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 190806 X** **issue:** 02

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

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

(6) Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8003026472
Date of issue: 2021-03-19

(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 284714.

(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

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 190806 X** **issue 02**

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

The following electronic versions are available:

VEGADIF DF85(*).*C/U/O/H*****Z******: 2 wire 4 ... 20 mA transmitters
VEGADIF DF85(*).*C/U/O/H*****H******: 2 wire 4 ... 20 mA transmitters with superposed HART signal
VEGADIF DF85(*).*C/U/O/H*****A******: 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification
VEGADIF DF85(*).*C/U/O/H*****P******: With electronics for Profibus PA
VEGADIF DF85(*).*C/U/O/H*****F******: With electronics for Foundation Fieldbus

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

Electrical data:
VEGADIF DF85 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 chamber 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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 02

VEGADIF DF85 with built-in electronics P, F

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 = 17.5V 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 (IEC 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

VEGADIF DF85 for installation in a 2 chamber housing with the electronics H/A and the additional electronics PLISZEZSA (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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 02

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 circuit (Terminals 5, 6, 7, 8 in the housing for the electronics resp. in the terminal housing in the execution with 2 chamber housing)	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 VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 are adhered to, if the complete inductance and capacitance of the connection cable between VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 does not exceed the following values: Electronics Z, H, A: L_{cable} = 330 µH C_{cable} = 1.98 µF Electronics P, F: L_{cable} = 212 µH C_{cable} = 1.98 µF If the connection cable supplied by the manufacturer is used, the following values have to be observed: Li' = 0.62µH/m $Ci'_{wire/wire}$ = 150 pF/m $Ci'_{wires/shield}$ = 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 chamber 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 or an interface adapter with equal or less critical safety data

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 differential pressure measuring devices are used in explosion hazardous areas for EPL Ga, Ga/Gb or 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	Medium temperature range	Ambient temperature range
T6	-40 °C ... +46 °C	-40°C ... +46 °C
T5	-40 °C ... +55 °C *	
T4	-40 °C ... +85 °C	-40 °C ... +80 °C
T3		
T2		
T1		

* For the remote sensor variant; for medium temperatures above 46 °C, a sufficient thermal decoupling between medium and converter-unit has to be ensured.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 20 203 284714

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

1. The permissible ambient resp. medium temperature range depends on the variant of the apparatus and on the temperature class, for which the apparatus shall be used (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 use as Ga/Gb-apparatus:
   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 EN 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 0, 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, 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 16 ATEX 190806 X** **Issue: 01**

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

(5) of the manufacturer: VEGA Grieshaber KG

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

Order number: 8000483015

Date of issue: 2018-09-07

(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 219335.

(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 resp. 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

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(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 01**

(15) Description of product

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

The following electronic versions are available:

VEGADIF DF85(*).*C/U/O/H*****Z******: 2 wire 4 ... 20 mA transmitters
VEGADIF DF85(*).*C/U/O/H*****H******: 2 wire 4 ... 20 mA transmitters with superposed HART signal
VEGADIF DF85(*).*C/U/O/H*****A******: 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification
VEGADIF DF85(*).*C/U/O/H*****P******: With electronics for Profibus PA
VEGADIF DF85(*).*C/U/O/H*****F******: With electronics for Foundation Fieldbus

Electrical data

VEGADIF DF85 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 chamber 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

VEGADIF DF85 with built-in electronics P, F

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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 01

The apparatus is suitable for connection to a field bus system according to the FISCO model (IEC 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

<u>VEGADIF DF85 for installation in a 2 chamber housing with the electronics H/A and the additional electronics PLISZEZSA (2nd current output)</u>

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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 01

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 circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. in the terminal housing in the execution with 2 chamber housing)	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 VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 are adhered to, if the complete inductance and capacitance of the connection cable between VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 does not exceed the following values: <u>Electronics Z, H, A:</u> L_{cable} = 330 µH C_{cable} = 1.98 µF <u>Electronics P, F:</u> L_{cable} = 212 µH C_{cable} = 1.98 µF If the connection cable supplied by the manufacturer 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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 01

Operation and indication module circuit .... (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with 2 chamber 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 or an interface adapter with equal or less critical safety data

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 differential pressure measuring devices are used in explosion hazardous areas for EPL Ga, Ga/Gb or 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	Medium temperature range	Ambient temperature range
T6	-40 °C ... +46 °C	-40°C ... +46 °C
T5	-40 °C ... +55 °C *	
T4	-40 °C ... +85 °C	-40 °C ... +80 °C
T3		
T2		
T1		

* For the remote sensor variant; for medium temperatures above 46 °C, a sufficient thermal decoupling between medium and converter-unit has to be ensured.

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).

(16) Drawings and documents are listed in the ATEX Assessment Report No. 18 203 219335

(17) Specific Conditions for Use

1. The permissible ambient resp. medium temperature range depends on the variant of the apparatus and on the temperature class, for which the apparatus shall be used (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.

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 01

2. For use as Ga/Gb-apparatus:
   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 EN 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 0, 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, 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 16 ATEX 190806 X**	**issue:** 00
(4)	for the product:	Differential pressure measuring device VEGADIF DF85(*).*C/U/O/H*****Z/H/A/P/F******	
(5)	of the manufacturer:	VEGA Grieshaber KG	
(6)	Address:	Am Hohenstein 113, 77761 Schiltach	
	Order number:	8000466380	
	Date of issue:	2016-12-06	

(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. 16 203 190806.

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

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The head of the notified body

Meyer

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(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 00**

(15) Description of product

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

The following electronic versions are available:

VEGADIF DF85(*).*C/U/O/H*****Z******: 2 wire 4 ... 20 mA transmitters
VEGADIF DF85(*).*C/U/O/H*****H******: 2 wire 4 ... 20 mA transmitters with superposed HART signal
VEGADIF DF85(*).*C/U/O/H*****A******: 2 wire 4 ... 20 mA transmitters with superposed HART signal and additional SIL qualification
VEGADIF DF85(*).*C/U/O/H*****P******: With electronics for Profibus PA
VEGADIF DF85(*).*C/U/O/H*****F******: With electronics for Foundation Fieldbus

Electrical data

VEGADIF DF85 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 chamber 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

VEGADIF DF85 with built-in electronics P, F

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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 00

The apparatus is suitable for connection to a field bus system according to the FISCO model (IEC 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

VEGADIF DF85 for installation in a 2 chamber housing with the electronics H/A and the additional electronics PLISZEZSA (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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 00

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 circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. in the terminal housing in the execution with 2 chamber housing)	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 VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 are adhered to, if the complete inductance and capacitance of the connection cable between VEGADIF DF85 and the VEGADIS 61/ VEGADIS 81 does not exceed the following values: <u>Electronics Z, H, A:</u> L_{cable} = 330 µH C_{cable} = 1.98 µF <u>Electronics P, F:</u> L_{cable} = 212 µH C_{cable} = 1.98 µF If the connection cable supplied by the manufacturer 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

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 00

Operation and indication module circuit .... (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with 2 chamber 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 or an interface adapter with equal or less critical safety data

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 differential pressure measuring devices are used in explosion hazardous areas for EPL Ga, Ga/Gb or 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	Medium temperature range	Ambient temperature range
T6	-40 °C ... +46 °C	-40°C ... +46 °C
T5	-40 °C ... +55 °C *	
T4	-40 °C ... +85 °C	-40 °C ... +80 °C
T3		
T2		
T1		

* For the remote sensor variant; for medium temperatures above 46 °C, a sufficient thermal decoupling between medium and converter-unit has to be ensured.

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).

(16) Drawings and documents are listed in the ATEX Assessment Report No. 16 203 190806

(17) Specific Conditions for Use

1. The permissible ambient resp. medium temperature range depends on the variant of the apparatus and on the temperature class, for which the apparatus shall be used (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.

Schedule to EU-Type Examination Certificate No. TÜV 16 ATEX 190806 X issue 00

2. For use as Ga/Gb-apparatus:
   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 EN 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 0, 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, 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 -