



CERTIFICATE NUMBER	24-00T2542656-PDA
EFFECTIVE DATE	24-May-2024
EXPIRY DATE	23-May-2029
ABS TECHNICAL OFFICE	Busan Engineering Services

CERTIFICATE OF Product Design Assessment

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

SAFETEC BRANDES UND NIEHOFF GMBH

located at

KRINGELSBURG 2 A, , SCHARNEBECK, Germany, 21379

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.

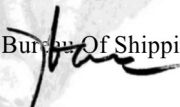
Product: Sample Extraction Smoke Detection System
Model: SDS-72
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 23/May/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.

American Bureau Of Shipping


Seong-Ju Kang, 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)

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Product: Sample Extraction Smoke Detection System

Model: SDS-72

Endorsements:

Intended Service:

Fire/Smoke Detection in Cargo Holds.

Description:

The smoke detection system SDS-72 is a sample extraction smoke detection system for up to 72 detection lines for cargo holds onboard ships.

Main Components:

1. ADP-3500 : adapter module
2. SDS-3000 : smoke detection panel (without detection lines)
3. SDS-3104 : smoke detection panel (1-4 detection lines)
4. SDS-3108 : smoke detection panel (5-8 detection lines)
5. SDS-3112 : smoke detection panel (9-12 detection lines)
6. SDS-3208 : extension panel (5-8 detection lines)
7. SDS-3212 : extension panel (9-12 detection lines)
8. SDS-3216 : extension panel (13-16 detection lines)
9. SDS-3300 : smoke detection unit SDU
10. SDS-3350 : smoke detection unit SDU-EVD
11. SDS-3500 : remote panel
12. SDS-3600 : junction box (for SDS-M0460)
13. SDS-3700 : junction box (for SDU)
14. SDS-3800 : 3/2-way flap
15. SDS-M0440 : fan unit (230 VAC)
16. SDS-M0441 : fan unit (110VAC)
17. SDS-M0450 : fan unit (230 VAC)
18. SDS-M0460 : fan module

The SDS-72 is available in three variants with hardware combinations listed above:

Variant A: The sampling pipes for all cargo holds run separately into the CO2 room, where they are connected via 3/2-way-valves to the smoke detection panel. Variant A is designated for the connection of sampling pipe diameters DN20/DN25.

Variant B: The sampling pipes for all cargo holds run separately into the CO2 room and the main components of the smoke detection system are located in the CO2 room. Variant B is designated for the connection of sampling pipe diameters DN32 to DN150.

Variant C: The sampling pipes for all cargo holds run separately into the suitable passage way beneath the cargo holds, where they are connected via valves to the smoke detection unit. The smoke detection unit is connected via loop isolator with the smoke detection panel. Variant C is designated for the connection of sampling pipe diameters DN32 to DN150.

Fan unit SDS-M0440/ SDS-M0441 or SDS-M0460 is to be used in variants A, B or C according to the airflow volume requirements of each installation.

Software version: CM3100A-01.02.XXX, CM3100B-01.02.XXX

Rating:

Power Supply: 220/230 V AC or 110/115V AC, 50/60Hz

Degree of protection:

- SDS-3000: IP22
- SDS-3700: IP54

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- SDS-3300: IP54
- SDS-3350: IP56
- SDS-32xx: IP54
- SDS-31xx upper/lower component: IP54/IP22
- SDS-M0440: IP54
- SDS-M0441: IP54
- SDS-M0450: IP54
- SDS-M0460: IP55

Service Restriction:

1. Unit Certification is not required for this product.
2. 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. Application and use are to be in accordance with the manufacturer's instructions.
3. Each particular application and installation is to be specifically approved.
4. Ex-certification is not covered by this certificate.
5. Sampling pipes are to be verified for each installation.

Notes/Drawing/Documentation:

Manufacturer drawings for SDS-72

- Drawing No. DOK02.055, Installation and Operation Instructions for Fan Unit, Revision: 14
- Drawing No. DOK02.140, Manual Smoke Detection System SDS-72 (System Manual), Revision: 14
- Drawing No. DOK22.002, Functional Tests (Surveyor Witness), Revision: 1
- Drawing No. DOK22.003, List of required Environmental Tests, Revision: -
- Drawing No. DOK22.004, List of required EMC Tests, Revision: -
- Drawing No. FMEA-Report-SDS-72, Failure Mode and Effects Analysis, Revision: 1
- Drawing No. DOK22.008, List of Software modifications, Revision: 3

Test Report for SDS-72

- Test report No. 058-16_V3U, TREO Labor Fur Umweltsimulation, Dyn. and static Inclination Test (SDS-M0460 and Flap) dated 19 August 2016, Revision: 3
- Test report No. 15-7421-BE, Paconsult GmbH, Environmental Tests SDS-72 System dated 6th January 2016, Revision: 0
- Test report No. 15012-3-R01, TUV NORD CERT GmbH, Initial EMC Test dated 11 August 2016, Revision: 1
- Test report No. 16185-1-R01, TUV NORD CERT GmbH, Additional Test for Conducted Emission (Bridge Zone) dated 13 September 2016, Revision: 1
- Test report No. 16185-2-R00, TUV NORD CERT GmbH, EMC Test Report (Surge Tests on Data Lines) dated 27 October 2016, Revision: 0
- Test report No. 16185-3-R00, TUV NORD CERT GmbH, EMC Test Report (Emission and Immunity up to 6 GHz) dated 20 December 2016, Revision: 0
- Test report No. 17228-1-R01, TUV NORD CERT GmbH EMC Test Report dated 19 December 2017, Revision: 1
- Test report No. 313-17_V1U, TREO Labor Fur Umweltsimulation, Environmental test report for SDS-3300 and SDS-3700 dated 19 December 2017, Revision: 1
- Test report No. 320-16_V1U, TREO Labor Fur Umweltsimulation, Environmental Tests for SDS-M0440 dated 29 November 2016, Revision: 1
- Test report No. 042-23_V1U, TREO Labor Fur Umweltsimulation, Environmental Tests for SDS-M0440 and SDS-M0450 dated 02 March 2023, Revision: 1
- Test report No. 22184-3-R00, TUV NORD CERT GmbH, EMC Test Report dated 14 March 2023, Revision: 0

Terms of Validity:

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STANDARDS

ABS Rules:

2024 Marine Vessels Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-7-3/13.1, 4-7-3/13.3, 4-7-3/13.7 & 4-9-9/13.1

National:

NA

International:

IEC 60092-504: 2016

EN 54-2:1997+A1:2006

BS EN 54-4:1998

FSS Code 2015: Chapter 10

Government:

NA

EUMED:

NA

OTHERS:

NA