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 16 ATEX 192998 X** **issue:** 01

(4) for the product: Differential pressure measuring device
VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F******

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

(6) Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8003026464
Date of issue: 2021-01-28

(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. 20 203 284676.

(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 60079-31:2014**

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 D Ex ia ta IIIC T135 °C Da or
II 1/2 D Ex ia/tb IIIC T135 °C Da/Db or
II 1/3 D Ex ia/tc IIIC T135 °C Da/Dc or
II 2 D Ex ia tb IIIC T135 °C Db

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

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 16 ATEX 192998 X** **issue 01**

(15) **Description of product:**
The differential pressure measuring devices type VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F****** are used for differential pressure measurement in dust explosion hazardous areas.
The Differential pressure measuring devices type VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F****** consist of an electronics housing, a differential pressure measuring element and the process connections.
Optionally, also the indication and operation module may be installed.

The following electronic versions are available:

VEGADIF DF85(*).*R/H/J*****Z******: 2 wire 4 ... 20 mA transmitters
VEGADIF DF85(*).*R/H/J*****H******: 2 wire 4 ... 20 mA transmitters with superposed HART signal
VEGADIF DF85(*).*R/H/J*****A******: 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification

VEGADIF DF85(*).*R/H/J*****U******: With electronics for MODBUS

VEGADIF DF85(*).*R/H/J*****P******: With electronics for Profibus PA
VEGADIF DF85(*).*R/H/J*****F******: With electronics for Foundation Fieldbus

Type code:
VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F******

Electrical data:

VEGADIF DF85(*).*R/H/J*******

Supply and signal circuit VEGADIF DF85(*).*R/H/J*****Z/H/AXA/V**** (Terminals KI1[+], KI2[-] in the electronics compartment of the 1 chamber housing) VEGADIF DF85(*).*R/H/J*****Z/H/AXD/W**** (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30V d. c.
VEGADIF DF85(*).*R/H/J*****UXD/W**** Supply and signal circuit I (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30 V d. c.
Supply and signal circuit II (Terminals MB[+], MB[-] in the terminal compartment of the 2 chamber housing)	U_n = 5 V d. c. I_n = 4 ...22 mA U_m = 5 V d. c. MODBUS-signal (telegram)
Supply and signal circuit VEGADIF DF85(*).*R/H/J*****P/FXA/V**** (Terminals KI1[+], KI2[-] in the electronics compartment of the 1 chamber housing) VEGADIF DF85(*).*R/H/J*****P/FXD/W**** (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 32 V d. c. I_n = 4 ...11 mA U_m = 32 V d. c.

VEGADIF DF85(*).*R/H/J*****H/AZD/W****	
Supply and signal circuit I (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30 V d. c.
Supply and signal circuit II (Terminals 17[+], 18[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30 V d. c.
Operation and indication circuit VEGADIF DF85(*).*R/H/J*****Z/H/A/P/F*A/V**** (Terminals 5, 6, 7, 8 in the electronics compartment of the 1 chamber housing)	Only for connection to the belonging external VEGA indication unit type VEGADIS61/81 according to BVS 05 ATEX E023
VEGADIF DF85(*).*R/H/J*****Z/H/A/P/F*D/W**** (Terminals 5, 6, 7, 8 in the terminal compartment of the 2 chamber housing)	
EGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F**A/S/K/L***	
Measuring sensor circuits (Terminals 1 l yellow, 2 l white, 3 l red, 4 l black)	In the execution with a cable between the electronics housing and the measuring sensor housing, a length of the provided cable of max. 180 m is permissible. The intrinsically safe circuits to the measuring sensor are galvanically connected with earth potential.

Thermal data:
The permissible ambient resp. medium temperature range depending of the EPLs of the device can be taken from the following table:

EPL	Medium temperature range (Sensor)	Ambient temperature range (Electronics housing)
Da	-40 °C ... +70 °C	-40 °C ... +70 °C
Da/Db	-40 °C ... +85 °C	-40 °C ... +70 °C
Da/Dc	-40 °C ... +85 °C	-40 °C ... +70 °C
Db	-40 °C ... +70 °C	-40 °C ... +70 °C

(16) Drawings and documents are listed in the ATEX Assessment Report No. 20 203 284676

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 192998 X **issue 01**

(17) **Specific Conditions for Use:**

1. The permissible ambient resp. medium temperature range depends on the EPL`s for the apparatus (see thermal data).
   The limits of the permissible ambient temperature range may be restricted by the used O-ring material. The used O-ring material is included in the marking. The permissible temperature ranges in dependence of the material have to be taken from the manufacturer's instructions.

2. For functional reasons, the partition wall (membrane) to the wetted area has a wall thickness < 1 mm. In the application, it has to be ensured, that an impairment of the separation wall e.g. by aggressive media or mechanical hazards is excluded.
   For variants with standard process connections:
   The installation of the meter bodies shall provide as a minimum degree of protection IP67 according to IEC 60529 for the process connections and vents.
   For variants with capillary connections:
   The capillary connections are designed to be connected to a capillary with diaphragm seal.
   The filling holes are intended to bring in a fill fluid.
   To prevent a zone entrainment from Zone 20, the diaphragm seal resp. the diaphragm seal and capillary have to be suitably designed. The pressure transfer system has to be technically tight.
   The filling hole has to be tightly sealed.

3. At the plastic parts there is a danger of ignition by electrostatic discharge.
   Observe manual of the manufacturer and warning label.

4. At the metallic parts made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitters, 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 cable entries and blanking elements in the housing have to be suitably certified for an operating temperature area of -40 °C to 80 °C or the cable entries and blanking elements of the manufacturer have to be used.

7. The pressure transmitters with built in electronics "4 wire with installed barrier MODBUS" shall not be used for EPL Da applications.
   Observe manual of the manufacturer.

(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 16 ATEX 192998 X** **issue:** 00

(4) for the product: Differential pressure measuring device
VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F******

(5) of the manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach

Order number: 8000467722

Date of issue: 2017-03-20

(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 192998.

(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 60079-31:2014

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 D, II 1/2 D, II 1/3 D, II 2 D
Ex ia ta, ia/tb, ia/tc, ia tb IIIC T135 °C Da, Da/Db, Da/Dc, Db

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 16 ATEX 192998 X issue 00**

(15) Description of product

The differential pressure measuring devices type VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F****** are used for differential pressure measurement in dust explosion hazardous areas.
The Differential pressure measuring devices type VEGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F****** consist of an electronics housing, a differential pressure measuring element and the process connections. Optionally, also the indication and operation module may be installed.

The following electronic versions are available:

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VEGADIF DF85(*).*R/H/J*****U******: With electronics for MODBUS

VEGADIF DF85(*).*R/H/J*****P******: With electronics for Profibus PA
VEGADIF DF85(*).*R/H/J*****F******: With electronics for Foundation Fieldbus

Electrical data

VEGADIF DF85(*).*R/H/J********

Supply and signal circuit ..... VEGADIF DF85(*).*R/H/J*****Z/H/AXA/V**** (Terminals KI1[+], KI2[-] in the electronics compartment of the 1 chamber housing) VEGADIF DF85(*).*R/H/J*****Z/H/AXD/W**** (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30 V d. c.
VEGADIF DF85(*).*R/H/J*****UXD/W**** Supply and signal circuit I ..... (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 30 V d. c. I_n = 4 ...22 mA U_m = 30 V d. c.
Supply and signal circuit II ..... (Terminals MB[+], MB[-] in the terminal compartment of the 2 chamber housing)	U_n = 5 V d. c. I_n = 4 ...22 mA U_m = 5 V d. c. MODBUS-signal (telegram)
Supply and signal circuit ..... VEGADIF DF85(*).*R/H/J*****P/FXA/V**** (Terminals KI1[+], KI2[-] in the electronics compartment of the 1 chamber housing) VEGADIF DF85(*).*R/H/J*****P/FXD/W**** (Terminals KI1[+], KI2[-] in the terminal compartment of the 2 chamber housing)	U_n = 9.6 ... 32 V d. c. I_n = 4 ...11 mA U_m = 32 V d. c.

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 192998 X issue 00

VEGADIF DF85(*).*R/H/J*****H/AZD/W****

Supply and signal circuit I	U_n = 9.6 ... 30 V d. c.
(Terminals KI1[+], KI2[-] in the terminal	I_n = 4 ...22 mA
compartment of the 2 chamber housing)	U_m = 30 V d. c.
Supply and signal circuit II	U_n = 9.6 ... 30 V d. c.
(Terminals 17[+], 18[-] in the terminal	I_n = 4 ...22 mA
compartment of the 2 chamber housing)	U_m = 30 V d. c.

Operation and indication circuit ..... Only for connection to the belonging external VEGA indication unit type VEGADIS61/81 according to IECEx BVS 06.0014

VEGADIF DF85(*).*R/H/J*****Z/H/A/P/F*A/V****
(Terminals 5, 6, 7, 8 in the electronics compartment of the 1 chamber housing)

VEGADIF DF85(*).*R/H/J*****Z/H/A/P/F*D/W****
(Terminals 5, 6, 7, 8 in the terminal compartment of the 2 chamber housing)

EGADIF DF85(*).*R/H/J*****Z/H/A/U/P/F**A/S/K/L***

Measuring sensor circuits..... In the execution with a cable between the electronics housing and the measuring sensor housing, a length of the provided cable of max. 180 m is permissible.
(Terminals
1 l yellow, 2 l white, 3 l red, 4 l black)

The intrinsically safe circuits to the measuring sensor are galvanically connected with earth potential.

Thermal data

EPL	Medium temperature range (Sensor)	Ambient temperature range (Electronics housing)
Da	-40 °C ... +70 °C	-40 °C ... +70 °C
Da/Db	-40 °C ... +85 °C	-40 °C ... +70 °C
Da/Dc	-40 °C ... +85 °C	-40 °C ... +70 °C
Db	-40 °C ... +70 °C	-40 °C ... +70 °C

The measuring sensors and the electronics are allowed to be operated in an explosion hazardous area, only if atmospheric conditions exist
(temperature: -20 °C to +60 °C, pressure: 0.8 bar to 1.1 bar, air with normal oxygen content: typically 21 % v/v).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 192998 X issue 00

(16) Drawings and documents are listed in the ATEX Assessment Report No. 17 203 192998

(17) Specific Conditions for Use

1. The permissible ambient resp. medium temperature range depends on the EPL`s for the apparatus (see thermal data).
   The limits of the permissible ambient temperature range may be restricted by the used O-ring material. The used O-ring material is included in the marking. The permissible temperature ranges in dependence of the material have to be taken from the manufacturer's instructions.

2. For functional reasons, the partition wall (membrane) to the wetted area has a wall thickness <1 mm. In the application, it has to be ensured, that an impairment of the separation wall e.g. by aggressive media or mechanical hazards is excluded.
   For variants with standard process connections:
   The installation of the meter bodies shall provide as a minimum degree of protection IP67 according to IEC 60529 for the process connections and vents.
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   The capillary connections are designed to be connected to a capillary with diaphragm seal.
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   To prevent a zone entrainment from Zone 20, the diaphragm seal resp. the diaphragm seal and capillary have to be suitably designed. The pressure transfer system has to be technically tight. The filling hole has to be tightly sealed.

3. At the plastic parts there is a danger of ignition by electrostatic discharge.
   Observe manual of the manufacturer and warning label.

4. At the metallic parts made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

5. For the execution with separate housing of the pressure transmitters, 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 cable entries and blanking elements in the housing have to be suitably certified for an operating temperature area of -40 °C to 80 °C or the cable entries and blanking elements of the manufacturer have to be used.

7. The pressure transmitters with built in electronics "4 wire with installed barrier MODBUS" must not be used for EPL Da applications.

Observe manual of the manufacturer.

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -

55607-EX00732N-240126