

# Ship approvals and installation instructions

## VEGAMET 341, 342

DNV - TAA0000313

CCS - HB23PTB00010\_15

ABS - 21-2146204-PDA

ClassNK - TA21431M

LR - 21303666TA

BV - 62619/A0

RINA - ELE019122XG



Document ID: 66378



# VEGA

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Certificate No:  
TAA0000313

### TYPE APPROVAL CERTIFICATE

This is to certify:

That the Measurement Converter

with type designation(s)

VEGAMET 341, VEGAMET 342

Issued to

**VEGA Grieshaber KG**  
Schiltach, Germany

is found to comply with

DNV GL 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.

Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	A

Issued at Hamburg on 2021-08-24

This Certificate is valid until 2026-08-23.

DNV local station: Augsburg

Approval Engineer: Dariusz Lesniewski



for DNV  
Digitally Signed By: Rinkel, Marco  
Location: DNV GL SE Hamburg, Germany  
Signing Date: 25.08.2021 , on behalf of

**Joannis Papanuskas**  
Head of Section

This Certificate is subject to terms and conditions overlaid. 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

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Job Id: 262.1-034717-1  
 Certificate No: TAA0000313

## Product description

Built-in controller and display instrument for level sensors VEGAMET 341 / 342

Main technical data:

Operating voltage: AC 100...230V 50/60 Hz, DC 24...65V  
 Sensor input (active/passive): 1 x 4...20mA (VEGAMET 341)  
 2 x 4...20mA (VEGAMET 342)

Current output: 1 x 0/4...20mA (VEGAMET 341)  
 2 x 0/4...20mA (VEGAMET 342)

Relay output: 3 x operating relay, one can be configured as fail-to-safe

Integrated LC-display for data visualization

Status indication LEDs: operation, relay, fault-signal

Turn/push button for menu adjustment

Front panel mounting

Degree of protection: IP40 (Front), IP20 (Instrument)

HW Version: 1-0-0

SW Version: 1.12.0

## 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 classification of ships Pt.4 Ch.9 Control and monitoring systems.

### Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After certification the clause for software control will be put into force.

## Type Approval documentation

Test Report: paconsult no. 20DE-00525, dated 2021-02-10

Test Report: paconsult no. 20DE-00213, dated 2021-04-21

Test Report: HERMES hansecontrol cert no. 2101-0014401R01, dated 2021-03-16

Operating Instructions: VEGAMET 341 - 63730-EN210818, VEGAMET 342 - 63731-EN210818

Specification Sheets: VEGAMET 341 - 63735-EN210818, VEGAMET 342 - 63736-EN210818

VEGA Document: VEGAZW-6-65300, Rev. 01, dated 2021-07-27

Circuit diagrams:

SB1586\_METSGP-1, SB1583\_METSIN1-1, SB1597\_METSNT1-1, SB1582\_METSREL3-1  
 SB1583\_METSIN1EX-1, SB1583\_METSIN2-1, SB1597\_METSNT2-1, SB1583\_METSIN2EX-1

Construction drawings: GE4265, GE4266

Certificate IECEx ULD 20.0029X Issue 0

Type approval assessment report issued at Augsburg on 2020-12-17

## Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

## Marking of product

Manufacturer name: VEGA Grieshaber KG  
 Model name: VEGAMET 341 or VEGAMET 342  
 Serial number: s/n 12345678 (as example)  
 Power supply ratings: 24...65V DC, 100...230V 50/60Hz AC  
 4W, 13VA or 5W, 15VA  
 in 4...20mA  
 out 4...20mA  
 relay contacts 250V AC, 1A, 250VA

## 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)



Job Id: 262.1-034717-1  
Certificate No: TAA0000313

- 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



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
HB23PTB00010\_15

## 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

过程控制器  
Process Controller  
电工仪表  
Electric Meter

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》(2022)及其变更通告 第4篇第1章, 第7篇第2章  
Part Four Chapter 1, Part Seven Chapter 2 of China Classification Society Rules for Classification of Sea-Going Steel Ships 2022 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

电工仪表/Electric Meter (M0001)

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Process Controller	
型号/Type	VEGAMET 341 / 342	
规格/Specification	see additional pages	

证书有效期至/This certificate is valid until 2027年04月01日/ Apr. 01, 2027

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

签发日期 2023年03月22日  
Date Mar. 22, 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。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时, 可向我社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. 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:P023-56833026



**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : NP21PPPO2560

**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**

- 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.
- 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报本社批准。  
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.
- 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.
- 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.
- 如果属于获得型式认可B模式证书, 且无需颁发船用产品证书/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. HB20PTB00064) 换新并替代原证书。  
This certificate is renewed from and supersedes the previous Type Approval Certificate No. HB20PTB00064.

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。

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证书编号/Certificate No. **HB23PTB00010\_15**

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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.

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	Process Controller
Type	VEGAMET 341 / 342
Power source	24...65 V DC 100...230 V AC, 50/60 Hz
Description	Controller and display instrument for sensors VEGAMET 341 input: 1 x 4...20 mA VEGAMET 342 input: 2 x 4...20 mA
Output signal	3 x operating relay 1 / 2 x current output
Firmware	1.xx
Degree of protection	Front: IP40 Instrument: IP20
Explosion-Proof marking	It has IECEx etc. certificate, such as follow: [Ex ia Ga] IIC [Ex ia Da] IIIC Ta= -20°C...+60°C IECEX Certificate of Conformity No.: IECEx ULD 20.0029X Issuing Body: UL International EDMKO A/S

2. Approval Test Report

No	Test Report No.	Test Report Date	Laboratory / Address
1	2101-0014401R01	2021.03.16	Hansecontrol Zertifizierungsgesellschaft GmbH / Schleidenstrasse 1, 22083 Hamburg, Germany
2	20DE-00525	2021.08.02	PAConsult GmbH / Birkenau 3, 22087 Hamburg, Germany
3	20DE-00213	2021.04.21	

3. Limitation/Application:

These meters are for indoor use. Please see production operating instructions.

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.

3 ABS

Electronically published by ABS Houston.  
Reference T2146204, dated 04-AUG-2021.



CERTIFICATE NUMBER	21-2146204-PDA
EFFECTIVE DATE	04-Aug-2021
EXPIRY DATE	03-Aug-2026
ABS TECHNICAL OFFICE	Houston ESD - Piping

CERTIFICATE OF  
Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

**VEGA GRIESHABER KG**

located at

**PRODUCT COMPLIANCE & QM, D-77761 SCHILTACH, Germany**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product:**            **Controllers**  
**Model:**             **VEGAMET 341 and VEGAMET 342**  
**Endorsements:**  
**Tier:**                **3 - Type Approved, unit certification not required**

This Product Design Assessment (PDA) Certificate remains valid until 03/Aug/2026 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.

American Bureau Of Shipping  
*Yongjin Lee*  
 Yongjin Lee, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

Electronically published by ABS Houston.  
Reference T2146204, dated 04-AUG-2021.

**VEGA GRIESHABER KG**  
PRODUCT COMPLIANCE & QM  
D-77761 SCHILTACH  
Germany  
Telephone: 49-7-836-50-0  
Fax: 49-7-836-50-201  
Email: info@vega.com  
Web: www.vega.com

**Tier: 3 - Type Approved, unit certification not required**

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**Product:**           **Controllers**  
**Model:**           **VEGAMET 341 and VEGAMET 342**  
**Endorsements:**

**Intended Service:**  
Marine and Offshore Application

**Description:**  
Controller for a continuously measuring analog level sensor

**Rating:**  
Ambient temperature: -20...+60 deg C  
-Nominal AC Voltage AC:100...230V (-16%, +10%) 50/60Hz  
-Nominal DC: 20...65V (-15%, +10%)

**Sensor Input:**  
Number of Sensors: 1x4...20mA (VEGAMET 341). 2 x 4...20mA (VEGAMET 342)  
Type of Input (selectable)  
-Active Input: Sensor Supply through VEGAMET 341 & 342  
-Passive Input: Sensor has own voltage supply

**Relay Output:**  
Quantity: 3x operating relay, one can be configured as fail safe relay  
Switching voltage: Max.250VAC/ 60VDC  
Switching Current: Max.1 A AC (cos phi>0.9), 1 A DC  
Creaking capacity: min. 50 mW, max. 250 VA, max. 40W DC (with U<40V DC)

**Current Output:**  
Quantity: 1 x output (VEGAMET341), 2 x output (VEGAMET 342)  
Range: 0/4...20mA, 20...0/4 mA  
Max load: 500 ohms

**Bluetooth Interface:**  
Bluetooth 5.0 (downward capable to Bluetooth 4.0 LE)

**Indicators**  
Measured value indication  
-Graphic-capable LC display, with lighting: 70 x 45 mm, digital and quasianalogue display

**Electrical Protective measures:**  
-Front: IP40  
-Instrument: IP20

**Service Restriction:**

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. For certified-safe type versions:
  - Intrinsically safe electric systems for power supply/output wiring shielded conductors are to be utilized.
  - ATEX certified equipment is not to be installed in hazardous areas on U.S vessels unless it can be prove to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S coast Guard.

Electronically published by ABS Houston.  
Reference T2146204, dated 04-AUG-2021.

**VEGA GRIESHABER KG**  
PRODUCT COMPLIANCE & QM  
D-77761 SCHILTACH  
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Email: info@vega.com  
Web: www.vega.com

**Tier: 3 - Type Approved, unit certification not required**

#### Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. For certified-safe type equipment arrangements refer to 4-8-1/5.3.2 of the Marine Vessel Rules.
3. Each particular application and installation is to be specifically approved in conjunction with the relevant systems and tank arrangements.

#### Notes/Drawing/Documentation:

Drawing No. 20DE-00525, 20DE-00525 - Environmental tests, Revision: 00, Pages: 46  
 Drawing No. 2101-0014401R01, 2101-0014401R01 EMC-testing, Revision: 00, Pages: 72  
 Drawing No. 21DE-00213-BE, 20DE-00213 flammability test, Revision: 00, Pages: 15  
 Drawing No. 63730, Operating-Instructions-VEGAMET-341-4-20-mA, Revision: 0, Pages: 60  
 Drawing No. 63731, Operating-Instructions-VEGAMET-342-4-20-mA, Revision: 0, Pages: 60  
 Drawing No. 63735, Specification-sheet-VEGAMET-341, Revision: 0, Pages: 2  
 Drawing No. 63736, Specification-sheet-VEGAMET-342, Revision: 0, Pages: 2  
 Drawing No. BE PN220565, Purchase Order, Revision: -, Pages: -  
 Drawing No. E121562, yellow card Lexan 940(f1), Revision: 0, Pages: 2  
 Drawing No. E45329, Yellow Card Lexan EXL9330, Revision: 0, Pages: 3  
 Drawing No. E63957, yellow card Wellamid 6600-PA66, Revision: 0, Pages: 2  
 Drawing No. GE4265, VEGAMET341 Construction drawing, Revision: 0, Pages: 1  
 Drawing No. GE4266, VEGAMET 342 Construction drawing, Revision: 0, Pages: 1  
 Drawing No. Online PDA Application, VEGAMET 342 341, Revision: -, Pages: -  
 Drawing No. SB1582\_METSREL3-1, SB1582\_METSREL3-1, Revision: 0, Pages: 1  
 Drawing No. SB1583\_METSIN1-1, SB1583\_METSIN1-1, Revision: 0, Pages: 1  
 Drawing No. SB1583\_METSIN1EX-1, SB1583\_METSIN1EX-1, Revision: 0, Pages: 1  
 Drawing No. SB1583\_METSIN2-1, SB1583\_METSIN2-1, Revision: 0, Pages: 1  
 Drawing No. SB1583\_METSIN2EX-1, SB1583\_METSIN2EX-1, Revision: 0, Pages: 1  
 Drawing No. SB1586\_METSGP-1, SB1586\_METSGP-1, Revision: 0, Pages: 1  
 Drawing No. SB1597\_METSNT1-1, SB1597\_METSNT1-1, Revision: 0, Pages: 1  
 Drawing No. SB1597\_METSNT2-1, SB1597\_METSNT2-1, Revision: 0, Pages: 1  
 Drawing No. VEGAZW-6-65300, Technical description VEGAMET 341-342, Revision: 00, Pages: 24

#### Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 03/Aug/2026 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.

#### STANDARDS

##### ABS Rules:

The Rules for Conditions of Classification, 2021 Marine Vessel Rules 1-1-4/7.7, 1-1-A3,1-1-A4, which covers the following:  
 2021 Rules for Building and Classing Marine Vessel Rules: 4-6-4/13.5.6, 4-6-4/15.3.4, 4-8-3/13, 4-8-4/27.5.1, 4-9-9/Table 1

Electronically published by ABS Houston.  
Reference T2146204, dated 04-AUG-2021.

**VEGA GRIESHABER KG**  
PRODUCT COMPLIANCE & QM  
D-77761 SCHILTACH  
Germany  
Telephone: 49-7-836-50-0  
Fax: 49-7-836-50-201  
Email: info@vega.com  
Web: www.vega.com

**Tier: 3 - Type Approved, unit certification not required**

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**National:**  
NA

**International:**  
NA

**Government:**  
NA

**EUMED:**  
NA

**OTHERS:**  
NA



## 4 ClassNK



NIPPON KAIJI KYOKAI

### TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA21431M

**This is to certify** that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, 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:	<b>VEGA Grieshaber KG</b>
Place of Manufacturing:	<b>Am Hohenstein 113, 77761 Schiltach, Germany</b>
Product description:	<b>Process Controller</b>
Model:	<b>VEGAMET 341 VEGAMET 342</b>
Approval No.:	<b>21A022</b>
Valid until:	<b>29 August 2026</b>

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

Issued at Tokyo on 30 August 2021.



T. Shimada  
General Manager  
Machinery Department

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

Attached sheet -1/3 to the Certificate No. TA21431M

## Specification & documents:

### 1. Particulars:

#### VEGAMET 341 (Ex and Non-Ex version)

- Application : Controller for a continuously analogue level sensor
- Operating voltage : 100 ~ 230 VAC (50/60Hz), 24 ~ 65 VDC
- Sensor input : 1 x 4-20 mA
- Relay output : 3 x operating relay  
max. 250 VAC / 1 A, max. 60 VDC / 1 A
- Current output : 1 x 0/4-20 mA / max. 500  $\Omega$

#### VEGAMET 342 (Ex and Non-Ex version)

- Application : Controller for two continuously analogue level sensors
- Operating voltage : 100 ~ 230 VAC (50/60Hz), 24 ~ 65 VDC
- Sensor input : 2 x 4-20 mA
- Relay output : 3 x operating relay  
max. 250 VAC / 1 A, max. 60 VDC / 1 A
- Current output : 2 x 0/4-20 mA / max. 500  $\Omega$

- To be continued -

Attached sheet -2/3 to the Certificate No. TA21431M

2. Components and reference drawings:

Specification sheet VEGAMET 341	Doc ID 63735-EN-210329
Specification sheet VEGAMET 342	Doc ID 63736-EN-210329
Operating Instructions VEGAMET 341	Doc ID 63730-EN-210329
Operating Instructions VEGAMET 342	Doc ID 63731-EN-210329

VEGAMET 341 Construction drawing	DWG No. GE4265
VEGAMET 342 Construction drawing	DWG No. GE4266
METSIN1-1 Circuit diagram	Dwg No. SB1583_METSIN1-1
METSIN1EX-1 Circuit diagram	Dwg No. SB1583_METSIN1EX-1
METSIN2-1 Circuit diagram	Dwg No. SB1583_METSIN2-1
METSIN2EX-1 Circuit diagram	Dwg No. SB1583_METSIN2EX-1
METSREL3-1 Circuit diagram	Dwg No. SB1582_METSREL3-1
METSGP-1 Circuit diagram	Dwg No. SB1586_METSGP-1
METSNT1-1 Circuit diagram	Dwg No. SB1597_METSNT1-1
METSNT2-1 Circuit diagram	Dwg No. SB1597_METSNT2-1

3. Documentation and Test Reports:

Technical description for VEGAMET 341 and VEGAMET 342	VEGAZW-6-65300
VEGAMET 142 / 342 General test setup	
VEGAMET 14x / 34x Non Ex- / Ex-variant	
PAConsult TEST REPORT	No. 20DE-00525 Rev.1 (02 Aug 2021)
PAConsult TEST REPORT	No. 20DE-00213 (21 Apr 2021)
Hermes TEST-REPORT	No. 2101-0014401R01 (16 Mar 2021)
VEGA QM manual	(Revision status 05)
Process instruction	(Revision status 14)
Inspection certificate 3.1 according to EN 10204	(VEGAMET 342, serial no.: 50540777)
Inspection certificate 3.1 according to EN 10204	(VEGAMET 342, serial no.: 50540786)

- To be continued -



Attached sheet -3/3 to the Certificate No. TA21431M

**Test items & approval conditions:**

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS ( IACS UR E10 rev.7 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 70°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g × 1.5 hours)		X
Inclination test		--
Cold test (Temperature -20°C × 16 hours)		X
Salt mist test		--
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
Flame retardant test (Ta : 15 sec x 5 times)		X

2. Approval condition:

The product is not allowed to be installed on open decks.

- The End -



Page 1 of 1  
 Certificate No: LR21303666TA  
 Issue Date: 27.09.2021  
 Expiry Date: 26.09.2021  
 Reference: HTS/ETS 41754-21/TW

**LOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT**  
**ISSUED BY: HAMBURG TECHNICAL SUPPORT OFFICE (HPC2062056)**  
**ISSUED TO: VEGA GRIESHABER KG, SCHILTACH**  
**FOR: PROCESS CONTROLLER**  
**TYPES VEGAMET 341 AND VEGAMET 342**

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	06.10.2020
SQ 182336	Request for Marine Services – Type Approval	22.10.2020
HPC1862096	Production Quality Assessment Form	11.03.2019
VEGAZW-6-65300	Technical description for VEGAMET 341 and VEGAMET 342 incl. documentation listed in section 8 of this document	23.06.2021
04-11	Verfahrensanweisung Gerätespezifische Betriebssoftware	Version 00 17.05.2021



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 E thorsten.wolff@lr.org

**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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## 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.

<b>Manufacturer</b>	<b>Vega Grieshaber KG</b>																
<b>Address</b>	Am Hohenstein 113, Schiltach, 77761, Germany																
<b>Type</b>	Control Units																
<b>Description</b>	Process controller																
<b>Trade Name</b>	VEGAMET 341 and VEGAMET 342																
<b>Application</b>	Marine applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2020.																
<b>Specified Standard</b>	Manufacturer's specification IACS unified requirements E10 (Rev.8 Feb 2021)																
<b>Ratings</b>	<table border="0"> <tr> <td>Supply voltage:</td> <td>100...230 V AC, 50/60 Hz</td> </tr> <tr> <td></td> <td>24...65 V DC</td> </tr> <tr> <td>Sensor input:</td> <td>1 x 4...20 mA (VEGAMET 341)</td> </tr> <tr> <td></td> <td>2 x 4...20 mA (VEGAMET 342)</td> </tr> <tr> <td>Current output:</td> <td>1 x 4...20 mA (VEGAMET 341)</td> </tr> <tr> <td></td> <td>2 x 4...20 mA (VEGAMET 342)</td> </tr> <tr> <td>Relais output:</td> <td>3 x operating relay, one can be configured as fail safe relay</td> </tr> <tr> <td>Hardware version:</td> <td>1-0-0</td> </tr> </table>	Supply voltage:	100...230 V AC, 50/60 Hz		24...65 V DC	Sensor input:	1 x 4...20 mA (VEGAMET 341)		2 x 4...20 mA (VEGAMET 342)	Current output:	1 x 4...20 mA (VEGAMET 341)		2 x 4...20 mA (VEGAMET 342)	Relais output:	3 x operating relay, one can be configured as fail safe relay	Hardware version:	1-0-0
Supply voltage:	100...230 V AC, 50/60 Hz																
	24...65 V DC																
Sensor input:	1 x 4...20 mA (VEGAMET 341)																
	2 x 4...20 mA (VEGAMET 342)																
Current output:	1 x 4...20 mA (VEGAMET 341)																
	2 x 4...20 mA (VEGAMET 342)																
Relais output:	3 x operating relay, one can be configured as fail safe relay																
Hardware version:	1-0-0																

**Thorsten Wolff**  
 Senior Specialist to Lloyd's Register EMEA  
 A member of the Lloyd's Register group

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

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TA01 1.0.0



Page 2 of 2  
 Certificate No: LR21303666TA  
 Issue Date: 27/09/2021  
 Expiry Date: 26/09/2026

## Type Approval Certificate

	Software version: 1.12.0
<b>Additional Tests</b>	Low temperature (-20°C/16h)
<b>Other Conditions</b>	Wireless data communication links are not to be used for safety critical systems or essential services that are required for the propulsion or safety of the ship.

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.

The Design Appraisal Document HTS/ETS 41754-21/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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TA01 1.0.0





Marine & Offshore

Certificate number: 62919/A0 BV  
 File number: AP4968  
 Product code: 2643H

*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*  
**CONTROL AUXILIARIES**  
 Process controller  
 VEGAMET 341 / 342

**Requirements:**  
 Bureau Veritas Rules for the Classification of Steel Ships  
 EC Code: 31B

*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: 27 Oct 2026**

For Bureau Veritas Marine & Offshore,  
 At BV HAMBURG, on 27 Oct 2021,  
 Dirk Hoepfner



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.

The electronic version is available at: <http://www.veristarnb.com/veristamb/jsp/viewPublicPdfType.jsp?id=ppvxnbp7bz>  
 BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

66378-EN-230329



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

**VEGAMET 341 and 342** are process controller and display instruments for level sensors for the mounting in front panels.

#### **Main Characteristics :**

Power Supply: 24 VDC or 230 VAC  
 Input: 1 or 2 analogue (4 ... 20 mA)  
 Output: 1 or 2 analogue (0/4 ... 20mA)  
 3 x operating relay  
 Degree of Protection: IP40 (Front), IP20 (Instrument)  
 HW Version: 1-0-0  
 SW Version: 1.12.0

### 2. DOCUMENTS AND DRAWINGS :

- Operating Instructions: 63730 dated 2021-03-29; 63731 dated 2021-03-29  
 - Specifications: 63735 dated 2021-03-29; 63736 dated 2021-03-29  
 - GE4265 dated 08.04.2020; GE4266 dated 08.04.2020  
 - SB1582\_METSREL3-1 dated 01.04.2020; SB1583\_METSIN1-1 dated 04.05.2020; SB1583\_METSIN2-1 dated 04.05.2020;  
 SB1586\_METSGP-1 dated 18.03.2020; SB1597\_METSNT1-1 dated 16.04.2020; SB1597\_METSNT2-1 dated 16.04.2020;  
 SB1583\_METSIN1EX-1 dated 04.05.2020; SB1583\_METSIN2EX-1 dated 04.05.2020  
 - IECEx ULD 20.0029X Issue No.:0 dated 2021-02-08

### 3. TEST REPORTS :

- Hansecontrol: 2101-0014401R01 dated 16.03.2021  
 - Paconsult: 20DE-00525 dated Feb 10, 2021; 20DE-00213 dated Apr 21, 2021

### 4. APPLICATION / LIMITATION :

4.1 - Bureau Veritas Rules and Regulation 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 - Bureau Veritas Environmental Category, EC Code: 31B  
 4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.  
 4.5 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

### 5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **VEGATOR 100 Series Signal Conditioning Unit** 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 :

**VEGA Grieshaber KG**  
 Am Hohenstien 113  
 D-77761 Schiltach  
 GERMANY

**VEGA Americas, Inc.**  
 4170 Rosslyn Drive  
 Cincinnati, Ohio 45209  
 UNITED STATES OF AMERICA

**VEGA India Level and Pressure Measurement Pvt. Ltd.**  
 Plot. No. 1, Gat No. 181  
 Village – Phulgaon, Tal. Haveli  
 412216 Pune, INDIA

### 6. MARKING OF PRODUCT :

- Maker's name or trademark  
 - Date of manufacture and/or serial number  
 - Equipment type or model identification under which it was type tested.  
 - Ex marking, as relevant

### 7. OTHERS :

7.1 - It is the responsibility of **VEGA Grieshaber KG** 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.

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



**TYPE APPROVAL CERTIFICATE**  
No. ELE019122XG

**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 Type</i>	<b>Controller VEGAMET 341, VEGAMET 342</b>
<i>Applicant</i>	<b>VEGA GRIESHABER KG Am Hohenstein 113 , 77761 Schiltach GERMANY</b>
<i>Manufacturer Place of manufacture</i>	<b>VEGA GRIESHABER KG Am Hohenstein 113 , 77761 Schiltach GERMANY</b>
<i>Reference standards</i>	<b>Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.</b>

*Issued in* **HAMBURG** on **January 21, 2022**. *This Certificate is valid until* **January 20, 2027**

  
\_\_\_\_\_  
**RINA Services S.p.A.**  
**Giuseppe Russo**

This certificate consists of this page and 1 enclosure

**TYPE APPROVAL CERTIFICATE**  
 No. ELE019122XG  
 Enclosure - Page 1 of 1  
 VEGAMET 341, VEGAMET 342

**Product Description:**  
 Controller for analog level sensors.

**Ratings:**

Power Supply:	100 ... 230 V AC, 50/60 Hz 24 ... 65 V DC
Sensor input:	1 x 4 ... 20 mA (VEGAMET 341) 2 x 4 ... 20 mA (VEGAMET 342)
Current output:	1 x 4 ... 20 mA (VEGAMET 341) 2 x 4 ... 20 mA (VEGAMET 342)
Relay output:	3 x operating relay, one can be configured as fail safe relay
Ambient temperature:	-20 ... 60 °C
Degree of protection:	IP20 (instrument), IP40 (front)
Hardware version:	1-0-0
Software version:	1.12.0

**Documentation:**

- VEGAZW-6-65300-VEGAMET-341-342
- 63730-EN-Operating-Instructions-VEGAMET-341-4-20-mA
- 63731-EN-Operating-Instructions-VEGAMET-342-4-20-mA
- 63735-EN-Specification-sheet-VEGAMET-341
- 63736-EN-Specification-sheet-VEGAMET-342

**Test Reports:**

- Paconsult - 20DE-00525-BE-VEGAMET (VEGA)
- Hermes Hansecontrol - 2101-0014401R01,EMC
- Paconsult - 21DE-00213-BE-VEGAMET 342 (VEGA)

**General Remark:**

- Wireless data communication used for vessel services will be specifically considered provided the use of the wireless data communications results in an improvement in the safety of the vessel, compared to wired data communication.
- Each particular application and installation is to be specifically approved in conjunction with the relevant system in which the components are used.

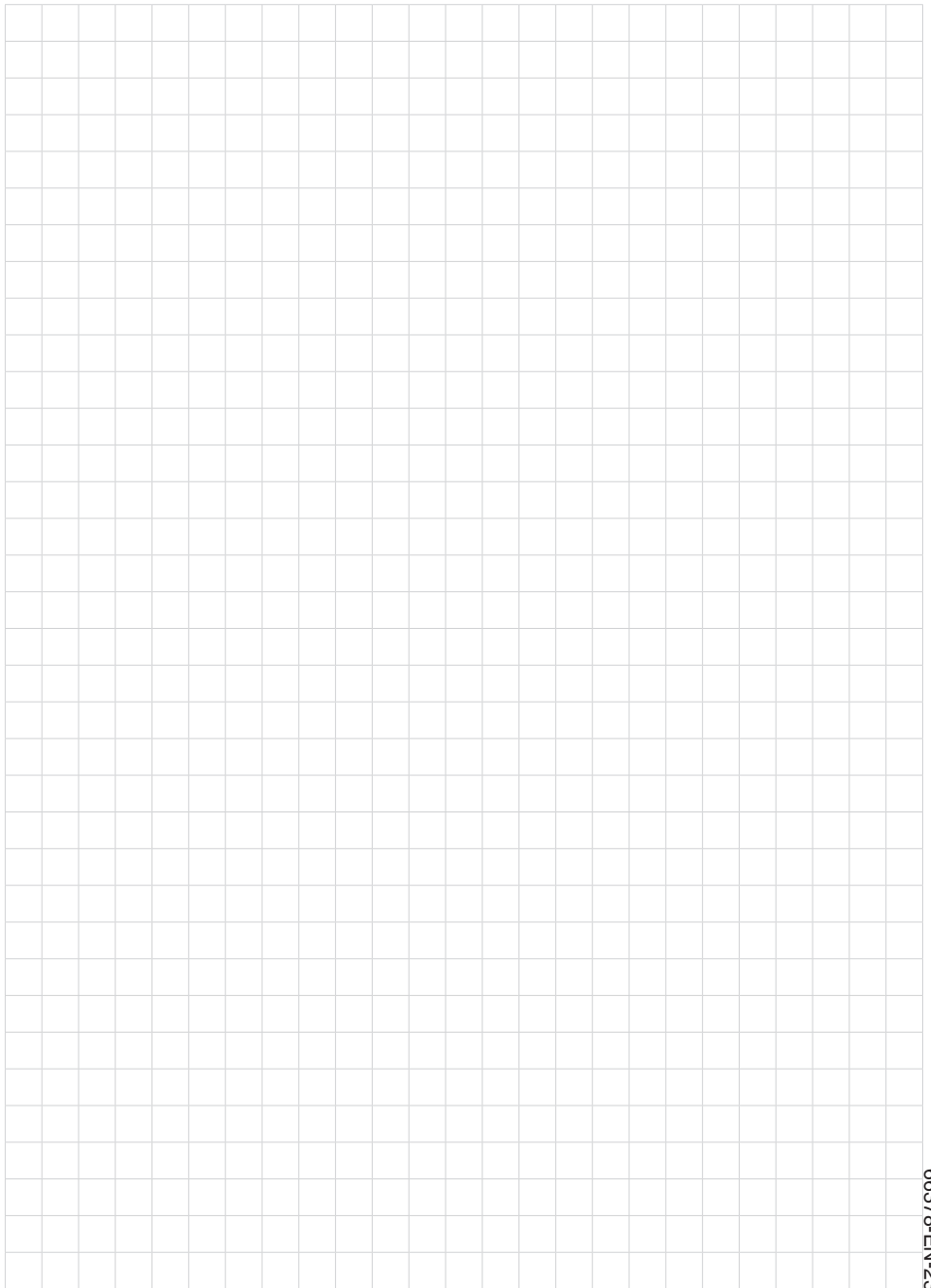
**HAMBURG January 21, 2022**



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 Fax +39 010 5351000









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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66378-EN-230329

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