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Worldwide Access

防 爆 合 格 证

证 号: GYJ21.3380X

制 造 商 VEGA Grieshaber KG

(地址: Am Hohenstein 113, Schiltach, Germany)

产 品 名 称 振动式限位开关

型 号 规 格 VEGAVIB VB60 系列

Ex ia IIC T1...T6 Gb
防 爆 标 志 Ex ia IIC T1...T6 Ga/Gb
Ex ia IIC T1...T6 Ga

产 品 标 准 /

图 样 编 号 GE2014、GE2055、GE2287、GE2288、GE2411

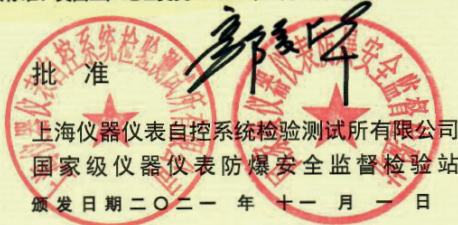
经图样及技术文件的审查和样品检验, 确认上述产品符合下列标准:

GB/T 3836.1-2021, GB/T 3836.4-2021, GB3836.20-2010

特颁发此证。

本证书有效期: 2021 年 11 月 01 日 至 2026 年 10 月 31 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. 本安电气参数见本证书附件。
 5. 本证书同时适用于 VEGA Americas Inc. (3877 Mason Research Parkway, Mason, Ohio, 45036, USA) 组装生产的相同型号产品。
 6. [更改 1] (型号、防爆标志、防爆标准、美国工厂地址变更) 2023 年 6 月 15 日签发。



本证书仅对与认可文件和样品一致的产品有效。

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SITIiAS
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EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert No. GYJ21.3380X

Manufacturer

VEGA Grieshaber KG

(Address: Am Hohenstein 113, Schiltach, Germany)

Product

Vibration limit switch

Model

VEGAVIB VB60 series

Ex marking

Ex ia IIC T1...T6 Gb

Ex ia IIC T1...T6 Ga/Gb

Ex ia IIC T1...T6 Ga

Product standard

/

Drawing number

GE2014、GE2055、GE2287、GE2288、GE2411

The product was found to comply with the following standard(s):

GB/T 3836.1-2021,GB/T 3836.4-2021,GB3836.20-2010

Valid until: 2026.10.31

Remarks

- 1.Conditions for safe use are specified in the attachment(s) to this certificate.
- 2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.
- 3.Model designation is specified in the attachment(s) to this certificate.
- 4.Intrinsic safety parameters specified in the attachment(s) to this certificate.
- 5.This certificate also cover the product with the same type that manufactured by VEGA Americas Inc. (3877 Mason Research Parkway, Mason, Ohio, 45036, USA) .
- 6.[Variation I] (modify model, the standards , Ex-marking and factory address in America) issued on 2023.06.15.



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 2021.11.01

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

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(GYJ21.3380X)

(Attachment II)

GYJ21.3380X防爆合格证附件 II

由 VEGA Grieshaber KG 和 VEGA Americas Inc.生产的 VEGAVIB VB60 系列振动式限位开关, 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 3836.4-2021 爆炸性环境 第4部分: 由本质安全型“i”保护的的设备

GB 3836.20-2010 爆炸性环境 第20部分: 设备保护等级(EPL)为Ga级的设备

产品防爆标志: Ex ia IIC T1...T6 Gb Ex ia IIC T1...T6 Ga/Gb

Ex ia IIC T1...T6 Ga

防爆合格证号GYJ21.3380X。

产品具体认可型号为:

VEGAVIB VB60(a)(b).C(c)d(e)f(g)h(i)

a代表产品类型, 可为 1 (短款) 或 3 (长款);

b代表仅供内部使用的附加字符的占位符, 与防爆无关项;

c代表应用或组合应用的区域, 与防爆无关项;

d代表选型/过程温度, 可为 A(标准/-50~+150℃)、B(带中间插件/-50~+250℃)、C(水中固体探测/-50~+150℃)、E(带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-50~+150℃)、F(带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-50~+250℃)或 G(水中固体探测, 带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-50~+150℃);

ef代表过程接口/材质, 与防爆无关项;

g代表电子部件, 可为 Z(两线制)或 N(NAMUR 信号);

h代表壳体/防护等级, 可为 A(铝制单腔/IP66/IP67)、K(塑料制单腔/IP66/IP67)、8(不锈钢制单腔电解抛光/IP66/IP67)或 V(不锈钢制单腔精铸/IP66/IP67)

i代表电气接口/电缆夹套/插塞接, 可为 M(M20×1.5/无/无)或 N(1/2 NPT/无/无);

j代表附加配置, 与防爆无关项。

VEGAVIB VB62(a).C(b)c(d)e(f)g(h)i

a代表仅供内部使用的附加字符的占位符, 与防爆无关项;

b代表应用或组合应用的区域, 与防爆无关项;

c 代表选型/过程温度, 可为 T(PUR 电缆/-20~+80℃)、H(FEP 电缆/-40~+150℃)、C(PUR 电缆水中固体探测/-20~+80℃)、E(FEP 电缆水中固体探测/-40~+100℃)、K(PUR 电缆带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-20~+80℃)、L(FEP 电缆带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-40~+150℃)、M(PUR 电缆水中固体探测带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-20~+80℃)、N(FEP 电缆水中固体探测带 Carborcer 涂层; 减少黏附, 无腐蚀/磨损保护/-40~+100℃);

de 代表过程接口/材质, 与防爆无关项;

f 代表电子部件, 可为 Z(两线制)或 N(NAMUR 信号);

g 代表壳体/防护等级, 可为 A(铝制单腔/IP66/IP67)、K(塑料制单腔/IP66/IP67)、8(不锈钢制单腔电解抛光/IP66/IP67)或 V(不锈钢制单腔精铸/IP66/IP67)

h 代表电气接口/电缆夹套/插塞接, 可为 M(M20×1.5/无/无)或 N(1/2 NPT/无/无);

i 代表附加配置, 与防爆无关项。

一、 产品安全使用特殊条件

产品防爆合格证号后缀“X”代表产品安全使用有特定条件:

1. 应采取适当安全措施避免产品裸露非金属部件静电电荷产生引燃危险。
2. 铝合金外壳用于要求EPL Ga的场所时, 应采取适措施防止由于冲击或摩擦引起的点燃危险。
3. 产品用于要求EPL Ga或Ga/Gb的场所时, 应可靠连接到地电位平衡系统, 防止静电电荷的积聚。
4. 产品的安装应避免传感器部分与罐体的接触, 并考虑介质冲击的不利影响。
5. 产品用于要求EPL Ga或Ga/Gb的场所时, 测量介质不得对接液部分有不利的影响。
6. 使用环境温度: -40℃~+80℃

二、 产品使用注意事项

1. 用户不得自行更换该产品的零部件, 应会同产品制造商共同解决运行中出现的故障, 以杜绝损坏现象的发生。
2. 保安参数: $U_i=30V$ 、 $I_i=131mA$ 、 $P_i=983mW$ 、 $C_i\approx 0nF$ 、 $L_i\approx 0mH$ 。(电子部件代码Z)
 $U_i=20V$ 、 $I_i=103mA$ 、 $P_i=516mW$ 、 $C_i\approx 0nF$ 、 $L_i\approx 0mH$ 。(电子部件代码N)

3. 环境温度、介质温度与温度组别的关系：

当产品电子部件代码为Z时，

EPL Ga应用

温度组别	环境温度	介质温度
T6	-20℃~+55℃	-20℃~+55℃
T1~T5	-20℃~+60℃	-20℃~+60℃

EPL Ga/Gb应用

温度组别	环境温度	介质温度		
		VB62型	VB61/63型	
			不带温度适配器	带温度适配器
T6	-40℃~+55℃	-20℃~+60℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+70℃	-20℃~+60℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+60℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+250℃

EPL Gb应用

温度组别	环境温度	介质温度		
		VB62型	VB61/63型	
			不带温度适配器	带温度适配器
T6	-40℃~+55℃	-20℃~+70℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+70℃	-20℃~+80℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+80℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+250℃

当产品电子部件代码为N时，

EPL Ga应用

温度组别	环境温度	介质温度
T1~T6	-20℃~+60℃	-20℃~+60℃

EPL Ga/Gb应用

温度组别	环境温度	介质温度		
		VB62型	VB61/63型	
			不带温度适配器	带温度适配器
T6	-40℃~+61℃	-20℃~+60℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+76℃	-20℃~+60℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+60℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+250℃

EPL Gb应用

温度组别	环境温度	介质温度		
		VB62型	VB61/63型	
			不带温度适配器	带温度适配器
T6	-40℃~+61℃	-20℃~+70℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+76℃	-20℃~+80℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+80℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+250℃

4. 本安型产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。

5. 产品必须与已通过防爆认证的关联设备配套共同组成本安防爆系统方可使用于爆炸性气体环境。其系统接线必须同时遵守本产品和所配关联设备的使用说明书要求，接线端子不得接错。

6. 产品的安装、使用和维护应同时遵守产品使用说明书、GB/T3836.13-2021“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/T3836.16-2022“爆炸性环境 第16部分：电气装置的检查和维护”、GB/T3836.18-2017“爆炸性环境 第18部分：本质安全电气系统”、GB50257-2014“电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范”。

三、 制造厂责任

- 1. 制造厂必须将上述使用注意事项纳入产品的使用说明书中。
- 2. 制造厂必须严格按照NEPSI认可的文件资料生产。
- 3. 产品铭牌中应至少包括下列内容：

- a) NEPSI认可标志（见防爆合格证书）
- b) 产品防爆标志
- c) 防爆合格证号
- d) 使用环境温度范围等



注：本附件II代替附件I



Attachment I to GYJ21.3380X

Vibration limit switch types VEGAVIB VB60 series manufactured by VEGA Grieshaber KG and VEGA Americas Inc. has been certified, this product accords with following standards:

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

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

GB 3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

The Ex marking is Ex ia IIC T1...T6 Gb Ex ia IIC T1...T6 Ga/Gb Ex ia IIC T1...T6 Ga

The certificate number is GYJ21.3380X.

Type designation:

VEGAVIB VB6**a**(**b**).**Cc d ef g h i j**

a denotes product type, can be 1 or 3;

b denotes optional version differentiation, not relevant for Ex approval;

c denotes area of application or combination of areas, not relevant for Ex approval;

d denotes adapter/process temperature/cable, can be A, B, C, E, F or G;

ef denotes process connection, not relevant for Ex approval;

g denotes electronics, can be Z or N;

h denotes enclosure/protection, can be A, K, 8 or V;

i denotes cable gland/plug connection, can be M or N;

j denotes additional equipment, not relevant for Ex approval.

VEGAVIB VB62(**a**).**Cb c de f g h i**

a denotes optional version differentiation, not relevant for Ex approval;

b denotes area of application or combination of areas, not relevant for Ex approval;

c denotes adapter/process temperature/cable, can be T, H, C, E, K, L, M or N;

de denotes process connection, not relevant for Ex approval;

f denotes electronics, can be Z or N;

g denotes enclosure/protection, can be A, K, 8 or V;

h denotes cable gland/plug connection, can be M or N;

i denotes additional equipment, not relevant for Ex approval.

1. Special condition for safe use

Symbol "X" denotes special condition for safe use:

1.1 For EPL Ga applications, at the metallic parts of the products made of light metal there is a danger of ignition by impact or friction. Observe the instruction manual.

1.2 At the surface of plastic parts of the products(including plastic-coated sensors,carrying cable or distance pipe),there is a danger of ignition by electrostatic discharge. Observe the instruction manual and warning label.

1.3 For EPL Ga or Ga/Gb applications, the product shall be electrostatically(contact resistance $\leq 1\text{M}\Omega$)connected to the equipotential bonding conductor.

1.4 This product should be installed in such a way that contact between the measuring sensor and the tank wall will be excluded with sufficient safety, considering the tank installations and the flow conditions inside the tank.

1.5 For EPL Ga or Ga/Gb applications, all parts of the product which are in contact with the medium must be used in such media, against which they are sufficiently resistant.

1.6 Ambient temperature: $-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$.

2. Condition for safe use

2.1 The user shall not replace the parts of the product by himself. The user shall work with the product manufacturer to solve the failure during operation to prevent the occurrence of damage.

2.2 Intrinsically safe parameters: $U_i=30\text{V}$, $I_i=131\text{mA}$, $P_i=983\text{mW}$, $C_i\approx 0\text{nF}$, $L_i\approx 0\text{mH}$.(electronics:Z)
 $U_i=30\text{V}$, $I_i=103\text{mA}$, $P_i=516\text{mW}$, $C_i\approx 0\text{nF}$, $L_i\approx 0\text{mH}$.(electronics:N)

2.3 The relationship between ambient temperature, medium temperature and temperature class:

Electronics:Z

EPL Ga applications

Temperature class	Ambient temperature	Medium temperature
T6	$-20^{\circ}\text{C}\sim+55^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+55^{\circ}\text{C}$
T1~T5	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$

EPL Ga/Gb applications

Temperature class	Ambient temperature	Medium temperature		
		VB62 series	VB61/3 series	
			Without adapter	With adapter
T6	$-40^{\circ}\text{C}\sim+55^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+85^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+85^{\circ}\text{C}$
T5	$-40^{\circ}\text{C}\sim+70^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+100^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+100^{\circ}\text{C}$
T4	$-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+135^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+135^{\circ}\text{C}$
T3	$-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+150^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+200^{\circ}\text{C}$
T1/T2	$-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$	$-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+150^{\circ}\text{C}$	$-50^{\circ}\text{C}\sim+250^{\circ}\text{C}$

EPL Gb applications

Temperature class	Ambient temperature	Medium temperature	
		VB62 series	VB61/3 series

			Without adapter	With adapter
T6	-40℃~+55℃	-20℃~+70℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+70℃	-20℃~+80℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+80℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+250℃

Electronics:N

EPL Ga applications

Temperature class	Ambient temperature	Medium temperature
T1~T6	-20℃~+60℃	-20℃~+60℃

EPL Ga/Gb applications

Temperature class	Ambient temperature	Medium temperature		
		VB62 series	VB61/3 series	
			Without adapter	With adapter
T6	-40℃~+61℃	-20℃~+60℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+76℃	-20℃~+60℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+60℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+60℃	-50℃~+150℃	-50℃~+250℃

EPL Gb applications

Temperature class	Ambient temperature	Medium temperature		
		VB62 series	VB61/3 series	
			Without adapter	With adapter
T6	-40℃~+61℃	-20℃~+70℃	-50℃~+85℃	-50℃~+85℃
T5	-40℃~+76℃	-20℃~+80℃	-50℃~+100℃	-50℃~+100℃
T4	-40℃~+80℃	-20℃~+80℃	-50℃~+135℃	-50℃~+135℃
T3	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+200℃
T1/T2	-40℃~+80℃	-20℃~+80℃	-50℃~+150℃	-50℃~+250℃

- 2.4 Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.
- 2.5 This product should be used in explosive gas atmospheres together with approved associated apparatus, follow the instruction manual of the product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly.
- 2.6 During the installation, using and maintenance, the user shall following the instruction and following standards:
- GB/T3836.13-2021 Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation

GB/T3836.15-2017 Explosive atmospheres-Part 15: Electrical installations design, selection and erection

GB/T3836.16-2022 Explosive atmospheres-Part 16: Electrical installations inspection and maintenance

GB/T3836.18-2017 Explosive atmospheres-Part 18: Intrinsically safe electrical systems

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

3. Manufacturer's Responsibility

3.1 Condition for safe use specified above should be included in the instruction manual.

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

3.3 Following items should be added to the nameplate

- a) NEPSI logo 
- b) Ex marking
- c) Number of certificate
- d) Ambient temperature range

Shanghai Inspection and Testing Institute of
Instruments and Automation Systems Co., Ltd.
National Supervision and Inspection Center for
Explosion Protection and Safety of Instrumentation
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Note: This annex II replaces Annex I

