EXAM
BBG Prüf- und Zertifizier GmbH

Translation

(1) # EC-Type Examination Certificate

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

(3) ## BVS 06 ATEX E 092

(4) **Equipment:** **Vibrations-Grenz-Schalter type VEGAWAVE WE6*.******

(5) **Manufacturer:** **VEGA Grieshaber KG**

(6) **Address:** **77761 Schiltach, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment 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 test and assessment report BVS PP 06.2081 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

IEC 61241-0:2004	General requirements
EN 61241-1:2004	Protection by enclosure 'tD '
EN 50281-1-1:1998 +A1	Dust explosion protection

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 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 shall include the following:

II 1D Ex tD A20 IP66 T see manual or
Ex **II 1/2D Ex tD A20/21 IP66 T** see manual or
II 2D Ex tD A21 IP66 T see manual

Alternative marking according to EN 50281-1-1:

II 1 D IP 66 T see manual or
Ex **II 1/2 D IP 66 T** see manual or
II 2 D IP 66 T see manual

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 28. July 2006

Signed: Migenda
Certification body

Signed: Wittler
Special services unit

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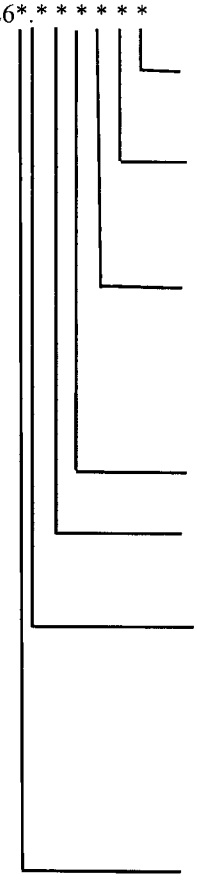
(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 06 ATEX E 092

(15) 15.1 Subject and type

Vibrating level switch type VEGAWAVE
WE6*.* * * * * * *



cable entry
M = M20x1,5
N = 1/2NPT
enclosure type of protection
A = aluminium enclosure IP66
D = aluminium double chamber enclosure IP66
V = stainless steel enclosure IP66
electronics
C = contactless switch AC/DC 20...253 V
R = relay output DC 20...72 V / AC 20...253 V
T = floating transistor (NPN/PNP) DC 10...55V
Z = two-wire (intrinsic safe version)
N = NAMUR EN60947-5-7-6 (intrinsic safe version)
process connection see manual
version/temperature range/ material
A = standard/-40 °C...150 °C /1.4435(316L)
B = with adapter/ -40 °C...250 °C/1.4435(316L)
C = detection of solids in water//-40 °C...150 °C/1.4435(316L)
CX = ATEX II 1G, 1/2G, 2G EEx ia IIC T6 (acc. KEMA 06 ATEX 0145 or KEMA 06 ATEX 0146)
CK = ATEX II 1D, 1/2D, 2D IP66 T...
ATEX II 1G, 1/2G, 2G EEx ia IIC T6 (acc. KEMA 06 ATEX 0145 or KEMA 06 ATEX 0146)
GX = ATEX II 1D, 1/2D, 2D IP66 T...
LK = ATEX II 1/2G, 2G EEx d IIC T6 (acc. KEMA 06 ATEX 0144)
ATEX II 1D, 1/2D, 2D IP66 T...
1, 3

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Vibrating level switch type VEGAWAVE

WE6*.* * * * * * *

- cable entry
  - M = M20x1,5
  - N = 1/2NPT
- enclosure / type of protection
  - A = aluminium enclosure IP66
  - D = aluminium double chamber enclosure IP66
  - V = stainless steel enclosure IP66
- electronics
  - C = contactless switch AC/DC 20...253 V
  - R = relay output DC 20…72 V / AC 20…253 V
  - T = floating transistor (NPN/PNP) DC 10...55V
  - Z = two-wire (intrinsic safe version)
  - N = NAMUR EN60947-5-7-6 (intrinsic safe version)
- process connection see manual
- version/temperature range/ material
  - T = rope PUR/-40 °C…80 °C/1.4435(316L)
    standard/-40 °C…150 °C /1.4435(316L)
  - CX = ATEX II 1G, 1/2G, 2G EEx ia IIC T6 (acc. KEMA 06 ATEX 0145 or KEMA 06 ATEX 0146)
  - CK = ATEX II 1D, 1/2D, 2D IP66 T…
    ATEX II 1G, 1/2G, 2G EEx ia IIC T6 (acc. KEMA 06 ATEX 0145 or KEMA 06 ATEX 0146)
  - GX = ATEX II 1D, 1/2D, 2D IP66 T…
- 2

15.2 Description

The Vibrating Level Switch type VEGAWAVE WE6*.****** is used for level monitoring, controlling and regulating in silos with dust generating material.
The probe of the Vibrating Level Switch vibrates at its mechanical resonant frequency. In case the probe is covered with material, the vibration is damped and a switch signal is generated.

15.3 Parameters

15.3.1 Electrical data

15.3.1.1 Type VEGAWAVE WE6*.GX/LK**C**
with electronics insert VB60C built in

supply voltage	DC/ AC	20...253	V
output	contactless switch		
current	<	5	mA
load current	min.	10	mA
	max.	400	mA

15.3.1.2 Type VEGAWAVE WE6*.GX/LK**R**
with electronics insert VB60R built in

supply voltage	AC	20... 253	V (3A)
or	DC	20...72	V
power consumption	1...8VA, max.	1,6	W
relay circuit			
max. values:	250 V, 3 A,	500	VA
	250 V, 1 A,	54	W

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15.3.1.3 Type VEGAWAVE WE6*.GX/LK**T**
with electronics insert VB60T built in

supply voltage	DC	10...55	V
power consumption	max.	0,5	W
load current	max..	400	mA

15.3.1.4 Type VEGAWAVE WE6*.GX/CK**Z**
with intrinsically safe electronics insert VB60Z built in
Supply and signal circuit

in type of protection Intrinsic Safety EEx ia IIC
only for connection to a certified intrinsically safe circuit

with the following maximum values:

Ui = 30 V
Ii = 131 mA
Pi = 983 mW

effective internal capacitance negligible
effective internal inductance negligible

15.3.1.5 Type VEGAWAVE WE6*.GX/CK**N** with intrinsically safe electronics insert VB60N built in
Supply and signal circuit

in type of protection Intrinsic Safety EEx ia IIC/IIB
or EEx ib IIC/IIB
only for connection to a certified intrinsically safe
circuit with the following maximum values:

Ui = 20 V
Ii = 103 mA
Pi = 516 mW

effective internal capacitance negligible
effective internal inductance Li < 5 µH

15.3.2 Thermal data

15.3.2.1 Permitted process temperature at the probe

Types VEGAWAVE WE61/3.*A/C****	- 40 °C...+ 150 °C
Types VEGAWAVE WE61/3.*B****	- 40 °C...+ 250 °C
Types VEGAWAVE VB62.*T****	- 40 °C...+ 80 °C

15.3.2.2 Max. surface temperature T at the probe — process temperature + 3 K

15.3.2.3 Permitted ambient temperature at the electronics enclosure — - 40 °C...+ 60 °C

15.3.2.4 Maximum surface temperature at the electronics enclosure

Type VEGAWAVE WE6*.***C/R/T**
with thermo fuse limited to — 98 °C

Type VEGAWAVE WE6*.***Z/N** — ambient temperature + 17K

15.3.3 Degrees of protection according to EN 60529 — IP66

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(16) Test and assessment report
BVS PP 06.081 EG as of 28.07.2006

(17) Special conditions for safe use
none

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 28.07.2006
BVS-Hk/Mi A 20060366

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit