



CERTIFICATE NUMBER	25-0172482-PDA
EFFECTIVE DATE	09-May-2025
EXPIRY DATE	08-May-2030
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

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

ENDRESS+HAUSER SICK GMBH+CO. KG

located at

BERGENER RING 27, , OTTENDORF-OKRILLA, Germany, 01458

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: Exhaust Gas Measuring and Monitoring Device

Model: MARSIC280

Endorsements:

Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 08/May/2030 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

Efstratios Maliatsos
Efstratios Maliatsos, 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)

ENDRESS+HAUSER SICK GMBH+CO. KG

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OTTENDORF-OKRILLA

Germany 01458

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Fax:

Email: Info@endress-ehs.com

Web: www.endress.com

Tier: 2 - PDA Issued

Product: Exhaust Gas Measuring and Monitoring Device

Model: MARSIC280

Endorsements:

Intended Service:

Emissions measuring devices on Classed Vessels.

Description:

MARSIC280 is a modular extractive multi-component analyzer system for measuring of SO₂ and CO₂ concentration in exhaust gas cleaning systems (EGCS) consisting of following components:

Gas sampling unit SFU-BF-NI GL (optional 2) and SFU 100/150 (Optional 2).

Heated sample gas line HSL (optional 2)

Bundle of pipes (optional 2)

Sample gas conditioning device (SCD)

Analyzer unit containing the following analyzers

- SO₂: DEFOR (UVRAS)

- CO₂: FINOR (NDIR)

Rating:

Power Supply: 115 / 230 / 400V, 50 / 60 Hz.

Process Temperature: +10° C to +550 °C.

Ambient Temperature: +5° C to 45 °C.

Degree of Protection: IP54.

Measuring Ranges:

CO₂: 0 - 25 Vol. %.

SO₂: 0 - 100 ppm / 0 - 500 ppm.

Service Restriction:

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. Equipment is not to be installed in weather exposed areas.

3. Requirements of MEPC.340(77), Chapter 6.6 and 6.7 regarding SO₂ losses have to be observed.

4. Our certificate only covers hardware part.

5. Compliance with ABS Guide for Exhaust Emission Abatement has not been reviewed.

6. The measurement principals of analysers are to be in accordance with chapter 6.2 of MEPC.340(77).

7. Analyser performance should be in accordance with the requirements of sections 1.6 to 1.10 of appendix III of the NOX Technical Code 2008.

8. For installations with EGCS systems, an Onboard Monitoring Manual (OMM) is to be submitted to the Flag Administration for approval as per Chapter 6.4.17 of the Revised MARPOL Annex VI and NO_x Technical Code (2008) and Section 8 of MEPC.340(77).

Notes/Drawing/Documentation:

Please see attached file.

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Terms of Validity:

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STANDARDS

ABS Rules:

2025 Rules for Conditions of Classification, Part 1 - Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4.

2025 Rules for Building and Classing Marine Vessels: 4-8-3/1.7, 4-8-3/1.9, 4-8-3/1.11, 4-8-3/1.17, 4-9-9/13.1

National:

NA

International:

MEPC. 259 (68) - 2015 Guidelines for Exhaust Gas Cleaning Systems, MARPOL Annex VI and NOx Technical Code 2008, MEPC.340(77).

Government:

NA

EUMED:

NA

OTHERS:

NA