Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # EU-TYPE EXAMINATION CERTIFICATE

(Translation)

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 04 ATEX 2035 X **Issue: 2**

(4) Product: Vibration level switch, VEGAVIB type code VB6*(*).C****N/Z****

(5) Manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 22-21049.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018+AC:2020, EN 60079-11:2012, IEC 60079-26:2021

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 1 G Ex ia IIC T6...T1 Ga **or**

II 1/2 G Ex ia IIC T6...T1 Ga/Gb **or**

II 2 G Ex ia IIC T6...T1 Gb

Konform itätsbewertungsstelle, SektorExplosionsschutz
Onbehalf of PTB :

Dr.-Ing. M. Thedens
Regierungsdirektor

Braunschweig, June 8, 2022

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 04 ATEX 2035 X, Issue: 2**

(15) Description of Product

The vibration level switches VEGAVIB, type code VB6*.C****N/Z**** are used for level measurement in potentially explosive gas atmospheres requiring category-1 or category-1/2 or category-2 equipment.

They consist of an electronics housing with the corresponding evaluation electronic, the process connectors and the sensor.

Extract from the type key

VEGAVIB VB6*(*).	C*	*	**	*	*	*	*
* = 1, 2, 3,	ab	c	de	f	g	h	i

ab: area of validity

CX	=	**ATEX II 1G, 1/2G, 2G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb**
CK	=	ATEX II 1G, 1/2G, 2G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb + ATEX II 1D 1/2D 2D Ex ta ta/tb tb IIIC T... Da Da/Db, Db
CI	=	IECEx Ex ia IIC T6 Ga Ga/Gb, Gb

c: adapter / process temperature / cable

de: process connection / material

f: electronics

Z	=	2- wire signal
N	=	NAMUR-Signal

g: enclosure / protection

h: cable gland / plug connection

i: additional equipment

The full type code can be found in the safety instructions.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

Category-1 equipment

The vibration level switches are installed in potentially explosive atmospheres requiring category-1 equipment.

Category-1/2 equipment

The electronics housing is installed in potentially explosive atmospheres requiring category-2 equipment. The process connectors are installed in the partition separating areas requiring category-2 or category-1 equipment. The sensor is installed in potentially explosive atmospheres for category-1 equipment.

Category-2 equipment

The vibration level switches are installed in potentially explosive atmospheres requiring category-2 equipment.

For the relationship between the temperature class and the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the evaluation electronic, reference is made to the following table.

Category-1 equipment
2- wire signal / NAMUR-signal

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor
T6, T5, T4, T3, T2, T1	-20 ... +60 °C	-20 ... +60 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-1/2 equipment
2- wire signal

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63*** without	with temperature adapter
T6	-40°C ... +55°C	-20°C ... +60°C	-50°C...+ 85°C	-50°C ...+ 85°C
T5	-40°C ... +70°C	-20°C ... +60°C	-50°C...+100°C	-50°C ...+100°C
T4	-40°C ... +80°C	-20°C ... +60°C	-50°C...+135°C	-50°C ...+135°C
T3	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+250°C

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

NAMUR-signal

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63***	
			without	with temperature adapter
T6	-40°C ... +61°C	-20°C ... +60°C	-50°C...+ 85°C	-50°C ...+ 85°C
T5	-40°C ... +76°C	-20°C ... +60°C	-50°C...+100°C	-50°C ...+100°C
T4	-40°C ... +80°C	-20°C ... +60°C	-50°C...+135°C	-50°C ...+135°C
T3	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+250°C

For applications requiring category-1 equipment, the media process pressure of the vibration level switches VEGAVIB, type code VB62(*).C****N/Z**** have to be between 0.8 bar and 1.1 bar. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

When the vibration level switches VEGAVIB, type code VB61(*).C****N/Z **** and VEGAVIB VB63(*).C****N/Z**** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above. In the process it shall be considered that the measuring sensor (even in case of failure) does not show any self-heating and that the operator is responsible for the safe operation of the plant regarding the pressures / temperatures of the materials used.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-2 equipment

2- wire signal

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63***	
			without	with temperature adapter
T6	-40°C ... +55°C	-40°C ... +70°C	-50°C...+ 85°C	-60°C ...+ 85°C
T5	-40°C ... +70°C	-40°C ... +80°C	-50°C...+100°C	-60°C ...+100°C
T4	-40°C ... +80°C	-40°C ... +80°C	-50°C...+135°C	-60°C ...+135°C
T3	-40°C ... +80°C	-40°C ... +80°C	-50°C...+150°C	-60°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +80°C	-50°C...+150°C	-60°C ...+250°C

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

NAMUR-signal

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63***	
			without temperature adapter	with
T6	-40°C ... +61°C	-40°C ... +70°C	-50°C...+ 85°C	-60°C ...+ 85°C
T5	-40°C ... +76°C	-40°C ... +80°C	-50°C...+100°C	-60°C ...+100°C
T4	-40°C ... +80°C	-40°C ... +80°C	-50°C...+135°C	-60°C ...+135°C
T3	-40°C ... +80°C	-40°C ... +80°C	-50°C...+150°C	-60°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +80°C	-50°C...+150°C	-60°C ...+250°C

When the vibration level switches VEGAVIB, type code VB6*(*).C****N/Z**** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above. In the process it shall be considered that the measuring sensor (even in case of failure) does not show any self-heating and that the operator is responsible for the safe operation of the plant regarding the pressures / temperatures of the materials used.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

2- wire signal

Electrical data

Supply and signal circuit
(terminals 1 [+], 2 [-] in the electronic compartment, for the 2-cell enclosure version in the terminal compartment)

Type of protection Intrinsic Safety Ex ia IIC
For connection to a certified intrinsically safe circuit.
Maximum values:
U_i = 30 V
I_i = 131 mA
P_i = 983 mW
C_i negligibly low or in the version with fixed connected cable, VEGAVIB, type code VB6*(*).CX***Z3/5**, $C_{i'core/core}$ = 58 pF/m, $C_{i'core/screen}$ = 270 pF/m,
Li negligibly low or in the version with fixed connected cable, VEGAVIB, type code VB6*(*).CX***Z3/5**, Li' = 0.55 µH/m

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

NAMUR-signal

Electrical data

Supply and signal circuit (terminals 1 [+], 2 [-] in the electronic compartment, for the 2-cell enclosure version in the terminal compartment)	Type of protection Intrinsic Safety Ex ia IIC For connection to a certified intrinsically safe circuit. Maximum values: U_i = 20 V I_i = 103 mA P_i = 516 mW C_i negligibly low or in the version with fixed connected cable, VEGAVIB, type code VB6*(*).CX***Z3/5**, $C_{i'core/core}$ = 58 pF/m, $C_{i'core/screen}$ = 270 pF/m, Li ≤ 5 µH or in the version with fixed connected cable, VEGAVIB, type code VB6*(*).CX***Z3/5**, $L_{i'}$ = 0.55 µH/m

The intrinsically safe circuits are safely electrically isolated from elements that may be earthed. The metallic parts of VEGAVIB 61, 62, 63 are electrically connected to the earth terminals. In applications requiring category 1G or 1/2G equipment, the intrinsically safe supply and signal circuit must correspond to protection level ia. In applications requiring category 1G or 1/2G equipment, VEGAVIB 61, 62, 63 should preferably be connected to the corresponding equipment with galvanically separated, intrinsically safe circuits. For applications requiring category 2G equipment, the intrinsically safe supply and signal circuit may correspond to protection level ia or ib. When connecting to a circuit with protection level ib, the ignition protection code is Ex ib IIC T6.

Update to newest standard versions of EN 60079-0, EN 60079-11, EN 60079-26.

In addition, the certificate PTB 05 ATEX 2077 X issue 1 are integrated in the certificate PTB 04 ATEX 2035 X issue 2, IECEx PTB 07.0015 X issue 2.
This invalidates the PTB 05 ATEX 2077 X issue 1 certificate.

Modification of the temperature tables.

(16) Test Report PTB Ex22-21049

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

(17) Specific conditions of use

1. When used as a category-1 equipment, the vibration level switches VEGAVIB, type code VB6*(*).C****N/Z****, which include the material aluminum, shall be installed in such a way that sparking as a result of impact or friction between aluminum and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.

2. The vibration level switches with plastic enclosure, with metal enclosure with display window as well as coated sensors, carrying cable or distance pipe include surfaces that can become charged electrostatically (note warning label).

3. When used as catagory-1 or category-1/2 equipment, the vibration level switches VEGAVIB shall be connected to the equipotential bonding conductor (contact resistance $\leq 1M\Omega$) (e.g. using the earthing terminal) in order to prevent metal elements from being charged electrostatically.

4. The vibration level switches VEGAVIB shall 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. This applies, in particular, cable and distance pipe lengths exceeding the length of 3 m.

5. For applications where equipment of category 1 or category 1/2 is required, all parts of the vibration level switches VEGAVIB which are in contact with the medium must only be used in such media, against which they are sufficiently resistant.

6. Further examinations showed, that the vibration level switches VEGAVIB, type code VB61(*).C****N/Z**** and VB63(*).C****N/Z**** may also be used as category-1/2 equipment in hazardous areas which deviate from the atmospheric conditions (0.8 bar...1.1 bar and -20°C ...+60°C). For permissible operating temperatures and pressures for the operation reference is made to the manufacturer´s specifications. In this process, it shall be considered that the measuring sensors (even in case of fault) do not show any self-heating and that the owner is responsible for the safe operation of the system as regards the pressures/temperatures of the media used.

7. The capacitance measurements at the measuring point identification signs resulted in the following values (measured without grounding):

Pos.	Description	Dimension and area	capacitance in pF
1	Metal type label with key ring	45 mm x 23 mm= 1035 mm^2	21
2	Metal type label with key ring	100 mm x 30 mm= 3000 mm^2	52
3	Metal type label with key ring	73 mm x 47 mm = 3431 mm^2	61

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 2

The measuring point identification plate must be connected to the ground connection using the accessories supplied. To ensure that this connection is always present, it must be checked at regular intervals.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:
Dr.-Ing. M. Thedens
Regierungsdirektor

Braunschweig, June 8, 2022

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

(1) # EU-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 04 ATEX 2035 X **Issue: 01**

(4) Equipment: Vibration level switch, type series VEGAVIB VB6*(*).CX***Z***

(5) Manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach, Germany

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 17-26108.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 **EN 60079-11:2012** **EN 60079-26:2015**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 1 G or 1/2 G or 2 G Ex ia IIC T6...T1 Ga, Ga/Gb, Gb

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, August 8, 2017
On behalf of PTB:

Dr.-Ing. F. Lienesch
Direktor und Professor

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 04 ATEX 2035 X, Issue: 01 01**

(15) Description of Equipment

The vibration level switches of type series VEGAVIB VB6*(*).CX***Z*** are used for level measurement in potentially explosive gas atmospheres requiring category-1 or category-1/2 or category-2 equipment.

They consist of an electronics housing with the corresponding evaluation electronic, the process connectors and the sensor.

Extract from the type key

VEGAVIB VB6*(*).	C*	*	**	*	*	*	*
* = 1, 2, 3, 5, 6, 7	ab	c	de	f	g	h	i

ab: Area of validity

CX	=	**ATEX II 1G, 1/2G, 2G Ex ia IIC T6..T1 Ga, Ga/Gb, Gb**
CK	=	ATEX II 1G, 1/2G, 2G Ex ia IIC T6..T1 Ga, Ga/Gb, Gb + ATEX II 1D 1/2D 2D Ex ta ta/tb tb IIIC T… Da Da/Db, Db IP66
CI	=	IECEx Ex ia IIC T6 Ga Ga/Gb, Gb

c: Adapter / Process Temperature / Cable

de: Process Connection / Material

f: Elektronics
Z = two-wire-signal

g: Enclosure / Protection

h: Cable gland / Plug connection

i: Additional equipment

The full type code can be found in the safety instructions.

Category-1 equipment

The vibration level switch are installed in potentially explosive atmospheres requiring category-1 equipment.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 01

Category-1/2 equipment

The electronics housing is installed in potentially explosive atmospheres requiring category-2 equipment. The process connectors are installed in the partition separating areas requiring category-2 or category-1 equipment. The sensor is installed in potentially explosive atmospheres for category-1 equipment.

Category-2 equipment

The vibration level switches are installed in potentially explosive atmospheres requiring category-2 equipment. For the relationship between the temperature class and the maximum permissible temperature at the sensor and the maximum permissible ambient temperature for the evaluation electronic, reference is made to the following table.

Category-1 equipment

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor
T6	-20 ... +39 °C	-20 ... +39 °C
T5	-20 ... +51 °C	-20 ... +51 °C
T4, T3, T2, T1	-20 ... +60 °C	-20 ... +60 °C

For applications requiring category-1 equipment, the media process pressure has to be between 0.8 bar and 1.1 bar. The permissible ambient temperatures specified are based on the 80% rule in section 6.4.2 of EN 1127-1. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-1/2 equipment

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62/66***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63/65/67***	
			without	with temperature adapter
T6	-40°C ... +55°C	-20°C ... +54°C	-50°C...+ 85°C	-50°C ...+ 85°C
T5	-40°C ... +70°C	-20°C ... +60°C	-50°C...+100°C	-50°C ...+100°C
T4	-40°C ... +80°C	-20°C ... +60°C	-50°C...+135°C	-50°C ...+135°C
T3	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +60°C	-50°C...+150°C	-50°C ...+250°C

For applications requiring category-1 equipment, the media process pressure of the vibration level switches of type series VEGAVIB VB62/66(*).CX***Z*** has to be between 0.8 bar and 1.1 bar. For the type series VEGAVIB VB62/66(*).CX***Z*** the specified permissible ambient temperatures are based on the 80% rule in section 6.4.2 of EN 1127-1. For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

When the vibration level switches of type series VEGAVIB VB61/65(*).CX***Z*** and VEGAVIB VB63/67(*).CX***Z*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above. In the process it shall be considered that the measuring sensor (even in case of failure) does not show any self-heating and that the operator is responsible for the safe operation of the plant regarding the pressures / temperatures of the materials used.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

Category-2 equipment

temperature class	permissible temperature for the electronic system	permissible ambient temperature at the sensor of the VEGAVIB VB62/66***	permissible ambient temperature at the sensor of the VEGAVIB VB61/63/65/67***	
			without temperature adapter	with temperature adapter
T6	-40°C ... +55°C	-40°C ... +70°C	-50°C...+ 85°C	-60°C ...+ 85°C
T5	-40°C ... +70°C	-40°C ... +80°C	-50°C...+100°C	-60°C ...+100°C
T4	-40°C ... +80°C	-40°C ... +80°C	-50°C...+135°C	-60°C ...+135°C
T3	-40°C ... +80°C	-40°C ... +80°C	-50°C...+150°C	-60°C ...+200°C
T2, T1	-40°C ... +80°C	-20°C ... +80°C	-50°C...+150°C	-60°C ...+250°C

When the vibration level switches of type series VEGAVIB VB6*(*).CX***Z*** are operated with higher temperatures than indicated in the table above, it shall be guaranteed by suitable measures that no ignition hazard is caused by such hot surfaces. In this case the temperature at the electronics housing shall not exceed the respective values of the table above. In the process, it shall be considered that the measuring sensor (even in case of failure) does not show any self-heating and that the operator is responsible for the safe operation of the plant regarding the pressures / temperatures of the materials used.
For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

For the process conditions without explosive mixtures, reference shall be made to the specifications provided by the manufacturer.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 2035 X, Issue: 01

Electrical data

Supply and signal circuit (termina ls 1 [+], 2 [-] in the electronic compartment, for the 2-cell enclosure version in the terminal compartment)	Type of protection Intrinsic Safety Ex ia IIC For connection to a certified intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW C_i negligibly low or in the version with fixed connected cable, VEGAVIB type series VB6*(*).CX***Z3/5**, $C_{i'core/core}$ = 58 pF/m, $C_{i'core/screen}$ = 270 pF/m, L_i negligibly low or in the version with fixed connected cable, VEGAVIB type series VB6*(*).CX***Z3/5**, $L_{i'}$ = 0.55 µH/m

The metal elements of the vibration level switches VEGAVIB are electrically connected to the earth terminals.

The intrinsically safe supply and signal circuit is safely electrically isolated from elements that may be earthed.

Modifications to the EC-Type-Examination Certificate

Update to newest standard versions of EN 60079-0, EN 60079-11, EN 60079-26.

The modifications include the internal assembly of the electronic, the connection of external cable, enclosures with special colours and one additional process connection.

Optional protection - coating of the vibrating rod with the material CARBOCER and related extension of the model coding of VEGAVIB VB6*(*).CX***Z***.

Declaration of model coding in the EU- Type Examination Certificate with the variants VEGAVIB VB6*(*).CX***Z*** in protection type “Ex ia”.

(16) Test Report PTB Ex17-26108

(17) Specific conditions of use

1) When used as a category-1 equipment, the vibration level switches of type series VEGAVIB VB6*(*).CX***Z***, which include the material aluminum, shall be installed in such a way that sparking as a result of impact or friction between aluminum and steel (with the exception of stainless steel if the presence of rust particles can be excluded) is excluded.

2) The vibration level switches with plastic enclosure, with metal enclosure with display window as well as coated sensors, carrying cable or distance pipe include surfaces that can become charged electrostatically (note warning label).

3) When used as EPL Ga- or EPL -Ga/Gb equipment, the vibration level switches VEGAVIB shall be connected to the equipotential bonding conductor (contact resistance ≤1MΩ) (e.g. using the earthing terminal) in order to prevent metal elements from being charged electrostatically.

4) The vibration level switches VEGAVIB shall 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. This applies, in particular, cable and distance pipe lengths exceeding the length of 3 m.

5) For applications where equipment of EPL Ga- or EPL Ga/Gb is required, all parts of the vibration level switches VEGAVIB which are in contact with the medium must only be used in such media, against which they are sufficiently resistant.

6) Further examinations showed, that the vibration level switches of type series VEGAVIB VB61/65(*).CX***Z*** and VEGAVIB VB63/67(*).CX***Z*** may also be used as category-1/2 equipment in hazardous areas which deviate from the atmospheric conditions (0.8 bar…1.1 bar and -20°C …+60°C). For permissible operating temperatures and pressures for the operation reference is made to the manufacturer´s specifications. In this process, it shall be considered that the measuring sensors (even in case of fault) do not show any self-heating and that the owner is responsible for the safe operation of the system as regards the pressures/temperatures of the media used.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz — Braunschweig, August 8, 2017
On behalf of PTB:

Dr.-Ing. F. Lienesch
Direktor und Professor