EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert No. GYJ22.1932X

Manufacturer	**Endress+Hauser Flowtec AG** **(Address: CH-4153, Reinach BL1, Switzerland)**
Product	**Mass Flowmeter**
Model	**CNGmass Series, LPGmass Series and Cubemass Series**
Ex marking	**Refer to the attachment for details**
Product standard	**/**
Drawing number	**321975-0000FGA**

The product was found to comply with the following standard(s):
GB/T 3836.1-2021,GB/T 3836.2-2021,GB/T 3836.3-2021,GB/T 3836.4-2021, GB/T 3836.9-2021,GB/T 3836.31-2021

Valid until: 2027.09.10

Remarks

1. Conditions for safe use are specified in the attachment to this certificate.
2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
3. Model designation is specified in the attachment to this certificate.
4. Safe parameters specified in the attachment to this certificate.
5. This certificate is also applicable for the product with the same type manufactured by Endress+Hauser Flowtec (China) Co., Ltd. (address: Su Hong Zhong Lu No.465, Suzhou-SIP, China)

Approval

Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd.
National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation
Date of issue 2022.09.11

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

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Attachment Ⅰ to GYJ22.1932X

1. Description

CNGmass Series, LPGmass Series and Cubemass Series Mass Flowmeter, manufactured by Endress + Hauser Flowtec AG, accords with following standards:

GB/T 3836.1-2021 Explosive atmospheres-Part 1: Equipment-General requirements

GB/T3836.2-2021 Explosive atmospheres-Part 2: Equipment protection by flameproof enclosure"d"

GB/T3836.3-2021 Explosive atmospheres-Part 3: Equipment protection by increased safety"e"

GB/T 3836.4-2021 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB/T 3836.9-2021 Explosive atmospheres-Part 9: Equipment protection by encapsulation"m"

GB/T3836.31-2021 Explosive atmospheres-Part 31: Equipment dust ignition protection by enclosure"t"

The Ex marking is Ex db ia ⅡC T1...T* Gb、Ex db eb ia mb ⅡC T1...T* Gb、Ex tb ⅢC T85℃...T450℃ Db.

(T*=T5 for CNGmass, T*=T6 for LPGmass, Cubemass); its certificate number is GYJ22.1932X.

Type approved in this certificate is detailed as below:

CNGmass 8□F□□-□□□□□□*a* A *b*□□□

LPGmass 8□E□□-□□□□□□*a* A *b*□□□

Cubemass 8CM□□-*aa*□□□□A *b*□□□□+□□

Note: *a* indicates Approval Code: B，K＝Ex db ia ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db

C，L＝Ex db eb ia mb ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db

aa indicates Approval Code: 81，84，NH＝Ex db ia ⅡC T1…T* Gb、
Ex tb ⅢC T85℃…T450℃ Db

83，NI＝Ex db eb ia mb ⅡC T1…T* Gb、
Ex tb ⅢC T85℃…T450℃ Db

b indicates cable entry, the code is 0, A, B,C or F;

□ indicates version, nominal diameters, measuring tube material, process connection, additional test/certificate, calibration massflow/density, power supply/display, custody transfer approval, output/input, operation language, secondary containment and option.

For the details, see the instruction manual.

2. Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

2.1 For information on the dimensions of the flameproof joints contact the manufacturer.

2.2 The relationship between flowmeter type, ambient temperature, process temperature and temperature class is as follows:

2.2.1 CNGmass(Sensor type:Promass FP)

Nominal diameter/Size:	ambient temperature	Maximum process temperature [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 08/15/25	-40℃~+50℃	-	95	125	125	125	125
DN 08/15 DN 25	-40℃~+60℃	- -	90 95	125 125	125 125	125 125	125 125

Minimum medium temperature: -50℃.

2.2.2 LPGmass(Sensor type:Promass E)

Nominal diameter/Size:	ambient temperature	Maximum process temperature [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 08/15	-40℃~+45℃	45	95	125	125	125	125
DN 08/15 DN 25/40	-40℃~+50℃	- 50	95 95	125 125	125 125	125 125	125 125
DN 08/15/25/40 DN50	-40℃~+60℃	- 60	95 95	125 125	125 125	125 125	125 125

Minimum medium temperature: -40℃.

2.2.3 Cubemass(Sensor type:Sensor C)

Nominal diameter/Size:	ambient temperature	Maximum process temperature [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 1/2/4	-40℃~+50℃	50	95	130	150	200	200
DN 1/2/4 DN 6	-40℃~+60℃	- 60	95 100	130 130	150 150	200 200	200 200

Minimum medium temperature: -50℃。

3. Conditions for Safe Use

3.1 Electrical ratings of the product are shown as follows:

	terminal	electrical parameter
power supply	1/(L+), 2/(L-)	U=20~28 V a.c. or U=10~30 V d.c. 4 VA / 3.2W Um=253V
signal circuit	22~27	Um=253V Im=1A

3.2 Recommended strip length for the connection terminal is 5-6mm.

3.3 The covers have to be screwed in up to the stop and fixed with the hexagon screw and the cover clamp.

3.4 For cable entries, appropriate certified cable glands or blanking plugs shall be used. The cable glands and blanking plugs to be used shall suitable for the product working conditions.

3.5 Warning of "Keep tight when the circuit is alive" has to be regarded or the area known to be non hazardous.

3.6 Installation and maintenance should only be done when there is no combustible dust exists. Clean the surface of this product termly when using in combustible dust atmosphere. (Only if installed in dust hazardous areas)

3.7 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.

3.8 For installation, use and maintenance of this product, the end user should observe the instruction manual and the following standards:

GB/T 3836.13-2021 "Explosive atmospheres- Part 13:Equipment repair,overhaul,reclamation and modification". GB/T 3836.15-2017 "Explosive atmospheres- Part 15:Electrical installations design, selection and erection". GB/T 3836.16-2017 "Explosive atmospheres- Part 16:Electrical installations inspection and maintenance". GB/T 3836.18-2017 "Explosive atmospheres- Part 18:Intrinsically safe electrical systems".

GB50257-2014 "Code for construction and acceptance of electric equipment on fire and device for explosion hazard electrical installation engineering".

GB15577-2018 "Safety regulations for dust explosion prevention and protection".

4. Manufacturer's Responsibility

4.1 Conditions for safe use and special conditions for safe use, as specified above, should be included in the documentation the user is provided with.

4.2 Manufacturing should be done according to the documentation approved by NEPSI.

Shanghai Inspection and Testing Institute of Instruments and Automation Systems Co., Ltd.
National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation
2022.09.11

防爆合格证

证　号：GYJ22.1932X

制　造　商　恩德斯+豪斯公司

（地址：CH-4153, Reinach BL1, Switzerland）

产品名称　质量流量计

型号规格　CNGmass 系列、LPGmass 系列、Cubemass 系列

防爆标志　见证书附件

产品标准　/

图样编号　321975-0000FGA

经图样及技术文件的审查和样品检验，确认上述产品符合下列标准：
GB/T 3836.1-2021,GB/T 3836.2-2021,GB/T 3836.3-2021,GB/T 3836.4-2021,
GB/T 3836.9-2021,GB/T 3836.31-2021

特颁发此证。

本证书有效期：2022 年 09 月 11 日 至 2027 年 09 月 10 日

备注
1. 安全使用注意事项见本证书附件。
2. 证书编号后缀“X”表明产品具有安全使用特殊条件，内容见本证书附件。
3. 型号规格说明见本证书附件。
4. 电气安全参数见本证书附件。
5. 本证书同时适用于恩德斯豪斯流量仪表技术（中国）有限公司（地址：苏州工业园区苏虹中路 465 号）生产的同型号产品。

批　准

上海仪器仪表自控系统检验测试所有限公司
国家级仪器仪表防爆安全监督检验站

颁发日期二〇二二　年　九　月　十一　日

本证书仅对与认可文件和样品一致的产品有效。

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GYJ22.1932X防爆合格证附件Ⅰ

由恩德斯＋豪斯公司生产的CNGmass系列、LPGmass系列和Cubemass系列质量流量计，经检验符合下列标准：

GB/T 3836.1-2021 爆炸性环境 第1部分：设备 通用要求

GB/T 3836.2-2021 爆炸性环境 第2部分：由隔爆外壳“d”保护的设备

GB/T 3836.3-2021 爆炸性环境 第3部分：由增安型“e”保护的设备

GB/T 3836.4-2021 爆炸性环境 第4部分：由本质安全型“i”保护的设备

GB/T 3836.9-2021 爆炸性环境 第9部分：由浇封型“m”保护的设备

GB/T 3836.31-2021 爆炸性环境 第31部分: 由防粉尘点燃外壳“t”保护的设备

产品防爆标志Ex db ia ⅡC T1...T* Gb、Ex db eb ia mb ⅡC T1...T* Gb、Ex tb ⅢC T85℃...T450℃ Db，防爆合格证号GYJ22.1932X。

其中：CNGmass（T*=T5）、LPGmass和Cubemass（T*=T6）。

本证书认可的产品型号规格如下：

CNGmass 8□F□□-□□□□□□*a*A*b*□□□

LPGmass 8□E□□-□□□□□□*a*A*b*□□□

Cubemass 8CM□□-*aa*□□□□A*b*□□□□+□□

其中：*a*为认可代码：B，K＝Ex db ia ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db
C，L＝Ex db eb ia mb ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db

*aa*为认可代码：81，84，NH＝Ex db ia ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db
83，NI＝Ex db eb ia mb ⅡC T1...T* Gb、
Ex tb ⅢC T85℃...T450℃ Db

*b*为电缆引入装置，代码为0、A、B、C或F；

□的代码表示版本、测量口径、测量管材料、过程连接、附加测试、校准、电源/显示、输入/输出、操作语言和备选等信息。

具体含义参见产品使用说明书。

一、产品安全使用特殊条件

产品防爆合格证号后缀“X”表示产品有安全使用特殊要求，具体内容如下：

1、涉及隔爆接合面的维修须联系产品制造厂商。

2、产品的使用环境温度、介质温度范围、最高表面温度和温度组别的关系如下：

- CNGmass（传感器Promass FP）

测量口径	环境温度	最高介质温度 [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 08/15/25	-40℃~+50℃	-	95	125	125	125	125
DN 08/15 DN 25	-40℃~+60℃	- -	90 95	125 125	125 125	125 125	125 125

最低介质温度为 -50℃。

- LPGmass（传感器Promass E）

测量口径	环境温度	最高介质温度 [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 08/15	-40℃~+45℃	45	95	125	125	125	125
DN 08/15 DN 25/40	-40℃~+50℃	- 50	95 95	125 125	125 125	125 125	125 125
DN 08/15/25/40 DN50	-40℃~+60℃	- 60	95 95	125 125	125 125	125 125	125 125

最低介质温度为 -40℃。

- Cubemass（传感器C）

测量口径	环境温度	最高介质温度 [℃]					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (450℃)
DN 1/2/4	-40℃~+50℃	50	95	130	150	200	200
DN 1/2/4 DN 6	-40℃~+60℃	- 60	95 100	130 130	150 150	200 200	200 200

最低介质温度为 -50℃。

二、产品使用注意事项

1、流量计的电气参数如下表所示：

	端子	电气参数
电源电路	1/(L+), 2/(L-)	U=20～28 V a.c. or U=10～30 V d.c. 4 VA / 3.2W Um=253V
信号电路	22～27	Um=253V Im=1A

2、连接端子的金属条长度建议为5～6mm。

3、外壳盖拧到止动处需用六角螺丝和盖夹固定。

4、产品的电缆引入口须配用经防爆检验认可的、与防爆型式相适应且满足相应防爆等级的电缆引入装置或封堵件；选用的电缆引入装置或封堵件应与产品的工作条件相适应。

5、产品在现场维护、使用时应遵循“断电源后开盖”的原则。

6、安装现场确认无爆炸性粉尘存在时方可进行安装和维护，且应定期采取清洁措施，以防止表面积聚粉尘。

7、用户不得自行随意更换该产品的电气零部件，应会同产品制造商共同解决运行中出现的故障，以免影响防爆性能和损坏现象的发生。

8、产品的安装、使用和维护应同时遵守产品使用说明书、GB/T 3836.13-2021“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、GB/T3836.15-2017“爆炸性环境 第15部分：电气装置的设计、选型和安装”、GB/T3836.16-2017“爆炸性环境 第16部分：电气装置的检查和维护”、GB/T 3836.18-2017“爆炸性环境 第18部分：本质安全电气系统”、GB50257-2014“电气装置安装工程爆炸和火灾危险环境 电气装置施工及验收规范”及GB15577-2018“粉尘防爆安全规程”的有关规定。

三、制造厂责任

1、产品制造厂必须将上述产品安全使用特殊条件和使用注意事项纳入该产品使用说明书。

2、制造厂必须严格按照NEPSI认可的文件资料生产。

上海仪器仪表自控系统检验测试所有限公司

国家级仪器仪表防爆安全监督检验站

二〇二二年九月十一日