

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Level Transmitter**

with type designation(s)
VEGAPULS 61..., 62..., 63..., 64..., 65... , 66..., 68...
VEGADIS DIS61...

Issued to

VEGA Grieshaber KG
Schiltach, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	C, D

Issued at **Hamburg** on **2017-02-23**

This Certificate is valid until **2022-02-22**.

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Dariusz Lesniewski**

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Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

VEGAPULS : Radar Sensor for continuous level measuring
VEGADIS : Indicating and adjustment unit

Type designation:	VEGAPULS PS 61. aM b fg i j k l VEGAPULS PS 62. aM e fg h i j k l VEGAPULS PS 63. aM n fg i j k l VEGAPULS PS 65. aM c fg i j k l VEGAPULS PS 66. aM d fg h i j k l m VEGAPULS PS 68. aM e fg h i j k l
a =	X (without Ex approval) C with approval ATEX II 1G, 1/2G, 2G Ex ia IIC T6 D with approval ATEX II 1/2G, 2G Ex d ia IIC T6 * conformity with further Ex approvals may be additionally provided by the manufacturer
b =	A Encapsulated horn antenna Ø 40mm / PVDF / -40...80° B Encapsulated horn antenna Ø 80mm / PP / -40...80°C
c =	K rod antenna for sockets 50mm length 352mm L rod antenna for sockets 100mm length 565mm M rod antenna for sockets 250mm length 565mm
d =	A without horn antenna F,G with stand pipe Ø 50mm / ½", length up to 500mm (see note 2) D,N with horn antenna Ø 75mm E,O with horn antenna Ø 96mm H,Q with horn antenna Ø 145mm I, R with horn antenna Ø 195mm J with horn antenna Ø 240mm
e =	F with stand pipe Ø 50mm / ½" (see note 2) B with horn antenna Ø 40mm C with horn antenna Ø 48mm D with horn antenna Ø 75mm E with horn antenna Ø 95mm K with parabolic antenna Ø 245mm
fg =	process fittings: flange, boltings, tri clamp, swivelling holder
h =	seal: Viton, Kalrez, Graphite, Ceramic
i =	H electronics 4...20mA HART® D electronics 4...20mA HART® / with increased sensitivity P electronics profibus PA K electronics profibus PA / with increased sensitivity
j =	K plastic housing / IP66/IP67 R plastic housing double chamber / IP66/IP67 X plastic housing double chamber / IP66/IP67 with M12x1 for VEGADIS 61 A aluminium housing single chamber / IP66/IP68 (0,2bar) 3 aluminium housing single chamber / IP66/IP68 (1bar) D aluminium housing double chamber / IP66/IP68 (0,2bar) Y aluminium housing double chamber / IP66/IP67 with M12x1 for VEGADIS 61 V stainless steel housing / IP66/IP68 (0,2bar) 5 stainless steel housing / IP66/IP68 (1bar) W stainless steel double chamber housing / IP66/IP68 (1bar) Q stainless steel double chamber housing / IP66/IP67 with M12x1 for VEGADIS 61
k =	M cable entry M20x1,5

N	cable entry ½ NPT
C	M20x 1,5 / M12 x 1 (A)
F	M20x 1,5 / HARTING HAN 7D (straight)
G	M20x 1,5 / HARTING HAN 7D (bent)
I	M20x 1,5 / nach DIN 43650
H	M20x 1,5 / HARTING HAN 8D (straight)
W	M20x 1,5 / HARTING HAN 8D (bent)
A	M20x 1,5 / Amphenol – Tuchel
l =	X without adjustment module
	A with adjustment module
m =	1 Antenna extension
n =	P, A, E, F, G, H, I, L, M, N, R, V horn antenna encapsulated: PTFE, PFA or PCTFE

Note 2: longer types available; to be additionally supported after each 1500mm

Type designation VEGAPULS PS 64(*). a b c de f g X h i j X k

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a = 1-Digit alphanumeric Code for Scope: A Europe, **I** Worldwide, **F** USA, **C** Canada and others

b = 1-Digit alphanumeric Code: M, O, Q for Ship Approval and combination with different Ex –Approvals (Ex-proof certificates to be provided by the manufacturer)

c = Antenna version / Second Line of Defense

B	with plastic horn antenna/ without
D	with plastic horn antenna/ with
T	Thread with integrated horn antenna / without
U	Thread with integrated horn antenna / with
F	Flange with encapsulated antenna system / without
G	Flange with encapsulated antenna system / with
H	Hygienic fitting with encapsulated antenna system / without
I	Hygienic fitting with encapsulated antenna system / with

de = Process fitting / Material

2- Digit alphanumeric code for Flange, Thread, Bolting, Clamp and further standard process connections / 316L and equivalent Alloys

f = Material / Seal / Process Temperature

C	PP / PP / -40...+80°C
D	PP / FKM (SHS FPM 70C3 GLT) / -40...+80°C
E	PP / EPDM (COG AP310) / -40...+80°C
A	PEEK / FKM (SHS FPM 70C3 GLT) / -40...+130°C
B	PEEK / FKM (SHS FPM 70C3 GLT) / -40...+200°C
R	PEEK / FFKM (Kalrez 6230) / -15...+130°C
S	PEEK / FFKM (Kalrez 6230) / -15...+200°C
G	PEEK / FFKM (Kalrez 6375) / -20...+130°C
H	PEEK / FFKM (Kalrez 6375) / -20...+200°C
F	PEEK / EPDM (A+P 75.5/KW75F) / -40...+130°C
I	PTFE / PTFE / -40...+130°C
J	PTFE / PTFE / -40...+200°C
T	PTFE / FFKM (Kalrez 6230) / -15...+130°C
U	PTFE / FKM (75,5/VA75F) / -20...+130°C
V	PTFE / EPDM (75,5/KW75F) / -20...+130°C
K	PTFE (8mm) / PTFE / -40...+130°C
L	PTFE (8mm) / PTFE / -40...+200°C
P	PFA (8mm) / PFA / -40...+130°C
Q	PFA (8mm) / PFA / -40...+200°C

h =	housing	
	K	Plastic-1- Chamber/ IP66/IP67
	A	Aluminium-1- Chamber / IP66/IP68 (0,2bar)
	H	Special Colour Aluminium-1-Chamber / IP66/IP68 (0,2bar)
	3	Aluminium-1- Chamber / IP66/IP68 (1bar)
	D	Aluminium-2-Chamber / IP66/IP68 (0,2bar)
	S	Special Colour Aluminium-2-Chamber / IP66/IP68 (0,2bar)
	4	Aluminium-2-Chamber / IP66/IP68 (1bar)
	V	StSt-1- Chamber / IP66/IP68 (0,2bar)
	5	StSt-1- Chamber / IP66/IP68 (1bar)
	W	StSt-2-Chamber / IP66/IP68 (0,2bar)
	R	Plastic-2-Chamber / IP66/IP67
i =	1-digit alphanumeric code for cable entry cable connection	
j =	X	without indication and adjustment module
	A	without indication and adjustment module
	B	laterally mounted
k =	Additional certificates	
	X	No
	M	Yes

Place of manufacture

VEGA Grieshaber KG	VEGA Americas, Inc.
Am Hohenstein 113	4241 Allendorf Drive
77761 Schiltach	Cincinnati, OH 45209
GERMANY	USA

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

The cable installation has to be carried out according to the rules for classification of ships with respect to routing, fixing, protection, penetration of decks / bulkheads and the use of cable pipes.

Devices for Ex-Application shall be approved in each case according to valid Ex-certificate e.g. PTB 03 ATEX 2060X, PTB 03 ATEX 2089X or PTB 03 ATEX 2163X.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

Job Id: **262.1-002275-6**
Certificate No: **TAA0000128**

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE