



제2017-041469-01호(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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***LK9***** (Ex e Ib IIC T5...T3) / 17-KA4BO-0461X

인증기준

고용노동부고시 제2016-54호

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.
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





인 증 조 건

[별첨] 라인크기에 따른 온도등급

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

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



No. 2017-041469-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***LK9***** (Ex e) ib IIC T5...T3) / 17-KA4BO-0461X

Applied standards

Announcement No. 2016-54 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.
- Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety: $U_i = 30$ V, $I_i = 50$ mA, $P_i = 1.0$ W, $C_i = 1.9$ nF, $L_i = 630$ μ H
- Ambient Temperature: -29 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Carbon Steel wrapper(housing)),
 -50 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Stainless Steel wrapper(housing))
- Detailed temperature class is specified in the annex.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





Conditions of Certification

[Annex] 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/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C		Remote	T3
2"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

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



제2017-041470-01호(1/2)

안전인증서

Emerson Process Management Flow Technologies Co., Ltd.

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

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품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***LK9***** (Ex tb) IIIC T80 °C...T200 °C / 17-KA4BO-0462X

인증기준

고용노동부고시 제2016-54호

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.
- 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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041470-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex t	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



No. 2017-041470-01(1/2)

안전인증서

Certificate of Safety

Emerson Process Management Flow Technologies Co., Ltd.

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Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***LK9***** (Ex tb) IIIC T80 °C...T200 °C) / 17-KA4BO-0462X

Applied standards

Announcement No. 2016-54 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.

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.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





Conditions of Certification

[Annex] 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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



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품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***MK9***** (Ex e) ib IIC T5...T3) / 17-KA4BO-0463X

인증기준

고용노동부고시 제2016-54호

인증조건

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2. 제품개요

·당 기기는 자기식 유량 튜브임.

·정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하

·본질안전을 위한 전기적 파라미터: $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$

·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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

6. 그 밖의 사항

·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수

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2017년 8월 2일

한국산업기술시험원장





제2017-041471-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

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

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



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Magnet Flow Tube

Model(Marking) / Certificate No.

8711***MK9***** (Ex e) ib IIC T5...T3 / 17-KA4BO-0463X

Applied standards

Announcement No. 2016-54 of Ministry of Employment and Labor

Conditions of Certification

1. Manufacturing location(s)

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2. Description of equipment

The Magnetic Flow Tube is designed for use with Magnetic Flow Transmitter Model 8732EM.
Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
Electrical parameters for Intrinsic Safety: $U_i = 30$ V, $I_i = 50$ mA, $R_i = 1.0$ W, $C_i = 1.9$ nF, $L_i = 630$ μ H
Ambient Temperature: -29 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Carbon Steel wrapper(housing)),
 -50 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Stainless Steel wrapper(housing))
Detailed temperature class is specified in the annex.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





Conditions of Certification

[Annex] 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/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C		Remote	T3
2"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

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



제2017-041472-01호(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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***MK9*****(Ex tb IIIC T80 °C...T200 °C) / 17-KA4BO-0464X

인증기준

고용노동부고시 제2016-54호

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.
- 정격: 500 mA, 40 V 이하, 20 W 이하(터미널1, 2, 3 coil drive) / 5 V, 200 μA, 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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041472-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex t	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



No. 2017-041472-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***MK9*****(Ex tb IIIC T80 °C...T200 °C) / 17-KA4BO-0464X

Applied standards

Announcement No. 2016-54 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.

·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.

3. Scope of certification: This certificate is valid only for the models as below

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

·Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





제2017-041472-01호(2/2)

Conditions of Certification

[Annex] 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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



제2017-041473-01호(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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***LK9***** (Ex e) Ib IIC T5...T3) / 17-KA4BO-0465X

인증기준

고용노동부고시 제2016-54호

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.
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041473-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

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

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



No. 2017-041473-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***LK9***** (Ex e) ib IIC T5...T3) / 17-KA4BO-0465X

Applied standards

Announcement No. 2016-54 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.
Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
Electrical parameters for Intrinsic Safety: $U_i = 30$ V, $I_i = 50$ mA, $R_i = 1.0$ W, $C_i = 1.9$ nF, $L_i = 630$ μ H
Ambient Temperature: -29 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Carbon Steel wrapper(housing)),
 -50 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Stainless Steel wrapper(housing))
Detailed temperature class is specified in the annex.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





Conditions of Certification

[Annex] 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/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C		Remote	T3
2"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

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



제2017-041474-01호(1/2)

안전인증서

F-R Technologias 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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***LK9***** (Ex tb) IIIC T80 °C...T200 °C / 17-KA4BO-0466X

인증기준

고용노동부고시 제2016-54호

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.
- 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: 별첨 참조

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041474-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex t	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



No. 2017-041474-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***LK9*****(Ex tb) IIIC T80 °C...T200 °C) / 17-KA4BO-0466X

Applied standards

Announcement No. 2016-54 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.

·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.

3. Scope of certification: This certificate is valid only for the models as below

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

·Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원장
KOREA TESTING LABORATORY





제2017-041474-01 호(2/2)

Conditions of Certification

[Annex] 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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



제2017-041475-01호(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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***MK9***** (Ex e) ib IIC T5...T3) / 17-KA4BO-0467X

인증기준

고용노동부고시 제2016-54호

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.
- 정격(터미널1, 2, 3 coil drive): 500 mA, 40 V 이하, 20 W 이하
- 본질안전을 위한 전기적 파라미터: $U_i = 30 V$, $I_i = 50 mA$, $P_i = 1.0 W$, $C_i = 1.9 nF$, $L_i = 630 \mu H$
- 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: 별첨 참조

3. 인증범위

·본 인증서는 아래의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041475-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

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

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



No. 2017-041475-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***MK9***** (Ex e) ib IIC T5...T3 / 17-KA4BO-0467X

Applied standards

Announcement No. 2016-54 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.
- Rating(terminal 1, 2, 3): coil drive 500 mA, max. 40 V, max. 20 W
- Electrical parameters for Intrinsic Safety: $U_i = 30$ V, $I_i = 50$ mA, $P_i = 1.0$ W, $C_i = 1.9$ nF, $L_i = 630$ μ H
- Ambient Temperature: -29 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Carbon Steel wrapper(housing)),
 -50 $^{\circ}$ C $\leq T_a \leq +60$ $^{\circ}$ C (Stainless Steel wrapper(housing))
- Detailed temperature class is specified in the annex.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





Conditions of Certification

[Annex] 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/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C		Remote	T3
2"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Integral/Remote	T4
	100 °C		Remote	T4
	140 °C*		Remote	T3
3"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	110 °C		Remote	T4
	150 °C*		Remote	T3
4"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
6"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	155 °C*		Remote	T3
8"	60 °C	Ex e	Integral/Remote	T5
	80 °C		Remote	T4
	115 °C		Remote	T4
	160 °C*		Remote	T3

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



제2017-041476-01호(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」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Magnet Flow Tube

형식·모델(용량·등급) / 인증번호

8711***MK9****(Ex tb IIIC T80 °C...T200 °C) / 17-KA4BO-0468X

인증기준

고용노동부고시 제2016-54호

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.
- 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: 별첨 참조

3. 인증범위: 본 인증서는 위의 형식번호에 한하여 유효함.

·8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. 안전한 사용을 위한 조건

·관련 IECEx 인증서(IECEx DEK 14.0031X issue No.3) 3페이지 conditions of certification 참조

5. 인증(변경)사항: 없음.

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.3)와 함께 사용

2017년 8월 2일

한국산업기술시험원장





제2017-041476-01호(2/2)

인 증 조 건

[별첨] 라인크기에 따른 온도등급

라인크기 (NPS)	공정온도	방폭형식	트랜스미터 연결방식	온도등급
1½"	60 °C	Ex t	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.



No. 2017-041476-01(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 34 of OCCUPATIONAL SAFETY AND HEALTH ACT and paragraph 4 of Article 58-4 of ENFORCEMENT ORDINANCE OF the same ACT.

Electrical Equipment

Magnet Flow Tube

Model(Marking) / Certificate No.

8711***MK9*****(Ex tb IIIC T80 °C...T200 °C) / 17-KA4BO-0468X

Applied standards

Announcement No. 2016-54 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.

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.

3. Scope of certification: This certificate is valid only for the models as below

8711(a)(b)(c)LK9(d)(e)(f)(g)(h)

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

4. Special conditions for safe use

Special conditions for safe use on IECEx Certificate (IECEx DEK 14.0031X issue No.3) shall be applied.

5. Details of certificate change: None.

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.3).

Date of Issue: 2017-08-02

한국산업기술시험원
KOREA TESTING LABORATORY





제2017-041476-01호(2/2)

Conditions of Certification

[Annex] 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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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	Integral/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 and higher shall be mounted with Remote Junction Box Down.