10 m) cable



- R50 - 50 ft. (15.2 m) cable
- Rxx – Customer specific cable length, up to 75 ft. (23 m)
- A10 - 10 ft. (3 m) cable
- A20 - 20 ft. (6.1 m) cable
- A33 - 33 ft. (10 m) cable
- A50 - 50 ft. (15.2 m) cable
- A75 - 75 ft. (22.9 m) cable
- Blank – Integral mount electronics

ii = Ground Screw: V5 – External ground screw

### Attachment 2: Ratings

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

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

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

Ambient temperature range: -20°C to +60°C

Process temperature range: -200°C to +427°C

Temperature Class remote transmitter: T6

Temperature Class sensor: see table below,

Ambient Temperature (°C)	Process Temperature (°C)	Temperature Class
-20 to +60	-200 to +75	T6
-20 to +60	-200 to +95	T5
-20 to +60	-200 to +130	T4
-20 to +60	-200 to +195	T3
-20 to +60	-200 to +290	T2
-20 to +60	-200 to +427	T1

Power supply: 32 Vdc max (Fieldbus, digital output), Um = 250V

42 Vdc max (4-20mA HART analog and pulse outputs), Um = 250V

### Attachment 3: Special Conditions for Safe Use

- i. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- ii. The flowmeter is provided with special fasteners of property class A2-70 or A4-70.