Translation

(1) # EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV 13 ATEX 131115 X** **issue:** 02

(4) for the product: Pressure transmitter VEGABAR 8* type
8(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F******
8(*).*C/U/O/H/T******(*)H/AZ*****

(5) of the manufacturer: **VEGA Grieshaber KG**

(6) Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8003022756
Date of issue: 2020-11-02

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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 ATEX Assessment Report No. 20 203 277364.

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

EN IEC 60079-0:2018 **EN 60079-11:2012** **EN 60079:26:2015**

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for 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. 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 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

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The deputy of the head of the notified body

Heinen TÜV NORD Digital unterschrieben von Heinen Thomas Datum: 2020.11.02 16:14:34 +01'00'

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(13) **S C H E D U L E**

(14) **EU-Type Examination Certificate No. TÜV 13 ATEX 131115 X issue 02**

(15) **Description of product:**
The pressure transmitters VEGABAR 8* type *8*(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F****** and *8*(*).*C/U/O/H/T******(*)H/AZ***** are used for pressure and filling level measurement in explosion hazardous areas.

A display and adjustment module PLICSCOM (TÜV 15 ATEX 161127 U or schematics SB1497-1-00-0, SB1503-1-02-0 and drawings GE3618-01, GE3626-02, GE3627-02, GE3628) can be installed within the equipment with following options:

X without
A installed
F without, cover with display window
B installed on the side
K installed, with Bluetooth, magnetic pen operation
L installed on the side, with Bluetooth, magnetic pen operation

If an explosive atmosphere is not present, the interface adapter VEGACONNECT (PTB 07 ATEX 2013 X) can be installed.

Electrical data:
VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with single chamber housing A, K, V or 8

Supply and signal circuit:	In type of protection intrinsic safety Ex ia IIC/IIB
(Terminals 1[+], 2[-] in the "Ex-i" electronics compartment or plug connection)	Only for connection to a certified intrinsically safe circuit Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.

Schedule to EU-Type Examination Certificate No. TÜV 13 ATEX 131115 X issue 02

VEGABAR *8*(*).IC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with double chamber housing D, W or R

Power supply and signal circuit: (terminal 1[+], 2[-] in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i with the double chamber version is $L_i \leq 10$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification)

Indicating and adjustment circuit: (terminals 5, 6, 7, 8) [1] [2] [3]	In type of protection intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of the corresponding external display unit VEGADIS 61/81 (IECEx PTB 06.0048 X) or for connection of a VEGABAR B80 with integrated electronics S or T for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR *8*(*).AC/U/O/ H/T, VEGABAR *8*(*).VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T L_{cable} = 330 µH and C_{cable} = 1.98 µF are not exceeded. When using the delivered VEGA connection cable between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*). VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a

[1] In the "Ex-i" electronics compartment with VEGABAR in version with single chamber housing A, K, V or 8.

[2] In the "Ex-i" connection compartment with VEGABAR in version with double chamber housing D, W or R.

[3] Additional plug connection with VEGABAR in version with double chamber housing D, W, R and housing version/protection P (with M12 x 1 for VEGADIS).

	cable length ≥ 50 m. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m

Intrinsically safe circuit for the display and adjustment module

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with single chamber housing A, K, V or 8

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with double chamber housing D, W or R

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT.
Or	
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT. In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with double chamber housing D, W or R with housing version/protection P (with M12 x 1 for VEGADIS)

Circuit for the display and adjustment module: (Spring contacts in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT. In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

Schedule to EU-Type Examination Certificate No. TÜV 13 ATEX 131115 X issue 02

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with single chamber housing A, K, V or 8

Supply and signal circuit: (Terminals 1[+], 2[-] in the "Ex-i" electronics compartment or plug connection)	In type of protection intrinsic safety Ex ia IIC Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The instrument is suitable for connection to a Fieldbus system according to the FISCO model (IEC 60079-11), e.g. Profibus PA. or U_i = 24 V I_i = 250 mA P_i = 1.2 W The effective internal capacitance C_i is negligibly small. The effective internal inductance L_i is negligibly small. In the version with fix-mounted connection cable, the following cable inductances $L_{i'}$ and cable capacitances C_i have to be taken into account. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with double chamber housing D, W or R

Power supply and signal circuit: (terminal 1[+], 2[-] in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The instrument is suitable for connection to a Fieldbus system according to the FISCO model (IEC 60079-11), e.g. Profibus PA. or U_i = 24 V I_i = 250 mA P_i = 1.2 W The effective internal capacitance C_i is negligibly small. The effective internal inductance is $L_i \leq 5$ µH.

In the version with fix-mounted connection cable, the following cable inductances L_i and cable capacitances Ci have to be taken into account.

L_i = 0.62 µH/m
$C_{i\ wire/wire}$ = 150 pF/m
$C_{i\ wire/screen}$ = 270 pF/m

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus)

Indicating and adjustment circuit:
(Terminals 5, 6, 7, 8) [4] [5] [6]

In type of protection intrinsic safety Ex ia IIC
For connection to the intrinsically safe circuit of the corresponding external display unit VEGADIS 61/81 or for connection of a VEGABAR B80 with integrated electronics S or T for differential pressure measurement.
The rules for the interconnection of intrinsically safe circuits between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR *8*(*).AC/U/O/ H/T, VEGABAR *8*(*).VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T are not exceeded.

L_{cable} = 212 µH
C_{cable} = 1.98 µF

When using the delivered VEGA connection cable between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*). VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a cable length ≥ 50 m.

L_i = 0.62 µH/m
$C_{i\ wire/wire}$ = 150 pF/m
$C_{i\ wire/screen}$ = 270 pF/m

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with single chamber housing A, K, V or 8

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)

In type of protection intrinsic safety Ex ia IIC
Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT.

[4] In the "Ex-i" electronics compartment with VEGABAR in version with single chamber housing A, K, V or 8.
[5] In the "Ex-i" connection compartment with VEGABAR in version with double chamber housing D, W or R.
[6] Additional plug connection with VEGABAR in version with double chamber housing D, W, R and housing version/protection P (with M12 x 1 for VEGADIS).

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VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with double chamber housing D, W or R

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT.
or	
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT. In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), version with double chamber housing D, W or R with housing version/protection P (with M12 x 1 for VEGADIS)

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT. In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics S or T, only version with single chamber housing

Power supply and signal circuit: (terminals 5, 6, 7, 8 in the electronics compartment)	In type of protection intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of a VEGABAR *8*(*).*C******** with integrated electronics H, A, P, F for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between VEGABAR B80 with electronics S or T and VEGABAR *8*(*).*C******** are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR *8*(*).*C******** and VEGABAR B8* with electronics S or T, L_{cable} = 330 µH and C_{cable} = 2.00 µF, is not exceeded. When using the delivered VEGA connection cable between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*). VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a

	cable length ≥ 50 m. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics H (4 … 20 mA/ HART) or A (4 … 20 mA/HART with SIL qualification) and with supplementary electronics (Z)

Supply and signal circuit I: (terminals 1[+], 2[-] in the "Ex-i" connection compartment or plug connection)	In type of protection intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.
Power supply and signal circuit II: (terminal 7[+], 8[-] in the "Ex-i" connection compartment)	In type of protection intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.
Display and adjustment circuit: (plug connection of the double chamber housing)	In type of protection intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of the associated external indicating instrument VEGADIS 61/81 (IECEx PTB 06.0048 X). The rules for the interconnection of intrinsically safe circuits between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC and the external indicating unit

	VEGADIS 61/81 are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC and the external indicating unit VEGADIS 61/81 L_{cable} = 330 µH and C_{cable} = 1.98 µF are not exceeded. When using the delivered VEGA connection cable between VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*). VC and the external indicating unit VEGADIS 61/81, the following listed cable inductances L_i and cable capacitances C_i must be taken into account. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In type of protection intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT.

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC Version with separate cable outlet

Circuit between sensor unit and external electronics (terminal 1- yellow, terminal 2 - white, terminal 3 - red, terminal 4 - black)	In type of protection intrinsic safety Ex ia IIC With VEGABAR *8*(*).AC in the version with fix mounted cable on the sensor unit and external electronics, the supplied cable between the external housing and the sensor unit must not exceed a length of 180 m.

The intrinsically safe circuits for external connections are electrically separated from parts which can be grounded.

The intrinsically safe circuits to the sensor are galvanically connected to ground potential.

The metallic parts of VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC are electrically connected with the earth terminals.

For applications requiring instruments of type EPL Ga or EPL Ga/Gb, the intrinsically safe power supply and signal circuit must correspond to protection class ia.

For applications requiring EPL Ga resp. EPL Ga/Gb instruments the VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC is preferably connected to appropriate instruments with electrically isolated, intrinsically safe circuits.

Thermal data:

VEGABAR *8*(*).AC/U/O/H/T, VEGABAR *8*(*).VC with integrated electronics Z (4 … 20 mA), H (4 … 20 mA/HART) or A (4 … 20 mA/HART with SIL qualification), S, T (electronic differential pressure measurement), P (Profibus PA), F (Foundation Fieldbus)

The max. permissible ambient temperatures depending on the temperature classes are specified in the following tables.

Category 1G equipment (EPL Ga instrument)

Temperature class	Ambient temperature on the sensor and electronics
T6	-20 … +23 °C
T5, T4, T3, T2, T1	-20 … +60 °C

For applications requiring instruments of EPL Ga the process pressure of the media must be between 0.8 … 1.1 bar. The prerequisites for operation in the absence of explosive mixtures can be found in the manufacturer information.

Category 1/2G equipment (EPL Ga/Gb instrument)

Temperature class	Ambient temperature on the electronics	Product temperature on the sensor
T6	-50 … +39 °C	-20 … +23 °C
T5, T4, T3, T2, T1	-50 … +70 °C	-20 … +60 °C

For applications requiring EPL Ga/Gb instruments the process pressure of the media must be between 0.8 … 1.1 bar. If the VEGABAR *8*(*).IC/U/O/H/T, VEGABAR *8*(*).VC are operated at temperatures higher than those specified in the above table, please make sure through appropriate measures that there is no danger of ignition from the hot surfaces. The maximum temperature on the electronics/housing should not exceed the values specified in the above table. The application conditions during operation in areas with no explosive mixtures are stated in the manufacturer information.

Category 2G equipment (EPL Gb instrument), VEGABAR 82, VEGABAR 83 with METEC measuring cell

Temperature class	Ambient temperature on the electronics (Zone 1)	Product temperature range (sensor, zone 1)
T6	-50 … +39 °C	-50 … +39 °C
T5	-50 … +70 °C	-50 … +100 °C
T4	-50 … +50 °C	-50 … +135 °C
T3, T2, T1	-50 … +50 °C	-50 … +200 °C

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Category 2G equipment (EPL Gb instrument), VEGABAR 83 version with piezoresistive/strain gauge measuring cell, version without cooling element

Temperature class	Ambient temperature on the electronics (Zone 1)	Product temperature range (sensor, zone 1)
T6	-50 … +39 °C	-50 … +39 °C
T5	-50 … +70 °C	-50 … +85 °C
T4	-50 … +40 °C	-50 … +105 °C
T4, T3, T2, T1	-50 … +30 °C	-50 … +120 °C

Category 2G equipment (EPL Gb instrument), VEGABAR 81, VEGABAR 83 version with piezoresistive/strain gauge measuring cell, version with cooling element

Temperature class	Ambient temperature on the electronics (Zone 1)	Product temperature range (sensor, zone 1)
T6	-50 … +39 °C	-50 … +39 °C
T5	-50 … +70 °C	-50 … +85 °C
T4	-50 … +50 °C	-50 … +120 °C
T3, T2, T1	-50 … +40 °C	-50 … +150 °C

If the VEGABAR *8*(*).IC/U/O/H/T, VEGABAR *8*(*).VC are operated at temperatures higher than those specified in the above table, please make sure through appropriate measures that there is no danger of ignition from the hot surfaces. The max. permissible temperature on the electronics/housing should not exceed the values specified in the above table. The application conditions during operation with no explosive mixtures present are stated in the manufacturer information.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 20 203 277364

(17) **Specific Conditions for Use**

1. At the plastic parts of the pressure transmitter VEGABAR 8* type *8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** there is a danger of ignition by electrostatic discharge.
   Observe manual of the manufacturer and warning label.

2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter VEGABAR 8* type *8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter VEGABAR 8* type *8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter VEGABAR 8* type *8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitter VEGABAR 8* type *8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ*****, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

6. The ambient temperature range depending on temperature class is to be taken from the operating instruction.

(18) **Essential Health and Safety Requirements**
No additional ones

- End of Certificate -

Translation

(1) EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV 13 ATEX 131115 X** **Issue:** 01

(4) for the product: Pressure transmitter type VEGABAR
8(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F******
8(*).*C/U/O/H/T******(*)H/AZ*****

(5) of the manufacturer: **VEGA Grieshaber KG**

(6) Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8000481000

Date of issue: 2018-04-11

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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 ATEX Assessment Report No. 18 203 215804.

(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**

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

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

II 1 G bzw. II 1/2 G resp. II 2 G Ex ia IIC T6 ... T1 Ga resp. Ga/Gb resp. Gb

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Roder

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 13 ATEX 131115 X Issue 01**

(15) Description of product

The pressure transmitters type VEGABAR

8(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F****** and
8(*).*C/U/O/H/T******(*)H/AZ*****

are used for pressure and filling level measurement in explosion hazardous areas.

A display and adjustment module PLICSCOM can be installed within the equipment with following options:

X without
A installed
F without, cover with display window
B installed on the side
K installed, with Bluetooth, magnetic pen operation
U installed, with Bluetooth, battery, magnetic pen operation
L installed on the side, with Bluetooth, magnetic pen operation
S installed on the side, with Bluetooth, battery, magnetic pen operation

If an explosive atmosphere is not present, the interface adapter VEGACONNECT (PTB 07 ATEX 2013 X) can be installed.

Electrical data

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with single chamber housing A, K, V or 8

Supply and signal circuit: (terminals 1[+], 2[-] in the "Ex-i" electronics compartment or plug connection)	In ignition protection type intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with double chamber housing D, W or R

Power supply and signal circuit: (terminal 1[+], 2[-] in the "Ex-i" connection compartment)	In ignition protection type intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective inner inductance L_i with the double chamber version is $L_i \leq 10$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification)

Indicating and adjustment circuit: (terminals 5, 6, 7, 8)[1)2)3)]	In ignition protection type intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of the corresponding external display unit VEGADIS 61/81 (PTB 02 ATEX 2136 X) or for connection of a VEGABAR B80 with integrated electronics S or T for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR B8*. AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T L_{cable} = 330 µH and C_{cable} = 1.98 µF are not exceeded. When using the delivered VEGA connection cable between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*. VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a cable length ≥ 50 m. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m

Intrinsically safe circuit for the display and adjustment module VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with single chamber housing A, K, V or 8

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X).

[1] In the "Ex-i" electronics compartment with VEGABAR in version with single chamber housing A, K, V or 8.
[2] In the "Ex-i" connection compartment with VEGABAR in version with double chamber housing D, W or R.
[3] Additional plug connection with VEGABAR in version with double chamber housing D, W, R and housing version/protection P (with M12 x 1 for VEGADIS).

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with double chamber housing D, W or R

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X).
or	
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X). In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with double chamber housing D, W or R with housing version/protection P (with M12 x 1 for VEGADIS)

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X). In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with single chamber housing A, K, V or 8

Supply and signal circuit: (terminals 1[+], 2[-] in the "Ex-i" electronics compartment or plug connection)	In ignition protection type intrinsic safety Ex ia IIC/IIB Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The instrument is suitable for connection to a Fieldbus system according to the FISCO model (EN 60079-11), e.g. Profibus PA. or U_i = 24 V I_i = 250 mA P_i = 1.2 W The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective internal inductance L_i is negligibly small. In the version with fix mounted connection cable, L_i = 0.62 µH/m must be taken into consideration.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with double chamber housing D, W or R

Power supply and signal circuit: (terminal 1[+], 2[-] in the "Ex-i" connection compartment)	In ignition protection type intrinsic safety Ex ia IIC/IIB for instruments of category 1G or 1/2G and Ex ia IIC/IIB resp. Ex ib IIC/IIB for instruments of category 2G. Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The instrument is suitable for connection to a Fieldbus system according to the FISCO model (EN 60079-11), e.g. Profibus PA. or U_i = 24 V I_i = 250 mA P_i = 1.2 W

	The effective internal capacitance C_i is negligibly small. In the version with permanently mounted connection cable, $C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account. The effective internal inductance is $L_i \leq 5$ µH. In the version with fix mounted connection cable, also L_i = 0.62 µH/m must be taken into consideration.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus)

Indicating and adjustment circuit: (terminals 5, 6, 7, 8)[4)5)6)]	In ignition protection type intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of the corresponding external display unit VEGADIS 61/81 (PTB 02 ATEX 2136 X) or for connection of a VEGABAR B80 with integrated electronics S or T for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR B8*. AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T L_{cable} = 212 µH and C_{cable} = 1.98 µF are not exceeded. When using the delivered VEGA connection cable between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*. VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a cable length ≥ 50 m. L_i = 0.62 µH/m $C_{i\ wire/wire}$ = 150 pF/m $C_{i\ wire/screen}$ = 270 pF/m

Intrinsically safe circuit for the display and adjustment module
VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with single chamber housing A, K, V or 8

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X).

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with double chamber housing D, W or R

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X).
or	
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X). In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

[4] In the "Ex-i" electronics compartment with VEGABAR in version with single chamber housing A, K, V or 8.

[5] In the "Ex-i" connection compartment with VEGABAR in version with double chamber housing D, W or R.

[6] Additional plug connection with VEGABAR in version with double chamber housing D, W, R and housing version/protection P (with M12 x 1 for VEGADIS).

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics Z (4 ... 20 mA), H (4 ... 20 mA/HART) or A (4 ... 20 mA/HART with SIL qualification), version with double chamber housing D, W or R with housing version/protection P (with M12 x 1 for VEGADIS)

Circuit for the display and adjustment module: (spring contacts in the "Ex-i" connection compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X). In the double chamber version, the display and adjustment module PLICSCOM or VEGACONNECT must only be equipped in the connection compartment, if there is no external VEGA display unit VEGADIS 61/81 or VEGABAR B80 with electronics S, T connected.

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics S or T, only version with single chamber housing

Power supply and signal circuit: (terminals 5, 6, 7, 8 in the electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of a VEGABAR B8*.*C******** with integrated electronics H, A, P, F for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between VEGABAR B80 with electronics S or T and VEGABAR B8*.*C******** with electronics H, A, P or F are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR B8*.*C******** and

VEGABAR B8* with electronics S or T,
L_{cable} = 330 µH and C_{cable} = 2.00 µF, is not exceeded.

When using the delivered VEGA connection cable between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*. VC and the external indicating unit VEGADIS 61/81 or VEGABAR B8* with electronics S or T, the following listed cable inductances L_i and cable capacitances C_i must be taken into account with a cable length ≥ 50 m.

L_i = 0.62 µH/m
$C_{i\ wire/wire}$ = 150 pF/m
$C_{i\ wire/screen}$ = 270 pF/m

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC with integrated electronics H (4 ... 20 mA/ HART) or A (4 ... 20 mA/HART with SIL qualification) and with supplementary electronics (Z)

Supply and signal circuit I: (terminals 1[+], 2[-] in the "Ex-i" terminal compartment or plug connection)

In ignition protection type intrinsic safety Ex ia IIC/IIB

Only for connection to a certified, intrinsically safe circuit.

Maximum values:

U_i = 30 V
I_i = 131 mA
P_i = 983 mW

The effective internal capacitance C_i is negligibly small.

In the version with permanently mounted connection cable,

$C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account.

The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, L_i = 0.62 µH/m must also be taken into account.

Power supply and signal circuit II: (terminal 7[+], 8[-] in the "Ex-i" terminal compartment)

In ignition protection type intrinsic safety Ex ia IIC/IIB

Only for connection to a certified, intrinsically safe circuit.

Maximum values:

U_i = 30 V
I_i = 131 mA
P_i = 983 mW

The effective internal capacitance C_i is negligibly small.

In the version with permanently mounted connection cable,

$C_{i\ wire/wire}$ = 150 pF/m and $C_{i\ wire/screen}$ = 270 pF/m must be taken into account.

	The effective inner inductance L_i is $L_i \leq 5$ µH. In the version with permanently mounted connection cable, $L_i = 0.62$ µH/m must also be taken into account.
Display and adjustment circuit: (plug connection of the double chamber housing)	In ignition protection type intrinsic safety Ex ia IIC For connection to the intrinsically safe circuit of the associated external indicating unit VEGADIS 61/81 (PTB 02 ATEX 2136 X). The rules for the interconnection of intrinsically safe circuits between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC and the external indicating unit VEGADIS 61/81 $L_{cable} = 330$ µH and $C_{cable} = 1.98$ µF are not exceeded. When using the delivered VEGA connection cable between VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*. VC and the external indicating unit VEGADIS 61/81, the following listed cable inductances L_i and cable capacitances C_i must be taken into account. $L_i = 0.62$ µH/m $C_{i\ wire/wire} = 150$ pF/m $C_{i\ wire/screen} = 270$ pF/m
Circuit for the display and adjustment module: (spring contacts in the "Ex-i" electronics compartment)	In ignition protection type intrinsic safety Ex ia IIC Only for connection to the display and adjustment module PLICSCOM or VEGACONNECT (PTB 07 ATEX 2013 X).

VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC Version with separate cable outlet (all electronics)

Circuit between sensor unit and external electronics (terminal 1- yellow, terminal 2 - white, terminal 3 - red, terminal 4 - black)	In ignition protection type intrinsic safety Ex ia IIC With VEGABAR B8*.AC in the version with fix mounted cable on the sensor unit and external electronics, the supplied cable between the external housing and the sensor unit must not exceed a length of 180 m.

The intrinsically safe circuits are electrically separated from parts which can be grounded.

The metallic parts of VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC are electrically connected with the earth terminals.

For applications requiring instruments of category 1G or 1/2G, the intrinsically safe power supply and signal circuit must correspond to protection class ia.

For applications requiring instruments of category 1G or 1/2G the VEGABAR B8*.AC/U/O/H/T, VEGABAR B8*.VC is preferably connected to appropriate equipment with galvanically isolated, intrinsically safe circuits.

Thermal data:

If the pressure transmitters are used in explosion hazardous areas for EPL Ga applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C ... +23 °C
T5	-20 °C ... +60 °C
T4	-20 °C ... +60 °C
T3	-20 °C ... +60 °C
T2	-20 °C ... +60 °C
T1	-20 °C ... +60 °C

The measuring sensors and the electronics are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
For the max. permissible ambient and medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Ga/Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-50 °C ... +39 °C	-20°C ... +23 °C
T5	-50 °C ... +70 °C	-20°C ... +60 °C
T4	-50 °C ... +70 °C	-20°C ... +60 °C
T3	-50 °C ... +70 °C	-20°C ... +60 °C
T2	-50 °C ... +70 °C	-20°C ... +60 °C
T1	-50 °C ... +70 °C	-20°C ... +60 °C

The measuring sensors are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
For the max. permissible medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-50 °C ... +39 °C
T5	-50 °C ... +70 °C
T4	-50 °C ... +70 °C
T3	-50 °C ... +70 °C
T2	-50 °C ... +70 °C
T1	-50 °C ... +70 °C

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

The ambient temperature derating at process temperatures up to +150 °C and up to +200 °C has to be taken from the manual of the manufacturer.

(16) The test documents are listed in the test report No. 18 203 215804.

(17) Special conditions for safe use

1. At the plastic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)********** there is a danger of ignition by electrostatic discharge.
   Observe manual of the manufacturer and warning label.

2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)********** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)********** have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)********** have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)**********, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

(18) Essential Health and Safety Requirements
no additional ones

- End of Certificate -

Translation

(1) EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV 13 ATEX 131115 X** **Issue:** 00

(4) for the product: Pressure transmitter type VEGABAR
8(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F******
8(*).*C/U/O/H/T******(*)H/AZ*****

(5) of the manufacturer: **VEGA Grieshaber KG**

(6) Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8000465931

Date of issue: 2017-04-28

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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 ATEX Assessment Report No. 17 203 190310.

(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**

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for 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. 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 product shall include the following:

Ex II 1 G bzw. II 1/2 G resp. II 2 G Ex ia IIC T6 ... T1 Ga resp. Ga/Gb resp. Gb

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 13 ATEX 131115 X Issue 00**

(15) Description of product

The pressure transmitters type VEGABAR

8(*).*C/U/O/H/T******(*)Z/H/A/S/T/P/F****** and
8(*).*C/U/O/H/T******(*)H/AZ*****

are used for pressure and filling level measurement in explosion hazardous areas.

A display and adjustment module PLICSCOM (TÜV 15 ATEX 161127 U or schematics SB1497-1-00-0, SB1503-1-02-0 and drawings GE3618-01, GE3626-02, GE3627-02, GE3628) can be installed within the equipment with following options:

X without
A installed
F without, cover with display window
B installed on the side
K installed, with Bluetooth, magnetic pen operation
U installed, with Bluetooth, battery, magnetic pen operation
L installed on the side, with Bluetooth, magnetic pen operation
S installed on the side, with Bluetooth, battery, magnetic pen operation

If an explosive atmosphere is not present, the interface adapter VEGACONNECT (PTB 07 ATEX 2013 X) can be installed.

Electrical data

The specifications in the
- EC-Type Examination Certificate TÜV 13 ATEX 131115 X / Test Report 13 203 131115 and
- 1. Supplement TÜV 13 ATEX 131115 X / Test Report 13 203 138413

are also still valid for the original versions.

(16) The test documents are listed in the test report No. 17 203 190310

(17) Special conditions for safe use

1. At the plastic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** there is a danger of ignition by electrostatic discharge.
   Observe manual of the manufacturer and warning label.

2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ*****, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

(18) Essential Health and Safety Requirements
no additional ones

- End of Certificate -

Translation

2. SUPPLEMENT

to Certificate No.	**TÜV 13 ATEX 131115 X**
Equipment:	Pressure transmitter type series VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******P/F******
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 77761 Schiltach Germany
Order number:	8000434841
Date of issue:	2014-06-03

In the future, the pressure transmitter type VEGABAR may be manufactured in the version with electronics for Profibus PA and Foundation Fieldbus, available with a 1 chamber or a 2 chamber housing.

For this new execution, the following VEGABAR B8*(*) electronic versions are available:

- B8*(*).AC/AU/AO/AH/AT/VC******(*)**P******** : With electronics for Profibus PA

- B8*(*).AC/AU/AO/AH/AT/VC******(*)**F******: With electronics for Foundation Fieldbus

Electrical data

Supply and signal circuit ..... (Terminals 1[+], 2[-] in the Ex-i electronics compartment, in the execution with 2 chamber housing in the terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC

Only for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W
The apparatus is suitable for connection to a field bus system according to the FISCO model (EN 60079-11)

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.

The effective internal inductance, 1 chamber housing, is negligibly small.
In execution with the 2 chamber housing: 5 µH

In the execution with connection cable mounted fixed, the following values have to be observed additionally:
L_i' = 0.62 µH/m
$C_{i\ wire/wire}'$ = 150 pF/m
$C_{i\ wire/shield}'$ = 270 pF/m

Operation and indication circuit	in type of protection „Intrinsic Safety" Ex ia IIC
(Terminals 5, 6, 7, 8 in the housing for the electronics resp. in the terminal housing in the execution with 2 cell housing; optionally, connection at the plug connector M12, 2 chamber housing in the version „Housing execution/type of protection P")	Only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 or VEGADIS81 or for connection of a VEGABAR B8* with built-in electronics S or T for differential pressure measurement. The rules for the interconnection of intrinsically safe circuits between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T are adhered to, if the complete inductance and capacitance of the connection cable between VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T does not exceed the following values: L_{cable} = 212 µH C_{cable} = 1.98 µF If the connection cable supplied by the manufacturer between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T is used, the following values have to be observed: L_i' = 0.62 µH/m C_i' wire/wire = 150 pF/m C_i' wires/shield = 270 pF/m
Operation and indication module circuit	in type of protection „Intrinsic Safety" Ex ia IIC
(Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with 2 cell housing)	Only for connection to the VEGA operation and indication module PLICSCOM or the interface adapter VEGACONNECT. In the execution with the 2 cell housing, the operation and indication module PLICSCOM or the interface adapter VEGACONNECT may only be implemented in the terminal housing, if here no external VEGA indication unit type VEGADIS61 or VEGADIS81 or VEGABAR B8* with electronics S or T is connected.

VEGABAR B8* execution with separate cable connection

Measuring sensor circuits	in type of protection „Intrinsic Safety" Ex ia IIC
(Terminals 1 / yellow, 2 / white, 3 / red, 4 / black)	In the execution with cable between housing for the electronics and measuring sensor housing, a length of the cable provided by the manufacturer of 180 m is permissible.

The intrinsically safe circuits for external connections are safe galvanically separated from the parts which can be earthed.
The intrinsically safe circuits to the measuring sensor are galvanically connected with earth potential

Thermal data:

If the pressure transmitters are used in explosion hazardous areas for EPL Ga applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C ... +23 °C
T5	-20 °C ... +60 °C
T4	-20 °C ... +60 °C
T3	-20 °C ... +60 °C
T2	-20 °C ... +60 °C
T1	-20 °C ... +60 °C

The measuring sensors and the electronics are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
For the max. permissible ambient and medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Ga/Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-50 °C ... +39 °C	-20°C ... +23 °C
T5	-50 °C ... +70 °C	-20°C ... +60 °C
T4	-50 °C ... +70 °C	-20°C ... +60 °C
T3	-50 °C ... +70 °C	-20°C ... +60 °C
T2	-50 °C ... +70 °C	-20°C ... +60 °C
T1	-50 °C ... +70 °C	-20°C ... +60 °C

The measuring sensors are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
For the max. permissible medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-50 °C ... +39 °C
T5	-50 °C ... +70 °C
T4	-50 °C ... +70 °C
T3	-50 °C ... +70 °C
T2	-50 °C ... +70 °C
T1	-50 °C ... +70 °C

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

The ambient temperature derating at higher process temperatures has to be taken from the manual of the manufacturer.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2012 EN 60079-11:2012 EN 60079-26:2007

(16) The test documents are listed in the test report No. 14 203 142057.

(17) Special conditions for safe use

1. At the plastic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)P/F****** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)P/F****** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)P/F****** have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)P/F****** have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)P/F******, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Schwedt

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Translation

1. SUPPLEMENT

to Certificate No.	**TÜV 13 ATEX 131115 X**
Equipment:	Pressure transmitter type series VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ*****
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 77761 Schiltach Germany
Order number:	8000432107
Date of issue:	2014-05-12

In the future, the pressure transmitter type VEGABAR may be manufactured with a 2nd current output, available with a 2 chamber housing.

For this new execution, the following VEGABAR B8*(*) electronic versions are available:

- B8*(*).AC/AU/AO/AH/AT/VC(*)******HZ***** : 2 wire 4 ... 20 mA transmitters with superposed HART signal and 2nd current output

- B8*(*).AC/AU/AO/AH/AT/VC(*)******AZ***** : 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification and 2nd current output

Electrical data

VEGABAR B8* with 2nd current output

Supply and signal circuit I.....
(Terminals 1[+], 2[-] in terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC
Only for connection to a certified intrinsically safe circuit

Maximum values:
U_i = 30 V
I_i = 131 mA
P_i = 983 mW
The effective internal capacitance is negligibly small.
Effective internal inductance: 5 µH

In the execution with connection cable mounted fixed, the following values have to be observed additionally:
L_i' = 0.62 µH/m
$C_{i\ wire/wire}'$ = 150 pF/m
$C_{i\ wire/shield}'$ = 270 pF/m

Supply and signal circuit II.....
(Terminals 7[+], 8[-] in terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC
Only for connection to a certified intrinsically safe circuit

Maximum values:
U_i = 30 V
I_i = 131 mA
P_i = 983 mW
The effective internal capacitance is negligibly small.
Effective internal inductance: 5 µH

In the execution with connection cable mounted fixed, the following values have to be observed additionally:
L_i' = 0.62 µH/m
$C_{i\ wire/wire}'$ = 150 pF/m
$C_{i\ wire/shield}'$ = 270 pF/m

Operation and indication module circuit ..... (Spring contacts in the housing for the electronics)

in type of protection „Intrinsic Safety" Ex ia IIC
Only for connection to the VEGA operation and indication module PLICSCOM or the interface adapter VEGACONNECT.

Operation and indication circuit ..... (Connection at the plug connector M12, 2 chamber housing in the version „Housing execution/type of protection P")

in type of protection „Intrinsic Safety" Ex ia IIC
Only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 or VEGADIS81
The rules for the interconnection of intrinsically safe circuits between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 are adhered to, if the complete inductance and capacitance of the connection cable between VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 does not exceed the following values:
L_{cable} = 330 µH
C_{cable} = 1.98 µF

If the connection cable supplied by the manufacturer between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 is used, the following values have to be observed:
L_i' = 0.62 µH/m
$C_{i\ wire/wire}'$ = 150 pF/m
$C_{i\ wires/shield}'$ = 270 pF/m

VEGABAR B8* execution with separate cable connection

Measuring sensor circuits ..... (Terminals 1 / yellow, 2 / white,3 / red, 4 / black)

in type of protection „Intrinsic Safety" Ex ia IIC
In the execution with cable between housing for the electronics and measuring sensor housing, a length of the cable provided by the manufacturer of 180 m is permissible.

The intrinsically safe circuits for external connections are safe galvanically separated from the parts which can be earthed.
The intrinsically safe circuits to the measuring sensor are galvanically connected with earth potential

Thermal data:

If the pressure transmitters are used in explosion hazardous areas for EPL Ga applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C ... +23 °C
T5	-20 °C ... +60 °C
T4	-20 °C ... +60 °C
T3	-20 °C ... +60 °C
T2	-20 °C ... +60 °C
T1	-20 °C ... +60 °C

The measuring sensors and the electronics are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
For the max. permissible ambient and medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for
EPL Ga/Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-50 °C ... +39 °C	-20°C ... +23 °C
T5	-50 °C ... +70 °C	-20°C ... +60 °C
T4	-50 °C ... +70 °C	-20°C ... +60 °C
T3	-50 °C ... +70 °C	-20°C ... +60 °C
T2	-50 °C ... +70 °C	-20°C ... +60 °C
T1	-50 °C ... +70 °C	-20°C ... +60 °C

The measuring sensors are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
For the max. permissible medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-50 °C ... +39 °C
T5	-50 °C ... +70 °C
T4	-50 °C ... +70 °C
T3	-50 °C ... +70 °C
T2	-50 °C ... +70 °C
T1	-50 °C ... +70 °C

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

The ambient temperature derating
at process temperatures up to +150 °C and up to +200 °C has to be taken from the manual of the manufacturer.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2012 EN 60079-11:2012 EN 60079-26:2007

(16) The test documents are listed in the test report No. 13 203 138413.

(17) Special conditions for safe use

1. At the plastic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ***** have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC(*)******H/AZ*****, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

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Translation

(1) EC-Type-Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3)	**Certificate Number**	**TÜV 13 ATEX 131115 X**
(4)	for the equipment:	Pressure transmitters type series VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)Z/H/A/S/T******
(5)	of the manufacturer:	VEGA Grieshaber KG
(6)	Address:	Am Hohenstein 113 77761 Schiltach Germany
	Order number:	8000427167
	Date of issue:	2013-12-16

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EC-Type-Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 13 203 131115.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012 EN 60079-11:2012 EN 60079-26:2007

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. 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 or protective system must include the following:

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

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(13) **SCHEDULE**

(14) **EC-Type-Examination Certificate No. TÜV 13 ATEX 131115 X**

(15) Description of equipment

The pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC******(*)Z/H/A/S/T****** are used for pressure and filling level measurement in explosion hazardous areas.
The following VEGABAR B8*(*) electronic versions are available:

- B8*(*).AC/AU/AO/AH/AT/VC******(*)**Z****** : 2 wire 4 ... 20 mA transmitters
- B8*(*).AC/AU/AO/AH/AT/VC******(*)**H****** : 2 wire 4 ... 20 mA transmitters with superposed HART signal
- B8*(*).AC/AU/AO/AH/AT/VC******(*)**A****** : 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification
- B8*(*).AC/AU/AO/AH/AT/VC******(*)**S****** : Slave electronics for electronic differential pressure
- B8*(*).AC/AU/AO/AH/AT/VC******(*)**T****** : Slave electronics for electronic differential pressure and additional SIL qualification

Electrical data

VEGABAR B8* with built-in electronics Z,H,A

Supply and signal circuit ..... (Terminals 1[+], 2[-] in the Ex-i electronics compartment. in the execution with 2 chamber housing in the terminal housing)	in type of protection „Intrinsic Safety" Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values: U_i = 30 V I_i = 131 mA P_i = 983 mW The effective internal capacitance is negligibly small. Effective internal inductance: 5 µH In execution with the 2 cell housing: 10 µH In the execution with connection cable mounted fixed, the following values have to be observed additionally: L_i' = 0.62 µH/m $C_{i\ wire/wire}'$ = 150 pF/m $C_{i\ wire/shield}'$ = 270 pF/m
Operation and indication circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. in the terminal housing in the execution with 2 cell housing; optionally, connection at the plug connector M12, 2 chamber housing in the version „Housing execution/type of protection P")	in type of protection „Intrinsic Safety" Ex ia IIC Only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 or VEGADIS81 or for connection of a VEGABAR B8* with built-in electronics S or T for differential pressure measurement.

The rules for the interconnection of intrinsically safe circuits between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T are adhered to, if the complete inductance and capacitance of the connection cable between VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T does not exceed the following values:

L_{cable} = 330 µH
C_{cable} = 1.98 µF

If the connection cable supplied by the manufacturer between the VEGABAR B8*.*C******** and the VEGADIS 61/ VEGADIS 81 or VEGABAR B8* with electronics S or T is used, the following values have to be observed:

L_i' = 0.62 µH/m
$C_{i\ wire/wire}'$ = 150 pF/m
$C_{i\ wires/shield}'$ = 270 pF/m

Operation and indication module circuit ..... (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with 2 cell housing)

in type of protection „Intrinsic Safety" Ex ia IIC
Only for connection to the VEGA operation and indication module PLICSCOM or the interface adapter VEGACONNECT.
In the execution with the 2 cell housing, the operation and indication module PLICSCOM or the interface adapter VEGACONNECT may only be implemented in the terminal housing, if here no external VEGA indication unit type VEGADIS61 or VEGADIS81 or VEGABAR B8* with electronics S or T is connected.

VEGABAR B8* with built-in electronics S or T / only execution one chamber housing

Supply and signal circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics)	in type of protection „Intrinsic Safety" Ex ia IIC Only for connection to the intrinsically safe circuit of a VEGABAR B8*.*C******** with built-in electronics H, A for differential pressure measurement The rules for the interconnection of intrinsically safe circuits between the VEGABAR B8* with electronics S or T and the VEGABAR B8*.*C******** are adhered to, if the complete inductance and capacitance of the connection cable between VEGABAR B8* with electronics S or T and the VEGABAR B8*.*C******** does not exceed the following values: L_{cable} = 330 µH C_{cable} = 2 µF If the connection cable supplied by the manufacturer between the VEGABAR B8* with electronics S or T and the VEGABAR B8*.*C******** is used, the following values have to be observed: L_i' = 0.62 µH/m $C_{i\ wire/wire}'$ = 150 pF/m $C_{i\ wires/shield}'$ = 270 pF/m

VEGABAR B8* Execution with separate cable connection

Measuring sensor circuits ..... (Terminals 1 / yellow, 2 / white, 3 / red, 4 / black)	in type of protection „Intrinsic Safety" Ex ia IIC In the execution with cable between housing for the electronics and measuring sensor housing, a length of the cable provided by the manufacturer of 180 m is permissible.

The intrinsically safe circuits for external connections are safe galvanically separated from the parts which can be earthed.
The intrinsically safe circuits to the measuring sensor galvanically connected with earth potential

Thermal data:

If the pressure transmitters are used in explosion hazardous areas for EPL Ga applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C ... +23 °C
T5	-20 °C ... +60 °C
T4	-20 °C ... +60 °C
T3	-20 °C ... +60 °C
T2	-20 °C ... +60 °C
T1	-20 °C ... +60 °C

The measuring sensors and the electronics are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
For the max. permissible ambient and medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the pressure transmitters are used in explosion hazardous areas for EPL Ga/Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-50 °C ... +39 °C	-20°C ... +23 °C
T5	-50 °C ... +70 °C	-20°C ... +60 °C
T4	-50 °C ... +70 °C	-20°C ... +60 °C
T3	-50 °C ... +70 °C	-20°C ... +60 °C
T2	-50 °C ... +70 °C	-20°C ... +60 °C
T1	-50 °C ... +70 °C	-20°C ... +60 °C

The measuring sensors are allowed to be operated in an explosion hazardous area for EPL Ga applications, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
For the max. permissible ambient and medium temperature ranges, the EN 1127-1:2011, section 6.4.2 was considered.

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in.the a.m. table.

If the pressure transmitters are used in explosion hazardous areas for EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-50 °C ... +39 °C
T5	-50 °C ... +70 °C
T4	-50 °C ... +70 °C
T3	-50 °C ... +70 °C
T2	-50 °C ... +70 °C
T1	-50 °C ... +70 °C

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

The ambient temperature derating
at process temperatures up to +150 °C and up to +200 °C has to be taken from the manual of the manufacturer.

(16) The test documents are listed in the test report No. 13 203 131115

(17) Special conditions for safe use

1. At the plastic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC ******(*)Z/H/A/S/T****** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC ******(*)Z/H/A/S/T****** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC ******(*) (*)Z/H/A/S/T****** have to be secured effectively against these dangers. Observe manual of the manufacturer.
4. For EPL Ga/Gb applications, the medium tangent materials of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC ******(*)Z/H/A/S/T****** have to be resistant to the media. Observe manual of the manufacturer.
5. For the execution with separate housing of the pressure transmitter type VEGABAR B8*(*).AC/AU/AO/AH/AT/VC ******(*)Z/H/A/S/T******, potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor housing.

(18) Essential Health and Safety Requirements

no additional ones