

Ship approvals

VEGAWELL 52

VEGABOX 02

DNV - TAA00001BY
LR - 23307633TA
ABS 22-2276372-PDA
ABS 22-2276372-PDA-DUP
CCS - HB23PTB00027
RINA - ELE007523XG
BV - 20879/D0
ClassNK - TA23069M
KR - HMB21504-AE005



Document ID: 33792



VEGA

Installation instruction

It is not allowed to supply the sensors directly from the ship mains.

It must be connected to controllers with appropriate ship approval.

For sensors variants equipped with cable the installation in cable bunches, trunks, spaces with a higher risk of fire or other critical areas fire stops having at least class B-0 penetration or alternatively by the Classification Society accepted means shall be provided.

Details see e.g. DNV GL Rules for Classification of Ships and components/Chapter 8 Electrical installations/Edition January 2018 in Chapter 3.4: "Fire protection measures", Interpretations of the International Convention for the Safety of Life at Sea (SOLAS), 1974 and its Amendments of the IACS SC10 (Rev 1 1997 & Rev.2 May 2001): Precautions against shock, fire and other hazards of electrical origin.



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001BY
Revision No:
3

This is to certify:

That the Pressure Transmitter

with type designation(s)
VEGAWELL 52, VEGABOX 02

Issued to

VEGA Grieshaber KG
Schiltach, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
VEGAWELL 52	D	B	A	B	D (IP68)
VEGABOX 02	D	B	A	B	B (IP54)

Issued at **Hamburg** on **2022-04-26**

This Certificate is valid until **2027-07-31**.

DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**



for DNV

Digitally Signed By: Papanuskas, Joannis
Location: DNV GL SE Hamburg, Germany

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

www.dnv.com

Page 1 of 3



Job id: 262.1-004521-8
 Certificate No: TAA00001BY
 Revision No: 3

Product description

VEGAWELL 52

WL52. aM bc defghijk

a = Approval

X without Ex - Approval

A...Z in combination with Ex - Approval for use in hazardous atmospheres

bc = Process fitting

AA/A1...ZZ/Z9 without, straining clamp, screwed connection, housing with cable locking

d = Material of suspension cable

B FEP

D PUR

e = Total length

T customer specific

f = Material sensor housing

A...Z Stainless Steel, PVDF, Titan

g = Measuring cell seal

1/A...9/Z FKM, FFKM, EPDM, others

h = Pressure / measuring range

1/A...9/Z gauge or absolute pressure / max. 60 bar

i = Electronics

D 4...20 mA / HART® + Pt100, 4-wire

C 4...20 mA / 2-wire

j = Accuracy

1 0,2%

2 0,1%

k = Transmitter option

X without impact protection

V with impact protection

VEGABOX 02

BOX 02. aM b c d

a = Approval

X without Ex - Approval

A...Z in combination with Ex - Approval for use in hazardous atmospheres

b = Function

A Pressure compensation

C Pressure compensation and temperature transmitter 4...20mA / HART

c = Protective cover

X without

W with

d = identification label

X without

V of stainless steel, laser marking

Place of manufacture:

VEGA Grieshaber KG
 Am Hohenstein 113
 77761 Schiltach
 GERMANY

VEGA Americas, Inc.
 4241 Allendorf Drive
 Cincinnati, OH 45209
 USA

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.



Job Id: 262.1-004521-8
 Certificate No: TAA00001BY
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Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Application/Limitation

Measures for limitation of the propagation of fire along cable bundles are required (fire stops).
 The transmitters with plastics housing (PVDF) are approved for pressures up to 10 bar.

Type Approval documentation

Technical Description for VEGAWELL 52 "VEGAZW-6-79828, dated 21.04.2022"
 Referenced documents in the VEGA document "VEGAZW-6-79828, dated 21.04.2022"
 Type approval renewal assessment report issued at Augsburg on 2022-03-15

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

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.

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE



Page 1 of 2
 Certificate No: LR23307633TA
 Issue Date: 02/09/2023
 Expiry Date: 01/09/2028

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Vega Grieshaber KG
Address	Am Hohenstein 113, Schiltach, 77761, Germany
Place of Production	Vega Grieshaber KG Am Hohenstein 113, Schiltach, 77761, Germany
Place of Production	VEGA Americas, Inc. 3877 Mason Research Parkway, Mason, OH, 45036, United States
Type	Transmitters/Transducers
Description	Suspension pressure transmitter with integrated temperature sensor; Connection box with or without temperature transmitter. Refer to the Appendix for further details.
Trade Name	VEGAWELL 52, VEGABOX 02
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV5 as defined in LR Type Approval System, Test Specification Number 1 – 2002.
Specified Standard	Manufacturer's specification

Thorsten Wolff
 Electrical & Control - Senior Specialist to
 Lloyd's Register EMEA
 A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

TA01 2.0



Page 2 of 2
Certificate No: LR23307633TA
Issue Date: 02/09/2023
Expiry Date: 01/09/2028

Type Approval Certificate

IACS unified requirements E10 (Rev.8 Feb 2021)

Additional Tests	Low temperature (-40°C/16 h)
	Dry heat (80°C/16 h)
	Enclosure test IP 66/68 (20 bar)
Other Conditions	Ratings for application in hazardous areas are to be obtained from the applicable Ex-Certificates.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 08/20045 (E3)

The Design Appraisal Document HPC1462196-23/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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TA01 2.0



Appendix

TYPES

VEGAWELL 52. aM bc d e f g h i j k

- a = approval
 X without Ex - Approval
 A...Z in combination with Ex - Approval for use in hazardous atmospheres
 Further Ex - Approvals may be provided by the manufacturer
- bc = process fitting
 AA/A1...ZZ/Z9 without, straining clamp, screwed
 connection, plastic housing with cable locking, others.
- d = material suspension cable
 B FEP
 D PUR
- e = total length
 T customer specific (refer to "Other Conditions")
- f = material sensor housing
 K Stainless Steel with PE plastic - coating
 D, V Stainless Steel (316 L)
 T Titan
 G Titan with glass feed through
 P PVDF
- g = measuring cell seal
 1, 7 FKM
 P, 2, 5, 8 FFKM
 3, I EPDM
- h = pressure / measuring range
 A...Z gauge max. 25 bar
 1...9 absolute pressure max. 25 bar (for VEGAWELL 52 up
 to 60 bar)
- i = electronics
 D 4...20 mA / HART® + Pt100, 4-wire
 C 4...20 mA / 2 - wire

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Page 2 of 2
 Certificate No: LR23307633TA
 Issue Date: 02.09.2023
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j = Accuracy

1 0,2%

2 0,1%

k = Transmitter protection

X without impact protection

V with impact protection

VEGABOX 02

BOX 02. aM b c d

a = Approval

X without Ex - Approval

A...Z in combination with Ex - Approval for use in hazardous atmospheres

b = function

A Pressure Compensation

C Pressure Compensation and Temperature Transmitter

4...20 mA / HART

c = protective cover

X without

W with

d = designation label

X without

V made of stainless steel (laser marking)

W made of foil (laser marking)

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Page: 1 of 2
 Certificate No: LR23307633TA
 Issue Date: 02.09.2023
 Expiry Date: 01.09.2028
 Reference: HPC1462196-23/TW

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT

ISSUED BY: HAMBURG TECHNICAL SUPPORT OFFICE

ISSUED TO: VEGA GRIESHABER KG

**FOR: SUSPENSION PRESSURE TRANSMITTER WITH INTEGRATED TEMPERATURE SENSOR;
 CONNECTION BOX WITH OR WITHOUT TEMPERATURE TRANSMITTER.
 TYPES VEGAWELL 52 AND VEGABOX 02**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Unnumbered	Type Approval Application Checklist	
	Request for Marine Services – Type Approval	
HTS/ETS 37278-18	Design Appraisal Document for previous LR Type Approval certificate no. 08/20045 (E3)	31.08.2018
VEGAZW_renewal_08_20045_E3	Technical Description for VEGAWELL 52 including documentation listed under Section 2 "Submitted documents"	19.10.2022
PRJ11100411583-2	Production Quality Assessment Form	25.05.2023
5504	ISO 9001:2015 certificate	20.10.2022
PRJ11100390052-2	Production Quality Assessment Form	12.10.2022

TEST REPORTS

1-09_GL_F1_2	VEGA test report	05.04.2018
1-09_GL_N1_1	VEGA test report	07.06.2018


 Thorsten Wolff
 Hamburg Office
 Lloyd's Register EMEA
01/09/2023

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Page: 2 of 2
 Certificate No: LR23307633TA
 Issue Date: 02.09.2023
 Expiry Date: 01.09.2028
 Reference: HPC1462196-23/TW

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.

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Confirmation of Product Type Approval

Company Name: VEGA GRIESHABER KG

Address: PRODUCT COMPLIANCE & QMAM HOHENSTEIN 113 Germany

Product: Pressure Level Gauging Transmitter

Model(s): VEGAWELL 52, VEGABOX 02

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2276372-PDA	14-JUL-2022	13-JUL-2027
Manufacturing Assessment (MA)	20-4249376	21-APR-2020	20-APR-2025
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Continuous level measurement of liquids on ACC, ACCU and ABCU classed vessels.

Description

Submersible pressure transmitter with ceramic measuring cell.

- sensor element CERTEC® & Mini-CERTEC® measuring cell with rugged ceramic diaphragm. The hydrostatic pressure causes a capacitance change in the measuring cell via the ceramic diaphragm. This change is converted into an appropriate output signal.

- two-wire 4...20 mA/HART output (electronics model code C).

- available also with Pt 100 temperature sensor in four-wire technology (electronics model code D). The resistance value is accessed via the wires of the suspension cable.

- The power supply or the processing is carried out via an external temperature transducer (VEGABOX 02).

Ratings

Ambient temperature range: -40°C ... 80°C;

Output signals: 4 ... 20 mA or 4 ... 20 mA/ HART;

Power supply by approved unit, 24 V(DC), max. 36V(DC) non-Ex and max. 30V(DC) Ex;

Degree of protection: IP 68 (30 bar, Transmitter), IP 68 (1 bar external housing);

Certified Safe Type as per certificate CSA 2501894:

Class I Division 2 Groups A,B,C and D; Class II Division 2 Groups F and G; Class III, T6, Encl. Type4X, IP68, Class I and II Zone 2, Ex nL IIC;

Class I Division 1 Groups A,B,C and D; Class II Division 1 Groups E,F,G; Class III, T6, Encl. Type4X, Ex ia IIC;

and Ex ia IIC T6 Ga, Gb as per certificate IECEx TUN 06.0014X.

Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. Intrinsically safe electric systems for power supply/output wiring and shielded conductors are to be utilized for intrinsically safe types of the product.
3. For passenger vessels, pressure/level gauges are not to be installed on flammable oil tanks where they require tank wall penetration below the tank top.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Each particular application and installation is to be specifically approved in conjunction with the relevant systems and tank arrangements.
3. ATEX certified equipment is not to be installed in hazardous areas on U.S. vessels unless it can be proven to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S. Coast Guard, USCG MI Notice 01-12 (February 7, 2012).
4. Installation in hazardous areas is to be in accordance with any special conditions for safe use detailed in the respective approval certificate.
5. The product comes with a pre-assembled connection cable (FEP/PUR), tested as per IEC 60332-1-2. When installed in bunches the cables are to be treated with approved flame retardant material or the installation is to be provided with approved fire stops, as per 4-8-3/9.5 of the Rules.
6. Sensor is to be powered by power supply approved according to IACS UR E10 Rev.8.

Notes, Drawings and Documentation

Drawing No. Technical Description for VEGAWELL 52, Technical Description for VEGAWELL 52

Drawing No. Operation Instruction VEGAWELL 52 4 ... 20 mA, 35401-EN-180523

Drawing No. Operation Instruction VEGAWELL 52 4...20 mA / HART/ PT100 , 35402-EN-180523,

Drawing No. Operation Instruction VEGAWELL 52-4-...-20-mA-HART.pdf, 36785-EN-180523

Drawing No. Software History for VEGAWELL 52_HART,
VEGAWELL_52_2L_HART_device_software_version_history_091023_EN_SW0039, Revision: 0,
Pages: 1

Drawing No. 6010_0000_UL Product iQ, File No. E215817, UL Listing

Drawing No. sole6010_gb, PVDF Material Datasheet

Test Reports

Drawing No. 07-1587, ENV Test Report, Paconsult GmbH, 24.05.2007 (VEGAWELL 51, C+D)

Drawing No. 07-1650, ENV Test Report, Paconsult GmbH, 06.08.2007 (VEGAWELL 52, C+D)

Drawing No. 08-1923, ENV Test Report, Paconsult GmbH 19.03.2008 (VEGWELL 72, D)

Drawing No. 07-L-00339-01, Hanse Control 20.04.2007 (EMC VEGAWELL 51+VEGABOX 02, Mini-Certec/PT100, HART)

Drawing No. 07-L-00339-02, Hanse Control 23.04.2007 (EMC VEGAWELL 51+VEGABOX 02, Mini-Certec + PT100, 4...20mA)

Drawing No. 07-L-00956-01, Hanse Control 26.07.2007 (EMC VEGAWELL 52, Certec in HART Mode)

Drawing No. 08-L-00256-01, Hanse Control 13.02.2008 (EMC VEGAWELL 52(72) with PVDF Housing D electronic)

Drawing No. 07-L-00954-01, Hanse Control 21.07.2007 (EMC VEGAWELL 52(72), C electronic)

Drawing No. 2101-0046101R01A, Hanse Control, 24.03.2021 (EMC VEGABOX 02)

Drawing No. 2101-0046101R02A, Hanse Control, 24.03.2021 (EMC D Two-wire / HART + PT100 with Mini-Certec)

Drawing No. 2101-0046101R03A, Hanse Control 24.03.2021 (EMC D Two-wire / HART + PT100 with Certec)

Drawing No. 2101-0046101R04A, Hanse Control 15.03.2021 (EMC C Two-wire 4...20 mA, Certec)

Drawing No 2101-0046101R05A, Hanse Control 15.03.2021 (EMC C Two-wire 4...20mA, Mini Certec)

Drawing No. 18-10723C, Salt Mist Test Report, Paconsult GmbH, 12.11.2018

Drawing No. 1-09_GL_F1_2_F, Cable Test 1.1267 (2018, Internal), Manufacturer: Dyneon

Drawing No. 1-09_GL_N1_1, Cable Test 1.1266 (2018, Internal), Manufacturer:BEWO

Ex Certificates

Drawing No. IECEx TUN 06.0014X,
42817-EN-IECEx-Certificate-of-Conformity-VEGAWELL-51-52-72-(42241)

Drawing No. TÜV 06 ATEX 553449 X,
42816-EN-EC-Type-Examination-Certificate-TUeV-06-ATEX-553449-X-(to-42240)

Drawing No. 2501894 (LR 108043) IS, 42250-EN-CSA-VEGAWELL-52-72-(Ex.i)

Drawing No. 2501894 (LR 108043) NI, 42249-EN-CSA-VEGAWELL-52-72-(Zone-2)

Drawings

Drawing No. GE2322, WELL 51 with electronic insert WL50

Drawing No. GE2330 02, Box02 with PT100-HART electrical design

Drawing No. GE2336 01, Trace layout board of printed circuit acc. to SB1277

Drawing No. GE2337 02, Printed circuit board acc. to SB1277
 Drawing No. GE2356, BOX02 with terminals
 Drawing No. GE2357, BOX02 with PT100-HART®,
 Drawing No. GE2372, BOX02 with PT100-HART electrical design
 Drawing No. GE2378, BOX02 with terminals electrical design
 Drawing No. GE2379, WELL51 (WL52 Mini-Certec®) Electronic Insert WL50
 Drawing No. GE2380 02, WELL52 (WL52 Mini-Certec®) Electronic Insert WL50
 Drawing No. GE2381, Protection cover for VEGABOX02
 Drawing No. GE2472-E, WELL51, WELL52, WELL72 Overview Drawing

Circuit Diagrams

 Drawing No. SB1269-1-00-0, BAR-CF1 (for Mini-CERTEC®)
 Drawing No. SB1277, WL50H
 Drawing No. SB1283-1-00-0, BAR-CF2 (for CERTEC®)
 Drawing No. SB1284, WL50D

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 13/Jul/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2022 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.11.3, 4-6-4/11.7, 4-6-4/13.5.6(b), 4-6-4/15.3.4(b), 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17.1, 4-8-3/13, 4-9-9/13.1, 4-9-9/Table 1 & Table 2

2022 Mobile Offshore Units Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-3/3.7, 4-2-4/13.7.6, 4-3-1/11, 4-3-1/15, 4-3-1/17.1, 4-3-3/9.3.1, 4-3-3/9.3.2

International Standards

IACS UR E10 Rev.8

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

None



Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 18-Jul-2022 2:57

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that, whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.



Confirmation of Product Type Approval

Company Name: VEGA AMERICAS INC.

Address: 3877 MASON RESEARCH PKWY OH 45036 United States

Product: Pressure Level Gauging Transmitter

Model(s): VEGAWELL 52, VEGABOX 02

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2276372-PDA-DUP	14-JUL-2022	13-JUL-2027
Manufacturing Assessment (MA)	18-JE3492431	03-MAY-2018	06-MAY-2023
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Continuous level measurement of liquids on ACC, ACCU and ABCU classed vessels.

Description

Submersible pressure transmitter with ceramic measuring cell.

- sensor element CERTEC® & Mini-CERTEC® measuring cell with rugged ceramic diaphragm. The hydrostatic pressure causes a capacitance change in the measuring cell via the ceramic diaphragm. This change is converted into an appropriate output signal.

- two-wire 4...20 mA/HART output (electronics model code C).

- available also with Pt 100 temperature sensor in four-wire technology (electronics model code D). The resistance value is accessed via the wires of the suspension cable.

- The power supply or the processing is carried out via an external temperature transducer (VEGABOX 02).

Ratings

Ambient temperature range: -40°C ... 80°C;

Output signals: 4 ... 20 mA or 4 ... 20 mA/ HART;

Power supply by approved unit, 24 V(DC), max. 36V(DC) non-Ex and max. 30V(DC) Ex;

Degree of protection: IP 68 (30 bar, Transmitter), IP 68 (1 bar external housing);

Certified Safe Type as per certificate CSA 2501894:

Class I Division 2 Groups A,B,C and D; Class II Division 2 Groups F and G; Class III, T6, Encl. Type4X, IP68, Class I and II Zone 2, Ex nL IIC;

Class I Division 1 Groups A,B,C and D; Class II Division 1 Groups E,F,G; Class III, T6, Encl. Type4X, Ex ia IIC;

and Ex ia IIC T6 Ga, Gb as per certificate IECEx TUN 06.0014X.

Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. Intrinsically safe electric systems for power supply/output wiring and shielded conductors are to be utilized for intrinsically safe types of the product.
3. For passenger vessels, pressure/level gauges are not to be installed on flammable oil tanks where they require tank wall penetration below the tank top.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Each particular application and installation is to be specifically approved in conjunction with the relevant systems and tank arrangements.
3. ATEX certified equipment is not to be installed in hazardous areas on U.S. vessels unless it can be proven to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S. Coast Guard, USCG MI Notice 01-12 (February 7, 2012).
4. Installation in hazardous areas is to be in accordance with any special conditions for safe use detailed in the respective approval certificate.
5. The product comes with a pre-assembled connection cable (FEP/PUR), tested as per IEC 60332-1-2. When installed in bunches the cables are to be treated with approved flame retardant material or the installation is to be provided with approved fire stops, as per 4-8-3/9.5 of the Rules.
6. Sensor is to be powered by power supply approved according to IACS UR E10 Rev.8.

Notes, Drawings and Documentation

Drawing No. Technical Description for VEGAWELL 52, Technical Description for VEGAWELL 52

Drawing No. Operation Instruction VEGAWELL 52 4 ... 20 mA, 35401-EN-180523

Drawing No. Operation Instruction VEGAWELL 52 4...20 mA / HART/ PT100 , 35402-EN-180523,

Drawing No. Operation Instruction VEGAWELL 52-4-...-20-mA-HART.pdf, 36785-EN-180523

Drawing No. Software History for VEGAWELL 52_HART,
VEGAWELL_52_2L_HART_device_software_version_history_091023_EN_SW0039, Revision: 0,
Pages: 1

Drawing No. 6010_0000_UL Product iQ, File No. E215817, UL Listing

Drawing No. sole6010_gb, PVDF Material Datasheet

Test Reports

Drawing No. 07-1587, ENV Test Report, Paconsult GmbH, 24.05.2007 (VEGAWELL 51, C+D)

Drawing No. 07-1650, ENV Test Report, Paconsult GmbH, 06.08.2007 (VEGAWELL 52, C+D)

Drawing No. 08-1923, ENV Test Report, Paconsult GmbH 19.03.2008 (VEGAWELL 72, D)

Drawing No. 07-L-00339-01, Hanse Control 20.04.2007 (EMC VEGAWELL 51+VEGABOX 02, Mini-Certec/PT100, HART)

Drawing No. 07-L-00339-02, Hanse Control 23.04.2007 (EMC VEGAWELL 51+VEGABOX 02, Mini-Certec + PT100, 4...20mA)

Drawing No. 07-L-00956-01, Hanse Control 26.07.2007 (EMC VEGAWELL 52, Certec in HART Mode)

Drawing No. 08-L-00256-01, Hanse Control 13.02.2008 (EMC VEGAWELL 52(72) with PVDF Housing D electronic)

Drawing No. 07-L-00954-01, Hanse Control 21.07.2007 (EMC VEGAWELL 52(72), C electronic)

Drawing No. 2101-0046101R01A, Hanse Control, 24.03.2021 (EMC VEGABOX 02)

Drawing No. 2101-0046101R02A, Hanse Control, 24.03.2021 (EMC D Two-wire / HART + PT100 with Mini-Certec)

Drawing No. 2101-0046101R03A, Hanse Control 24.03.2021 (EMC D Two-wire / HART + PT100 with Certec)

Drawing No. 2101-0046101R04A, Hanse Control 15.03.2021 (EMC C Two-wire 4...20 mA, Certec)

Drawing No 2101-0046101R05A, Hanse Control 15.03.2021 (EMC C Two-wire 4...20mA, Mini Certec)

Drawing No. 18-10723C, Salt Mist Test Report, Paconsult GmbH, 12.11.2018

Drawing No. 1-09_GL_F1_2_F, Cable Test 1.1267 (2018, Internal), Manufacturer: Dyneon

Drawing No. 1-09_GL_N1_1, Cable Test 1.1266 (2018, Internal), Manufacturer:BEWO

Ex Certificates

Drawing No. IECEx TUN 06.0014X,
42817-EN-IECEx-Certificate-of-Conformity-VEGAWELL-51-52-72-(42241)

Drawing No. TÜV 06 ATEX 553449 X,
42816-EN-EC-Type-Examination-Certificate-TÜV-06-ATEX-553449-X-(to-42240)

Drawing No. 2501894 (LR 108043) IS, 42250-EN-CSA-VEGAWELL-52-72-(Ex.i)

Drawing No. 2501894 (LR 108043) NI, 42249-EN-CSA-VEGAWELL-52-72-(Zone-2)

Drawings

Drawing No. GE2322, WELL 51 with electronic insert WL50

Drawing No. GE2330 02, Box02 with PT100-HART electrical design

Drawing No. GE2336 01, Trace layout board of printed circuit acc. to SB1277

Drawing No. GE2337 02, Printed circuit board acc. to SB1277
 Drawing No. GE2356, BOX02 with terminals
 Drawing No. GE2357, BOX02 with PT100-HART®,
 Drawing No. GE2372, BOX02 with PT100-HART electrical design
 Drawing No. GE2378, BOX02 with terminals electrical design
 Drawing No. GE2379, WELL51 (WL52 Mini-Certec®) Electronic Insert WL50
 Drawing No. GE2380 02, WELL52 (WL52 Mini-Certec®) Electronic Insert WL50
 Drawing No. GE2381, Protection cover for VEGABOX02
 Drawing No. GE2472-E, WELL51, WELL52, WELL72 Overview Drawing

Circuit Diagrams

 Drawing No. SB1269-1-00-0, BAR-CF1 (for Mini-CERTEC®)
 Drawing No. SB1277, WL50H
 Drawing No. SB1283-1-00-0, BAR-CF2 (for CERTEC®)
 Drawing No. SB1284, WL50D

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 13/Jul/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2022 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.11.3, 4-6-4/11.7, 4-6-4/13.5.6(b), 4-6-4/15.3.4(b), 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17.1, 4-8-3/13, 4-9-9/13.1, 4-9-9/Table 1 & Table 2

2022 Mobile Offshore Units Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-3/3.7, 4-2-4/13.7.6, 4-3-1/11, 4-3-1/15, 4-3-1/17.1, 4-3-3/9.3.1, 4-3-3/9.3.2

International Standards

IACS UR E10 Rev.8

EU-MED Standards

NA

National Standards

NA

Government Standards

Certificate Number: 22-2276372-PDA-DUP

NA

Other Standards

None



A handwritten signature in black ink, appearing to read "Joseph Wilk".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 20-Feb-2023 3:40

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that, whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
HB23PTB00027

型式认可证书
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

VEGA Grieshaber KG

地址/Address

Am Hohenstein 113, D-77761 Schiltach, Germany

产品名称/Product

压力变送器
pressure transmitter
传感器
Sensor

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》(2023)及其变更通告第4篇第1章, 第7篇第2章
Part Four Chapter 1 and Part Seven Chapter 2 of China Classification Society Rules for Classification of Sea-Going Steel Ships 2023 and its Change Notices

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

产品明细/Product Description

传感器/Sensor (M0001)

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Suspension Pressure Transmitter	
型号/Type	VEGAWELL51, VEGAWELL52 Connection box VEGABOX02	

证书有效期至/This Certificate is valid until 2025年07月16日/Jul. 16, 2025

发证机构/中国船级社汉堡分社
Issued by CCS Hamburg Branch

签发日期 2023年07月17日
Date Jul. 17, 2023

本证书根据中国船级社规范和相关规定签发, 所有证书作为一个整体, 必须同时使用。纸质证书每页均须由本社盖章方为有效, 电子证书含数字签名方为有效。本证书复印件无效。任何单位和个人不应篡改或伪造本证书的部分内容。有关方对所持证书的真实性有疑问时, 应向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulations. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.

Form No. T01.

联系方式/Contact Us: 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)



UTN:P023-59199434

第1页共3页/Page 1 of 3

33792-EN-240228

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No.: HB17A00018

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No.: see additional pages
试验报告日期/ Test Report Date:

认可后的产品检验方式/ Method of Product Inspection after Approval

按规范只认可不进行产品检验的产品/The product approved only in term of the rules:
认可后的产品检验由制造厂按本社批准的产品检验计划进行检验, 经检验合格后由制造厂签发合格证明, 并连同该产品的本社认可证书复印件一并交付用户。制造厂对产品符合公约、法规、本社规范和本社认可的标准规定负责。
After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society. Upon satisfactory inspection, and the Quality Certificate issued by the Manufacturer should be provided to the purchaser together with the copy of the approval certificate issued by the Society. The manufacturer should take responsibility for the product being in compliance with the convention, statutory regulation, the Society rules and the standard accepted by the Society.

认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。
After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.
2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并获本社批准。
The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.
3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。
Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.
4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。
Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.
5. 如果属于获得型式认可B 模式证书, 且无须颁发船用产品证书/等效证明文件的情况, 证书获得者应接受本社每年一次的定期审核。定期审核日为认可证书期满之日对应的每一周年日, 检查工作应在周年日的前后三个月内进行。
If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

备注/Remarks

本证书由原型式认可证书 (No. HB22PTB00046) 变更并替代原证书。
This Certificate is modified from and supersedes the previous Type Approval Certificate No. HB22PTB00046.

本社已审核了产品厂无石棉声明, 但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。

证书编号/Certificate No. **HB23PTB00027**

The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society.
However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

Manufacturer/Address:

1. VEGA Grieshaber KG / Am Hohenstein 113, 77761 Schiltach, Germany
2. VEGA Americas, Inc. / 3877 Mason Research Parkway, Mason, OH 45036, USA

中国船级社汉堡分社

CCS Hamburg Branch

注: 本证书含有附页, 共1页

Note: The certificate is attached with additional 1 page(s)

1. Product Description:

Name	Suspension Pressure Transmitter
Type	VEGAWELL51, VEGAWELL52 Connection box VEGABOX02
Power Source	24 V DC
Output	4 ... 20 mA 4 ... 20 mA / HART 4 ... 20 mA / HART Pt 100
Accuracy	0.1 resp. 0.2
Measure Range	Up to 0...25 bar
Degree of protection	up to IP68
Software version	V1.1x
Explosion-Proof Marking	It has IECEx etc. certificate, such as follow: Ex ia IIC T6 Ga, Gb IECEx Certificate of Conformity No.: IECEx TUN 06.0014X Issuing Body: TUEV NORD CERT GmbH

2. Approval Test Report

No	Test Report No.	Test Report Date	Laboratory / Address
1	2101-0046101R01A	2021.03.24	Hansecontrol Zertifizierungsgesellschaft mbH / Schleidenstrasse 1, 22083 Hamburg, Germany
2	2101-0046101R02A	2021.03.24	
3	2101-0046101R03A	2021.03.24	
4	2101-0046101R04A	2021.03.24	
5	2101-0046101R05A	2021.03.24	
6	07-L-00339-01	2007.04.20	
7	07-L-00339-02	2007.04.23	
8	07-L-00954-01	2007.07.21	
9	07-L-00956-01	2007.07.21	
10	07-1587	2007.05.24	PAConsult GmbH / Birkenau 3, 22087 Hamburg, Germany
11	07-1650	2007.08.06	
12	08-1923	2008.03.19	
13	18-10723C	2018.08.22	
14	1-09_GL_F1_2	2018.04.15	VEGA Grieshaber KG / Am Hohenstein 113, 77761 Schiltach, Germany
15	1-09_GL_F1_3	2018.04.05	
16	1-09_GL_F1_4	2018.04.05	
17	1-09_GL_F1_7	2018.04.05	
18	1-09_GL_N1_1	2018.06.07	
19	1-09_GL_N1_3	2018.06.28	
20	1-03-WELL52-PVDF_F1_1	2007.12.10	
21	WELL72-1.3-F1-1	2004.07.29	

The Ex-Proof parameters of the approved products originate from Ex- Certificate received from manufacturer, not approved by CCS.

The above mentioned devices can be installed with an Ex-approval as well as without Ex-approval according to the field of application.

If the device is used for explosive-proof purposes, the explosion-proof certificate is essential, and the Type Approval Certification will be invalid if the Ex-approved products do not hold valid Ex Certificate. For Ex-devices it is absolutely necessary to affix the above ignition protection label to the device.

Whereas an application in non-explosive area does not require an Ex-certificate.



TYPE APPROVAL CERTIFICATE
No. ELE007523XG

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Pressure transmitters
<i>Type</i>	VEGAWELL 52
	VEGABOX 02
<i>Applicant</i>	VEGA GRIESHABER KG
	Am Hohenstein 113,
	D-77761 Schiltach
	GERMANY
<i>Manufacturer</i>	VEGA GRIESHABER KG
<i>Place of manufacture</i>	Am Hohenstein 113,
	D-77761 Schiltach
	GERMANY
<i>Reference standards</i>	Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.

Issued in **HAMBURG** on **February 8, 2023**. This Certificate is valid until **February 7, 2028**


RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

RINA Services S.p.A.
Via Corsica, 12 - 16128 Genova
Tel +39 010 53651
Fax +39 010 5351000

TYPE APPROVAL CERTIFICATE

No. **ELE007523XG**

Enclosure - Page 1 of 2

VEGAWELL 52

VEGABOX 02

Product description:

VEGAWELL 51 and 52 suspension cable pressure transmitters with integrated temperature sensor for level and gauge measurement. The sensor element is a dry ceramic-capacitive measuring cell.

The hydrostatic pressure causes a capacitance change in the measuring cell, via the ceramic diaphragm.

VEGABOX 02 Connection box: Breather housing for pressure transmitters with connection cable with integrated capillary tube, with or without temperature transmitter for PT100

WL 52 - a M b c d e f g h i j k

- a= Approval (note 1)**
X without Ex - Approval
A...Z in combination with Ex Approval for use in hazardous atmospheres
- bc= Process fittings**
AA/ A1...ZZ / Z9 without straining clamp, screw connection,
housing with cable locking
- d= Material Suspension cable**
B FEP
D PUR
- e= Total length**
T customer specific
- f= Transmitter Material / Diameter**
A...Z Stainless Steel, PVDF, Titan;
Measuring cell seal
1...9/A...Z FKM, FFKM, EPDM
- h= Pressure / measuring range**
A...Z gauge pressure max. 25 bar
1...9 absolute pressure max. 25 bar
(VEGAWELL 52 up to 60 bar max)
- i= Electronics**
D 4...20mA / HART +Pt100, 4 wire
C 4...20mA / 2 wire
- j= Accuracy class:**
1 0.20%; 2 0.10%
- k= Transmitter Option:**
w without
v with impact protection

BOX 02 - a M b c d

- a= Approval (note 1)**
X without Ex - Approval
A...Z in combination with Ex
Approval for use in hazardous atmospheres
- b= Function**
A Equalisation
C Equalisation and temperature transmitter 4...20mA / HART
- c= Protection cap**
X with
W without
- d= Label**
X without
V made of Stainless Steel
F of foil, laser marking

Note 1: For use in hazardous area the requirement / instruction of the relevant safety certificates must be taken into consideration.

Safety references:

VEGAWELL 51/52 type VEGAWELL WL51/52.A*****C/D*

Certificate: TUV 06 ATEX 553449 X 3. Supplement

Marking: II 1 G or II 2 G Ex ia IIC T6 Ga, Gb

VEGABOX 02 BOX 02.C.***

Certificate: TUV 07 ATEX 553685 X

Marking: II 1 G or II 2 G Ex ia IIC T6 Ga, Gb

GR

RINA Services S.p.A.
Via Corsica, 12 - 16128 Genova
Tel +39 010 53651
Fax +39 010 5351000

TYPE APPROVAL CERTIFICATE

No. ELE007523XG

Enclosure - Page 2 of 2

VEGAWELL 52

VEGABOX 02

Additional Place of Manufacture :

VEGA Americas, Inc.
3877 Mason Research Parkway
Mason, OH 45036
USA

Documents:

Operating Instructions: - 35401-EN-180523; 35402-EN-180523; 36785-EN-180523; 42240-EN-131108
Safety Instructions: - VEGAWELL WL51 /52.A *****C/D* and VEGABOX 02 BOX 02.C_***.

Test reports:

Paconsult: - 07-1587 dated 24/05/2007; 07-1650 dated 06/08/2007;
Hanse Control: - 07-L-00339-01 / 02 dated 20-23/04/2007; 07-L-00954-01 dated 21/07/2007;
- 07-L-00956-01 dated 26/07/2007; 08-L-00256-01 dated 27/02/2008; 2101-0046101R01A,EMC dated 24/03/2021;
2101-0046101R02A,EMC dated 24/03/2021; 2101-0046101R03A,EMC dated 24/03/2021; 2101-0046101R04A,EMC dated 24/03/2021;
VEGA Grieshaber: - 2-03_WELL51-F1_1 dated 27/02/08; 1-03-WELL52-PVDF_F1_1 dated 10/12/07;
- 1-4-WELL-PVDF_F1_1 dated 10/12/07

Remarks:

This certificate annuls and replaces the previous one n° ELE135718XG.

HAMBURG February 8, 2023





Marine & Offshore

Certificate number: 20879/D0 BV

File number: AP3944

Product code: 3891H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

VEGA Grieshaber KG

Schiltach - GERMANY

for the type of product

PRESSURE TRANSMITTERS / TRANSDUCERS

VEGAWELL 51/52 and VEGABOX 02/03

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31 / 41S

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Dec 2028

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 07 Dec 2023,

Dirk Hoepfner

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

VEGAWELL 51/52 Pressure Transmitters and VEGABOX 02/03 are intended to measure liquid levels in tanks.

1.1 - Main Characteristics:

Measuring Range:	Max = 25bar gauge / absolute (up to 60bar in absolute)
Ambient Temperature:	Depending on Ex category and / or connection cable type
Process Fitting:	Depending on type
Power Supply:	24V DC
Output Signal:	2/4 wire - 4-20 mA / HART + Pt100 (depending on electronic type)
Ingress Protection Index:	IP 68 (25bar for Pressure Transmitter, 1 bar for Terminal Box)
Firmware Version:	1.12.xx (4-20mA/HART); 1.04.xx (4-20mA)

1.2 - Type designation:

VEGAWELL

WL51/52 a M b c d e f g h i

- a = Ex approval or not
- b = Process fitting
- d = Material suspension cable
- e = Total length
- f = Material sensor housing
- g = Measuring cell seal
- h = Measuring range
- i = Electronics

VEGABOX

BOX 02 a M b c d

- a = Ex approval or not
- b = Function
- c = Protection cap
- d = Label

BOX 03 a b c d e f

- a = Scope: A, I, C, R, G, B
- b = Approval: M, O
- c = Version: A
- d = Housing: K, A, V
- e = Degree of protection: I, N
- f = Cable entry: M, S, T, K, U, V, L, O, D, N, J, P
- g = Mounting: A, C, D, E

2. DOCUMENTS AND DRAWINGS:

- CD ROM, Level Measurement - Switching - Pressure Products (2006/07).
- Safety instructions: 32895; 32896; 27711
- Drawings: GE 2472; GE 1825; ZG2847; GE23xx; SB10xx/11xx/12xx
- TÜV 07ATEX 553685 X dated 16.05.2007; TÜV 06 ATEX 553449 X 3.Ergänzung dated 08.05.2012
- BVS 08 ATEX E 032 X dated 14.07.2008
- For C0 version:
- Operating instructions: 45925-EN-170202
- For D0 version:
- Operating instructions: 35401-EN-230227; 35402-EN-230227; 36785-EN-230227; 32798-EN-140801
- Safety instructions: 42240-EN-230612; 47899-EN-210607
- Schematics: SB1277-1-06-0 dated 07.03.2022; SB1284-1-07-0 dated 07.03.2022
- TÜV 06 ATEX 553449 X Issue: 00 dated 2023.05.05

3. TEST REPORTS:

- paconsult GmbH: 355-04 dated May 13th, 2004; 07-1587 Rev.1 dated Sept. 2nd, 2008; 07-1650 dated Aug. 06th, 2007
- Hanse control: 07-L-00339-01 dated 20 April 2007; 07-L-00339-02 dated 23 April 2007; 07-L-00954-01 dated 21 July 2007
- 07-L-00956-01 dated 26 July 2007; 08-L-00256-01 dated 27 February 2008.
- EMV Services: 04/4080-2-1 dated August 06th, 2004; 04/4080-3-1 dated August 06th, 2004.
- AUCOTEAM: 2813/97 dated 27.11.1997
- VEGA: VZW0407 undated; WELL 52-PVDF, In-house IP and Pressure Tests dated 10.12.07.
- For C0 version:
- paconsult GmbH: 14-5756 dated 20. March 2014; 18-10723C Rev.1 dated Nov 12, 2018
- For D0 version:
- Hanse control: 2101-0046101R01A dated 24.03.2021; 2101-0046101R02A dated 24.03.2021 ; 2101-0046101R03A dated 24.03.2021; 2101-0046101R04A dated 24.03.2021

The electronic version is available at: <http://www.veristamb.com/veristamb/jsp/viewPublicPdf?typc.jsp?id=6euskjzpq>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

4. APPLICATION / LIMITATION:

- 4.1 - Bureau Veritas Rules for the Classification of Steel Ships
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.
- 4.3 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zone and Deck Zone.
- 4.4 - Bureau Veritas Environmental Category, **EC Code: 31 / 41S**
- 4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev8.
- 4.6 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be supplied by **VEGA Grieshaber KG** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **VEGA Grieshaber KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:
- 5.4 - For information, **VEGA Grieshaber KG** has declared to Bureau Veritas the following production site(s):

VEGA Grieshaber KG
Am Hohenstein 113
D-77761 Schiltach
GERMANY

VEGA Americas Inc.
3877 Mason Research Parkway
Mason, OH 45036
USA

6. MARKING OF PRODUCT:

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- Ex marking, as relevant

7. OTHERS:

- 7.1 - It is the responsibility of **VEGA Grieshaber KG - GERMANY** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 20879/C0 BV issued on 11 Dec 2018 by the Society.

***** END OF CERTIFICATE *****



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR LIQUID LEVEL GAUGE / HIGH LEVEL ALARM

Certificate No. TA23069M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements specified in the Chapter 7, Part 6 and Chapter 4, Part 7 of "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use" and the relevant Society's Rules.

This certificate is issued to

Manufacturer:	VEGA Grieshaber KG
Place of Manufacturing:	VEGA Grieshaber KG Am Hohenstein 113, 77761 Schiltach, Germany
	VEGA Americas, Inc. 3877 Mason Research Parkway, Mason, OH 45036, USA
Product description:	Pressure type level gauge
Model:	VEGAWELL 52.*M*****
Approval No.:	13LG001
Valid until:	5 February 2028

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 06 March 2023.



 S. Oishi
 General Manager
 Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

NIPPON KAIJI KYOKAI

Attached sheet -1/4 to the Certificate No. TA23069M

Specification & documents:

1. Ratings:

Power supply	: DC 24 V
Measuring ranges	: +10 ~ +2500 kPa
Process temperature	: -20 ~ 80 °C

Detail of Model:

(1) VEGAWELL WL52. aM bc d e f g h i

a = Approval

X : without Ex – Approval

A...Z : in combination with EX – Approval for use in hazardous atmospheres

bc = Process fitting

AA / A1 ~ ZZ / Z9 : without, straining clamp, screwed connection, housing with cable locking

d = Material of suspension cable

B : FEP

D : PUR

e = Total length

T : individually selectable length (PUR/FEP)

f = Material of sensor housing

A ~ Z : Stainless Steel, PVDF, Titan

g = Measuring cell seal

1 : FKM

3 : EPDM

P : FFKM

h = Pressure / Measuring range

A ~ G : rel. max 1000 kPa

2 ~ 3 : abs. max 500 kPa

i = Electronics

C : 4-20 mA

D : 4-20 mA / HART + Pt100, 4-wire

- To be continued -

NIPPON KAIJI KYOKAI

Attached sheet -2/4 to the Certificate No. TA23069M

(2) VEGABOX BOX 02. aM b c d

a = Approval

X : without Ex – Approval

A...Z : in combination with EX – Approval for use in hazardous atmospheres

b = Function

A : Equalization

C : Equalization and temperature Transmitter 4-20 mA / HART

c = Protection cap

X : with

W : without

d = Label

X : without

V : made of Stainless Steel

2. Components and reference drawings:

[Specification Sheets]

- VEGAWELL 52 4-20mA (Doc.No. 34733-EN-220516)
- VEGAWELL 52 4-20 mA / HART Pt100 (Doc.No. 34734-EN-220516)

[Operating Instructions & Safety Instructions]

- VEGAWELL 52 4-20 mA (Doc.No. 35401-EN-180523)
- VEGAWELL 52 4-20 mA/ HART) (Doc.No. 36785-EN-180523)
- VEGAWELL 52 4-20 mA/ HART Pt100) (Doc.No. 35402-EN-180523)
- VEGAWELL WL52/72.KK/KA (Doc.No.42249-EN-130121)
- VEGAWELL WL52/72.KF/KB (Doc.No. 42250-EN-130121)

[Mechanical Drawings]

GE2326(rev.1), GE2330(rev.2), GE2336(rev.1), GE2337(rev.2), GE2379, GE2380(rev.2),
GE2472-E, ZG2848(rev.3),
GE2356, GE2372, GE2378, GE2381

[Circuit Diagrams]

SB1269-1-00-0, SB1277-1-06-0, SB1283-01-00-0, SB1284-1-07-0

- To be continued -

NIPPON KAIJI KYOKAI

Attached sheet -3/4 to the Certificate No. TA23069M

3. Documentation and Test Reports:

- Technical Description for VEGAWELL 52 (Doc.No. VEGAZW-6-83865, 2022/11/15)
- Panconsult Test Report (Doc.No. 07-1587, 2007/05/24)
- Panconsult Test Report (Doc.No. 07-1650, 2007/08/06)
- Panconsult Test Report (Doc.No. 08-1923, 2008/03/19)
- Panconsult Test Report (Doc.No. 18-10723C, 2018/11/12)
- Hansecontrol Test Report (Doc.No. 07-L-00339-01, 2007/04/20)
- Hansecontrol Test Report (Doc.No. 07-L-00339-02, 2007/04/23)
- Hansecontrol Test Report (Doc.No. 07-L-00954-01, 2007/07/21)
- Hansecontrol Test Report (Doc.No. 07-L-00956-01, 2007/07/21)
- Hermes Test Report (Doc.No. 2101-0046101R01A, 2021/03/24)
- Hermes Test Report (Doc.No. 2101-0046101R02A, 2021/03/24)
- Hermes Test Report (Doc.No. 2101-0046101R03A, 2021/03/24)
- Hermes Test Report (Doc.No. 2101-0046101R04A, 2021/03/24)
- VEGA Test Report (Doc.No. 1-09_GL_F1_2_Flammausbreitung_FEP_1.1267, 2018/04/05)
- VEGA Test Report (Doc.No. 1-09_GL_N1_1_Flammausbreitung_PUR_1.1266, 2018/06/07)
- VEGA Test Report (Doc.No. 1-09_GL_N1_3_Flammausbreitung_PUR_1.1231, 2018/06/28)

- To be continued -

NIPPON KAIJI KYOKAI

Attached sheet -4/4 to the Certificate No. TA23069M

Test items & approval conditions:

1. Test items: (Applied testing items are marked with X.)

ENVIRONMENTAL TESTS (IACS UR E10 Rev.8 basis)		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 85°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration $\pm 0.7g \times 1.5$ hours)		X
Inclination test		--
Cold test (Temperature -40°C × 16 hours)		X
Salt mist test		X
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Mechanical test for float		--
Flame retardant test		X

2. Approval condition:

(1) The following tests for individual products intended for Cargo Tanks are to be carried out at the manufacturing plant combined with proper barriers and level indicating equipment.

(a) Visual Inspection (b) Performance Test (c) High Voltage Test (d) Insulation Test

Note : The equipment containing circuits in which electronic apparatus could be removed at the test of (c) and (d).

(2) Compatibility of construction material with intended cargos is to be checked on each vessel.

- The End -

Certificate No : HMB21504-AE005

Type Approval Certificate



[Level Transmitter]

Initial Approval 30 January 2019
Manufacturer VEGA Grieshaber KG
 Am Hohenstein 113, 77761 Schiltach, Germany

Product Description Type : VEGAWELL 52 and VEGABOX 02/03

~ See Appendix 1 ~



Approval Condition ~ See Appendix 1 ~

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification of Steel Ships.

This Certificate is valid until 29 January 2029

Issued at Busan, Korea on 7 February 2024



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "http://e-cert.krs.co.kr" by using the tracking No.(ME24006420524) and certificate No.(HMB21504-AE005).



KOREAN REGISTER

[Handwritten Signature]

General Manager of
Marine & Ocean Equipment Team

Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date above-mentioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

AC-2A (2021.01)

1/4
KOREAN REGISTER

33792-EN-240228

Product Description and/or Approval Condition

Date of Issue : 7 February 2024

A. Product Description

1. Product Specification

1) System Description (Type : VEGAWELL 52 and VEGABOX 02/03)

VEGAWELL 52 is suitable for continuous level measurement of liquids.
VEGABOX 02/03 is connection box for transmitter.

- Power supply : 24 V DC
- Max. measuring range : 25 bar gauge / 60 bar absolute
- Process temperature : Depending on connection cable type
- Ex-proof grade : II 1 G or II 2 G Ex ia IIC T6
- Firmware Version : 1.12.xx (4-20mA/HART); 1.04.xx (4-20mA)

2) Type designation VEGAWELL 52 : VEGAWELL 52 aM bc d e f g h i

- a = Approval
X without Ex-Approval, A~Z in combination with Ex-Approval
- bc = Process fitting
AA/A1~ZZ/Z9 without, straining clamp, screwed connection,
housing with cable locking
- d = Material of suspension cable : B FEP, D PUR
- e = Total length
- f = Material sensor housing
A~Z Stainless Steel, PVDF, Titan
- g = Measuring cell seal
I/A~9/Z FKM, FFKM, EPDM, others
- h = Pressure/measuring range
A~Z gauge max : 25 bar
I~9 absolute pressure : 25 bar
- i = Electronics
D 4~20mA / HART + Pt100, 4-wire
C 4~20mA / 2-wire

3) Type designation VEGABOX 02 : VEGABOX 02 aM b c d

- a = Approval
X without Ex-Approval, A~Z in combination with Ex-Approval
- b = Function : A Pressure compensation
- c = Pressure compensation and temperature transmitter 4~20mA / HART
C Protection cover, X without, W with
- d = Identification label
X without,
V of stainless steel, laser marking

4) Type designation VEGABOX 03 : VEGABOX 03 a bc d e f

- a = Scope
A Europe, I Worldwide, C Canada, R Russia, G Kazakhstan, B Belarus
- b = Approval
M Ship Approval
O ATEX II 1G, 2G, EX ia IIC T6 Ga, Gb + Ship Approval
- c = Version : A Pressure compensation
- d = Housing : K Plastic, A Aluminium, V Stainless Steel

Product Description and/or Approval Condition

Date of Issue : 7 February 2024

- e = Degree of protection
 I IP66/IP68 NMEA 6P (0.2 bar)
 N IP66/IP67 NMEA 4x
- f = Cable entry : M, S, T, K, U, V, L, O, D, N, J, P
- g = Mounting
 A wall mounting with Aluminium or StSt housing
 D carrier rail with Aluminium or StSt housing
 E tube mounting (29~60mm) with mounting material

2. Approved Drawings and Documents

- 1) Mechanical Drawings
 - VEGAWELL 52
 GE2472-E, ZG2848-1 03, GE2330 02, GE2322, GE2336 01, GE2337 02,
 GE2379, GE2380 02, GE2381
 - VEGABOX 02/03
 GE2356, GE2357, GE2372, GE2378
- 2) Circuit Drawings
 - SB1269-1-00-0, SB1277-1-06-0, SB1284-1-07-0, SB1283-1-00-0
- 3) Data sheet / Ex-proof Certificate
 - Operating instruction
 VEGAWELL 52 : 35401, 35402, 36785
 VEGABOX 02/03 : 32798, 45925
 - ATEX Certificate : TUV 06 ATEX 553449 X
 FM Approval : 3039829

3. Test Reports, etc.

- 1) Environmental / EMC Test Report
 - Paconsult Test Report No. 07-1587, 07-1650, 08-1923, 14-5756
 - Hansecontrol GmbH Test Report
 No. 07-L-00339-01, 07-L-00339-02, 07-L-00954-01, 07-L-00956-01, 08-L-00256-01,
 2101-0046101R01A, 2101-0046101R02A, 2101-0046101R03A, 2101-0046101R04A,
 2101-0046101R05A
- 2) Pressure Test Report
 - VEGA No. 1-04_ WELLS2_F1_1
- 4) IP Test Report
 - VEGA No. 1-03- WELLS2-PVDF_F1_1
 - WELLS2_1.3_F1_1
 - QS-Auftrag DIS82

B. Approval Condition**1. Application & Limitation**

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) The manufacturer is to inform this Society of all kinds of revisions of the equipment including software. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 3) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Condition for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

Product Description and/or Approval Condition

Date of Issue : 7 February 2024

4. Others

1) Test condition (IACS UR E10 Rev.8 Basis)

Test	Condition	Remark
EMC	All locations including the bridge and deck zone	-
Temperature	-40 ~ +80°C	-
Vibration	Acceleration $\pm 0.7g$	-
Degree of protection	IP68 for Transmitter IP68 for Vegabox	-
Salt mist	Applied	-

< End of Certificate >



Printing date:

VEGA

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

Subject to change without prior notice

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33792-EN-240228

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