



Confirmation of Product Type Approval

Company Name: TRIOS MESS- UND DATENTECHNIK GMBH

Address: BUERGERMEISTER-BROETJE-STR. 25 D-26180 RASTEDE Germany

Product: Monitoring System, Emissions

Model(s): 11A10001X

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	24-2492778-PDA	22-JAN-2024	21-JAN-2029
Manufacturing Assessment (MA)	20-4542064	03-DEC-2020	02-DEC-2025
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Washing water monitoring system for exhaust gas emission control.

Description

The EGC Water Analyzer cabinet consists of the following main sub-components:

- Monitoring unit TriBox3 providing with HMI display for measurements data and configuration
- enviroFlu Polycyclic Aromatic Hydrocarbon (PAH) sensor
- TTurb Turbidity sensor
- TpH-D ph sensor
- Flow sensor, magnetic-inductive, Bürkert type 8041
- Flow cells for sensor mounting
- Power supply connection- and switch-box
- Terminals for Ethernet connectivity (Modbus TCP/IP)
- Terminals for analogue outputs (6 x 4...20mA)
- Wash water inlet connector with pressure reducer
- Wash water outlet with ball valve; Wash water sample taking with ball valve

The "TriOS EGC Water Analyzer" is intended for installation on-board vessels operating an exhaust gas cleaning system (EGCS). The sensors mounted on analyzer is used for monitoring the values required as per Resolution MEPC. 340 (77) - 2021 Guidelines for Exhaust Gas Cleaning Systems adopted on 26 November 2021, Chapter 10 "DISCHARGE WATER".

Ratings

System power supply: 100 ... 240 VAC, 50 ... 60 Hz

Cabinet IP: IP65

Pressure:

Inlet pressure: 2 to 25 bar maximum

Internal: 3 bar

Sensors:

- PAH(PHE Eq) where (PHE Eq) is subscript

-- enviroFlu-HC 500: 0 –500 ug/L

-- enviroFlu-HC 5000: 0 –5000 ug/L

- Turbidity

-- TTurb: 0 – 1000 FNU

- pH, Temperature

-- TpH-D: (0 - 14 pH), 2 – 40°C

Controller:

- TriBox3: Software Version 1.4.22 or higher

Service Restrictions

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.

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 system.

3. This certificate only covers hardware part.

4. Unless specially directed by the Administration, this approval is not to be construed as a substitute for a flag Administration's approval.

Notes, Drawings and Documentation

Report No. 18-11008A, Vibration Test by PAConsult, Dated: 07-Dec-2018, Revision: 1, Pages: 29

Report No. 18-11008B, Flame Test Report by PAConsult, Dated: 14 Dec 2018, Revision: 1, Pages: 12

Report No. 18-11161B, Heat Test Report by PAConsult, Dated: 24 May 2019, Revision: 1, Pages: 10

Report No. 18249-1R1-R00, EMC & Voltage Test by TUV NORD Cert, Dated: 16 Nov 2018, Revision: 00, Pages: 54

Report No. DA1-032de201812, In-house test report for sensor measurement, Revision: -, Pages: 5

Report No. DA1-081de201812, In-house test report for sensor measurement, Revision: -, Pages: 6

Report No. enviroFlu-HC sensor, Report on the inspection of the enviroFlu-HC sensor, Revision: -, Pages: 56

Report No. 21144-3-R00, EMC-Laboratory Test Report issued by TUV NORD CERT GmbH, Dated: 26 Feb. and 1-3 Mar. 2021, Revision: -, Page: 55

Report No. 21DE-00814, TEST REPORT issued by PAConsult GmbH, Dated: 4 to 14 Oct. 2021, Revision: -, Page: 16

Report No. DA1-070en202207, 2FNU Accuracy Test issued by TRIOS MESS- UND DATENTECHNIK GMBH, Revision: -, Page: 27

Report No. DA1-081en202207, T90 Test issued by TRIOS MESS- UND DATENTECHNIK GMBH, Revision: -, Page: 6

Document No. 20190830 Spare parts list EGCWA, Spare Parts, Revision: -, Pages: -

Document No. Calibration record, Accessories, Revision: -, Pages: 5

Document No. D01-032en201904, enviroFlu Manual, Revision: -, Pages: 50

Document No. D01-051en201907, TriBox3 Manual, Revision: -, Pages: 84

Document No. D01-069en201913, Manual TpH-D, Revision: -, Pages: 42

Document No. D01-070en201904, TTurb Manual, Revision: -, Pages: 33

Document No. D01-081en201908, Manual EGC Water Analyzer, Revision: -, Pages: 78

Document No. D02-081en202001, Brochure EGC Water Analyzer, Revision: -, Pages: 2

Document No. D05-081yy201902, EGC Water Analyzer Certificate, Revision: -, Pages: 1

Document No. D07-081en201912, Suppliers Declaration of Conformity EGCWA, Revision: 1, Pages: 5

Document No. D15-081en201912, Material Declaration EGCWA, Revision: 1, Pages: 8

Document No. D20-081en201906, EGCWA Modbus TCP (external alarms), Revision: -, Pages: -

Document No. D31-081en201810, Calibration Standards EGC Water Analyzer Accessories, Revision: -, Pages: 2

Drawing No. D45-081en202003, Flow Diagram EGC Water Analyzer, Revision: -, Pages: 3

Document No. DNV-GL 61900-14HH, Type Approval Certificate enviroFlu sensor, Revision: 1, Pages: 1

Document No. TriOS MD-SDoCinClEU, Hazardous Material Declaration, Revision: -, Pages: -

Document No. D01-081en202211, Manual EGC Water Analyzer, Revision: -, Pages: 94

Document No. D02-081en202211, Brochure EGC Water Analyzer, Revision: -, Pages: 2

Document No. D04-77Aen202111, AdamE Quick Guide, Revision: -, Pages: 3

Document No. D46-081en202111 Spare Parts, Revision: -, Pages: 5

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 21/Jan/2029 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

Rules for Conditions of Classification (2024) – 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
Rules for Building and Classing Marine Vessels: 4-8-3/8, 4-9-9/13, 4-9-9/Table 1;

International Standards

MEPC. 340 (77) - 2021 Guidelines for Exhaust Gas Cleaning Systems

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 16-Oct-2024 12:53

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.