



제2021-086999-01-1호(1/2)

안전인증서

Emerson Process Management Flow Technologies Co., Ltd.

111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****L*K9***** (Ex eb ib IIC T5...T3 Gb) / 17-KA4BO-0461X

인증기준

고용노동부고시 제2021-22호

인증조건

1. 제조공장

·본 인증서는 '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Remote transmitter type)
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: Electrode circuit (터미널 17, 18, 19) $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 사용주위온도: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (탄소강 외함), $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041469-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054824-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-086999-01-1호(2/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
2"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[별첨2] 제품형식 인증범위

·8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: (Blank), SJ
- (g) Special paint options: V*
- (h) Specials: F090*

-*: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-086999-01-1(1/2)

안전인증서

Certificate of Safety

Emerson Process Management Flow Technologies Co., Ltd.
111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****L*K9***** (Ex eb ib IIC T5...T3 Gb) / 17-KA4BO-0461X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

This certificate is valid only for the specified products produced at '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'

2. Description of equipment

- The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Remote transmitter type)
- Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety(Terminal 17, 18, 19): $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- Ambient Temperature: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Carbon Steel wrapper(housing)),
 $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Stainless Steel wrapper(housing))
- Detailed temperature class is specified in the annex A.
- IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041469-01.

2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054824-01-1.

6. Details of others

- Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.
- This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





No. 2021-086999-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
2"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[Annex B] Model classification code

·8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

-(a) Electrode material: S, H, T, P, N

-(b) Electrode Types: A, E, B, F

-(c) Line Size: 015 ~ 080

-(d) Grounding rings material: G1 ~ G8

-(e) Optional conduit entries: J1

-(f) Remote Junction Box material: (Blank), SJ

-(g) Special paint options: V*

-(h) Specials: F090*

-*: Options without influence on explosion protection



제2021-087000-01-1호(1/2)

안전인증서

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111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****L*K9***** (Ex tb IIIC T80 °C...T200 °C Db) / 17-KA4BO-0462X

인증기준

고용노동부고시 제2021-22호

인증조건

1. 제조공장

·본 인증서는 '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Remote transmitter type)
- 정격: 500 mA, 40 V 이하, 20 W 이하(터미널1, 2, 3 coil drive) / 5 V, 200 μ A, 1 mW(터미널 17, 18, 19)
- 사용주위온도: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (탄소강 외함), $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041470-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054825-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017 년 8 월 2 일

한국산업기술시험원장





제2021-087000-01-1 호(2/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	100 ℃		Remote	T120 ℃
	140 ℃*		Remote	T160 ℃
	160 ℃*		Remote	T180 ℃
2"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	100 ℃		Remote	T120 ℃
	140 ℃*		Remote	T160 ℃
	160 ℃*		Remote	T180 ℃
3"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	110 ℃		Remote	T130 ℃
	150 ℃*		Remote	T170 ℃
	170 ℃*		Remote	T190 ℃
4"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	115 ℃		Remote	T135 ℃
	155 ℃*		Remote	T175 ℃
	175 ℃*		Remote	T195 ℃
6"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	115 ℃		Remote	T135 ℃
	155 ℃*		Remote	T175 ℃
	180 ℃*		Remote	T200 ℃
8"	60 ℃	Ex t	Remote	T80 ℃
	80 ℃		Remote	T100 ℃
	115 ℃		Remote	T135 ℃
	160 ℃*		Remote	T180 ℃
	180 ℃*		Remote	T200 ℃

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[별첨2] 제품형식 인증범위

·8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: (Blank), SJ
- (g) Special paint options: V*
- (h) Specials: F090*

-*: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087000-01-1(1/2)

안전인증서

Certificate of Safety

Emerson Process Management Flow Technologies Co., Ltd.

111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****L*K9***** (Ex tb IIIC T80 °C...T200 °C Db) / 17-KA4BO-0462X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'

2. Description of equipment

·The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Remote transmitter type)

·Rating: 500 mA, max. 40 V, max. 20 W(terminal 1, 2, 3 coil drive)
5 V, 200 μA, 1 mW(terminal 17, 18, 19)

·Ambient Temperature: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Carbon Steel wrapper(housing)),
 $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Stainless Steel wrapper(housing))

·Detailed temperature class is specified in the annex A.

·IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

·1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041470-01.

·2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054825-01-1.

6. Details of others

·Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.

·This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





No. 2021-087000-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
2"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
3"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	110 °C		Remote	T130 °C
	150 °C*		Remote	T170 °C
	170 °C*		Remote	T190 °C
4"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	175 °C*		Remote	T195 °C
6"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	180 °C*		Remote	T200 °C
8"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	160 °C*		Remote	T180 °C
	180 °C*		Remote	T200 °C

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[Annex B] Model classification code

8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: (Blank), SJ
- (g) Special paint options: V*
- (h) Specials: F090*
- *: Options without influence on explosion protection



제2021-087001-01-1호(1/2)

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품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****M*K9***** (Ex eb ib IIC T5...T4 Gb) / 17-KA4BO-0463X

인 증 기 준

고용노동부고시 제2021-22호

인 증 조 건

1. 제조공장

·본 인증서는 '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Integral transmitter type)
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: Electrode circuit (터미널 17, 18, 19) $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 사용주위온도: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (탄소강 외함), $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041471-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054826-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-087001-01-1호(1/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
2"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
3"	60 °C	Ex e	Integral	T5
4"	60 °C	Ex e	Integral	T5
6"	60 °C	Ex e	Integral	T5
8"	60 °C	Ex e	Integral	T5

[별첨2] 제품형식 인증범위

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087001-01-1(1/2)

안전인증서

Certificate of Safety

Emerson Process Management Flow Technologies Co., Ltd.
111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****M*K9***** (Ex eb ib IIC T5...T4 Gb) / 17-KA4BO-0463X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

This certificate is valid only for the specified products produced at '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'

2. Description of equipment

- The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM. (Integral transmitter type)
- Rating (terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety (Terminal 17, 18, 19): $U = 30 \text{ V}$, $I = 50 \text{ mA}$, $P = 1.0 \text{ W}$, $C = 1.9 \text{ nF}$, $L = 630 \text{ }\mu\text{H}$
- Ambient Temperature: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Carbon Steel wrapper (housing)),
 $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Stainless Steel wrapper (housing))
- Detailed temperature class is specified in the annex A.
- IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

- 1st Revision (2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041471-01.
- 2nd Revision (2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No. 2019-054826-01-1.

6. Details of others

- Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.
- This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





No. 2021-087001-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
2"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
3"	60 °C	Ex e	Integral	T5
4"	60 °C	Ex e	Integral	T5
6"	60 °C	Ex e	Integral	T5
8"	60 °C	Ex e	Integral	T5

[Annex B] Model classification code

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: Options without influence on explosion protection



제2021-087002-01-1호(1/2)

안전인증서

Emerson Process Management Flow Technologies Co., Ltd.

111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****M*K9***** (Ex tb IIIC T80 °C Db) / 17-KA4BO-0464X

인 증 기 준

고용노동부고시 제2021-22호

인 증 조 건

1. 제조공장

·본 인증서는 '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Integral transmitter type)
- 정격: 500 mA, 40 V 이하, 20 W 이하(터미널1, 2, 3 coil drive) / 5 V, 200 μ A, 1 mW(터미널 17, 18, 19)
- 사용주위온도: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (탄소강 외함), $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (스테인리스강 외함)
- 최고공정온도: 60 °C
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 [별첨1]의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041472-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054827-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017 년 8 월 2 일

한국산업기술시험원장





제2021-087002-01-1호(2/2)

인 증 조 건

[별첨1] 제품형식 인증범위

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087002-01-1(1/2)

안전인증서

Certificate of Safety

Emerson Process Management Flow Technologies Co., Ltd.
111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100, China

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****M*K9***** (Ex tb IIIC T80 °C Db) / 17-KA4BO-0464X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at '111, Xing Min South Road Jiangning District, Nanjing Jiangsu Province, 211100 China'

2. Description of equipment

·The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Integral transmitter type)

·Rating: 500 mA, max. 40 V, max. 20 W(terminal 1, 2, 3 coil drive)
5 V, 200 µA, 1 mW(terminal 17, 18, 19)

·Ambient Temperature: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Carbon Steel wrapper(housing)),
 $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Stainless Steel wrapper(housing))

·Max process temperature: 60 °C

·Detailed temperature class is specified in the annex A.

·IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex A.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

·1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041472-01.

·2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054827-01-1.

6. Details of others

·Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.

·This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





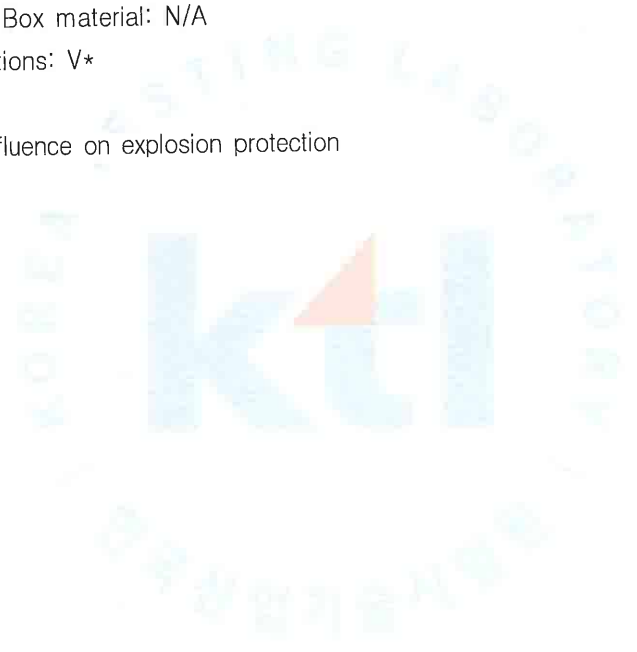
No. 2021-087002-01-1(2/2)

Conditions of Certification

[Annex A] Model classification code

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: Options without influence on explosion protection





제2021-087003-01-1호(1/2)

안전인증서

F-R Tecnologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****L*K9***** (Ex eb ib IIC T5...T3 Gb) / 17-KA4BO-0465X

인증기준

고용노동부고시 제2021-22호

인증조건

1. 제조공장

·본 인증서는 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Remote transmitter type)
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: Electrode circuit (터미널 17, 18, 19) $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 사용주위온도: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (탄소강 외함), $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041473-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054820-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-087003-01-1호(2/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
2"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[별첨2] 제품형식 인증범위

·8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: (Blank), SJ
- (g) Special paint options: V*
- (h) Specials: F090*

-*: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087003-01-1(1/2)

안전인증서

Certificate of Safety

F-R Technologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****L*K9***** (Ex eb ib IIC T5...T3 Gb) / 17-KA4BO-0465X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'

2. Description of equipment

- The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Remote transmitter type)
- Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety(Terminal 17, 18, 19): $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- Ambient Temperature: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Carbon Steel wrapper(housing)),
 $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Stainless Steel wrapper(housing))
- Detailed temperature class is specified in the annex A.
- IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

- 1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041473-01.
- 2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054820-01-1.

6. Details of others

- Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.
- This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





No. 2021-087003-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
2"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[Annex B] Model classification code

·8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

-(a) Electrode material: S, H, T, P, N

-(b) Electrode Types: A, E, B, F

-(c) Line Size: 015 ~ 080

-(d) Grounding rings material: G1 ~ G8

-(e) Optional conduit entries: J1

-(f) Remote Junction Box material: (Blank), SJ

-(g) Special paint options: V*

-(h) Specials: F090*

-*: Options without influence on explosion protection



제2021-087004-01-1호(1/2)

안전인증서

F-R Tecnologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목
Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****L*K9***** (Ex tb IIIC T80 °C...T200 °C Db) / 17-KA4BO-0466X

인증기준
고용노동부고시 제2021-22호

인증조건

1. 제조공장

·본 인증서는 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Remote transmitter type)
- 정격: 500 mA, 40 V 이하, 20 W 이하(터미널1, 2, 3 coil drive) / 5 V, 200 μ A, 1 mW(터미널 17, 18, 19)
- 사용주위온도: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (탄소강 외함), $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041474-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054821-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-087004-01-1호(2/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
2"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
3"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	110 °C		Remote	T130 °C
	150 °C*		Remote	T170 °C
	170 °C*		Remote	T190 °C
4"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	175 °C*		Remote	T195 °C
6"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	180 °C*		Remote	T200 °C
8"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	160 °C*		Remote	T180 °C
	180 °C*		Remote	T200 °C

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[별첨2] 제품형식 인증범위

- 8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)
- (a) Electrode material: S, H, T, P, N
 - (b) Electrode Types: A, E, B, F
 - (c) Line Size: 015 ~ 080
 - (d) Grounding rings material: G1 ~ G8
 - (e) Optional conduit entries: J1
 - (f) Remote Junction Box material: (Blank), SJ
 - (g) Special paint options: V*
 - (h) Specials: F090*
- *: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087004-01-1(1/2)

안전인증서

Certificate of Safety

F-R Technologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****L*K9***** (Ex tb IIIC T80 °C...T200 °C Db) / 17-KA4BO-0466X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'

2. Description of equipment

·The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Remote transmitter type)

·Rating: 500 mA, max. 40 V, max. 20 W(terminal 1, 2, 3 coil drive)
5 V, 200 μA, 1 mW(terminal 17, 18, 19)

·Ambient Temperature: $-29\text{ °C} \leq T_a \leq +60\text{ °C}$ (Carbon Steel wrapper(housing)),
 $-50\text{ °C} \leq T_a \leq +60\text{ °C}$ (Stainless Steel wrapper(housing))

·Detailed temperature class is specified in the annex A.

·IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

·1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041474-01.

·2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054821-01-1.

6. Details of others

·Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.

·This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





No. 2021-087004-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
2"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	100 °C		Remote	T120 °C
	140 °C*		Remote	T160 °C
	160 °C*		Remote	T180 °C
3"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	110 °C		Remote	T130 °C
	150 °C*		Remote	T170 °C
	170 °C*		Remote	T190 °C
4"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	175 °C*		Remote	T195 °C
6"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	155 °C*		Remote	T175 °C
	180 °C*		Remote	T200 °C
8"	60 °C	Ex t	Remote	T80 °C
	80 °C		Remote	T100 °C
	115 °C		Remote	T135 °C
	160 °C*		Remote	T180 °C
	180 °C*		Remote	T200 °C

*: Flow tubes on lines with these process temperatures shall be mounted with Remote Junction Box Down.

[Annex B] Model classification code

8711*(a)(b)(c)L*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: (Blank), SJ
- (g) Special paint options: V*
- (h) Specials: F090*
- *: Options without influence on explosion protection



제2021-087005-01-1호(1/2)

안전인증서

F-R Tecnologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****M*K9***** (Ex eb ib IIC T5...T4 Gb) / 17-KA4BO-0467X

인 증 기 준

고용노동부고시 제2021-22호

인 증 조 건

1. 제조공장

·본 인증서는 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Integral transmitter type)
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: Electrode circuit (터미널 17, 18, 19) $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 사용주위온도: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (탄소강 외함), $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (스테인리스강 외함)
- 온도등급: 별첨1의 라인크기에 따른 온도등급 참조
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 별첨2의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041475-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054822-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-087005-01-1호(1/2)

인 증 조 건

[별첨1] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 ℃	Ex e	Integral	T5
	80 ℃		Integral	T4
2"	60 ℃	Ex e	Integral	T5
	80 ℃		Integral	T4
3"	60 ℃	Ex e	Integral	T5
4"	60 ℃	Ex e	Integral	T5
6"	60 ℃	Ex e	Integral	T5
8"	60 ℃	Ex e	Integral	T5

[별첨2] 제품형식 인증범위

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
 - (b) Electrode Types: A, E, B, F
 - (c) Line Size: 015 ~ 080
 - (d) Grounding rings material: G1 ~ G8
 - (e) Optional conduit entries: J1
 - (f) Remote Junction Box material: N/A
 - (g) Special paint options: V*
 - (h) Specials: F090*
- *: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087005-01-1(1/2)

안전인증서

Certificate of Safety

F-R Tecnologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****M*K9***** (Ex eb ib IIC T5...T4 Gb) / 17-KA4BO-0467X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'.

2. Description of equipment

- The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Integral transmitter type)
- Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety(Terminal 17, 18, 19): $U = 30 \text{ V}$, $I = 50 \text{ mA}$, $P = 1.0 \text{ W}$, $C = 1.9 \text{ nF}$, $L = 630 \text{ }\mu\text{H}$
- Ambient Temperature: $-29 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Carbon Steel wrapper(housing)),
 $-50 \text{ }^\circ\text{C} \leq T_a \leq +60 \text{ }^\circ\text{C}$ (Stainless Steel wrapper(housing))
- Detailed temperature class is specified in the annex A.
- IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex B.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

- 1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041475-01.
- 2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054822-01-1.

6. Details of others

- Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.
- This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





No. 2021-087005-01-1(2/2)

Conditions of Certification

[Annex A] Temperature class and specified maximum surface temperature

Line size (NPS)	Max. Process Temperature	Type of protect.	Transmitter Mounting	T-class
1½"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
2"	60 °C	Ex e	Integral	T5
	80 °C		Integral	T4
3"	60 °C	Ex e	Integral	T5
4"	60 °C	Ex e	Integral	T5
6"	60 °C	Ex e	Integral	T5
8"	60 °C	Ex e	Integral	T5

[Annex B] Model classification code

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: Options without influence on explosion protection



제2021-087006-01-1호(1/2)

안전인증서

F-R Tecnologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711****M*K9***** (Ex tb IIIC T80 °C Db) / 17-KA4BO-0468X

인 증 기 준

고용노동부고시 제2021-22호

인 증 조 건

1. 제조공장

·본 인증서는 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'에서 생산하는 제품에 한함.

2. 제품개요

- 당 기기는 자기식 유량 튜브임.(Integral transmitter type)
- 정격: 500 mA, 40 V 이하, 20 W 이하(터미널1, 2, 3 coil drive) / 5 V, 200 μ A, 1 mW(터미널 17, 18, 19)
- 사용주위온도: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (탄소강 외함), $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (스테인리스강 외함)
- 최고공정온도: 60 °C
- IEC 60079-0 및 IEC 60529에 따른 보호등급 IP66 을 만족함.

3. 인증범위: 본 인증서는 [별첨1]의 제품형식 인증범위에 한하여 유효함.

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8) 4페이지 Specific Conditions of Use 참조

5. 인증(변경)사항

- 1차 변경(2019.08.22.): 기존 제2017-041476-01호에서 기재사항 변경을 위한 재발행
- 2차 변경(2022.04.15.): 기존 제2019-054823-01-1호에서 기재사항 변경 및 신규격평가 반영으로 인하여 재발행함.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수
- 본 안전인증서는 반드시 관련 IECEx 인증서(IECEx DEK 14.0031X issue No.8)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2021-087006-01-1호(2/2)

인 증 조 건

[별첨1] 제품형식 인증범위

·8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)

- (a) Electrode material: S, H, T, P, N
- (b) Electrode Types: A, E, B, F
- (c) Line Size: 015 ~ 080
- (d) Grounding rings material: G1 ~ G8
- (e) Optional conduit entries: J1
- (f) Remote Junction Box material: N/A
- (g) Special paint options: V*
- (h) Specials: F090*
- *: 방폭성능에 영향을 주지 않는 제품코드임.



No. 2021-087006-01-1(1/2)

안전인증서

Certificate of Safety

F-R Technologias De Flujo, S.A. De C.V.

Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico

The following product manufactured by the above company has been authorized for the use of safety certification mark as the product has satisfied the safety and health requirements under Article 84 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 1 of Article 110 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model (Marking) / Certificate No.

8711****M*K9***** (Ex tb IIIC T80 °C Db) / 17-KA4BO-0468X

Applied standards

Announcement No. 2021-22 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

·This certificate is valid only for the specified products produced at 'Rosemount Flow Division Operations Ave. Miguel de Cervantes 111 31136 Chihuahua, Mexico'.

2. Description of equipment

·The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.(Integral transmitter type)

·Rating: 500 mA, max. 40 V, max. 20 W(terminal 1, 2, 3 coil drive)
5 V, 200 µA, 1 mW(terminal 17, 18, 19)

·Ambient Temperature: $-29\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Carbon Steel wrapper(housing)),
 $-50\text{ }^{\circ}\text{C} \leq T_a \leq +60\text{ }^{\circ}\text{C}$ (Stainless Steel wrapper(housing))

·Max process temperature: 60 °C

·Detailed temperature class is specified in the annex A.

·IP66 degree of protection according to IEC 60529 and IEC 60079-0.

3. Scope of certification : This certificate is valid only for the models in the annex A.

4. Special conditions for safe use

·Specific Conditions of Use on IECEx Certificate (IECEx DEK 14.0031X issue No.8) shall be applied.

5. Details of certificate change

·1st Revision(2019.08.22.): This certificate is reissued to include the change of description from No. 2017-041476-01.

·2nd Revision(2022.04.15.): This certificate is reissued to include the change of description and the assessment in accordance with the latest editions of the standards from the original No.2019-054828-01-1.

6. Details of others

·Manufacturer shall take the responsibility including maintaining quality requirements for the certified products, receiving factory surveillance and informing any changes to the certified products.

·This certificate shall be used with the related IECEx certificate (IECEx DEK 14.0031X issue No.8).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





No. 2021-087006-01-1(2/2)

Conditions of Certification

[Annex A] Model classification code

- 8711*(a)(b)(c)M*K9*(d)*(e)(f)*(g)*(h)
- (a) Electrode material: S, H, T, P, N
 - (b) Electrode Types: A, E, B, F
 - (c) Line Size: 015 ~ 080
 - (d) Grounding rings material: G1 ~ G8
 - (e) Optional conduit entries: J1
 - (f) Remote Junction Box material: N/A
 - (g) Special paint options: V*
 - (h) Specials: F090*
 - *: Options without influence on explosion protection