



CERTIFICATE NUMBER 19-HG1835873-PDA
EFFECTIVE DATE 04-April-2019
EXPIRATION DATE 03-April-2024
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

SAFETEC BRANDES UND NIEHOFF GMBH

located at

**KRINGELSBURG 2 A
21379 SCHARNEBECK
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 Sample Extraction Smoke Detection System

Model SDS-72

This Product Design Assessment (PDA) Certificate remains valid until expiration date 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
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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Tier: 2 - PDA Issued

Product: Sample Extraction Smoke Detection System

Model: SDS-72

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-3500 : remote panel
11. SDS-3600 : junction box (for SDS-M0460)
12. SDS-3700 : junction box (for SDU)
13. SDS-3800 : 3/2-way flap
14. SDS-M0440 : fan unit (230 VAC)
15. SDS-M0441 : fan unit (110VAC)
16. SDS-M0460 : fan module

The SDS-72 are 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-01.01.011, CM3100B-01.01.011

Rating:

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

Degree of protection:

- SDS-3000: IP22
- SDS-3700: IP54
- SDS-3300: IP54
- SDS-32xx: IP54
- SDS-31xx upper/lower component: IP54/IP22
- SDS-M0440: IP54

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- SDS-M0441: IP54
- SDS-M0460: IP55

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.
3. Ex-certification is not covered by this certificate.
4. Sampling pipes are to be verified for each installation.

Notes/Drawing/Documentation:

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, Pages: 18

Test report No. 15-7421-BE, Paconsult GmbH, Environmental Tests SDS-72 System dated 6th January 2016, Revision: 0, Pages: 58

Test report No. 15012-3-R01, TUV NORD CERT GmbH, Initial EMC Test dated 11 August 2016, Revision: 1, Pages: 50

Test report No. 16185-1-R01, TUV NORD CERT GmbH, Additional Test for Conducted Emission (Bridge Zone) dated 13 September 2016, Revision: 01, Pages: 45

Test report No. 16185-2-R00, TUV NORD CERT GmbH, EMC Test Report (Surge Tests on Data Lines) dated 27 October 2016, Revision: 0, Pages: 20

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, Pages: 24

Test report No. 17228-1-R01, TUV NORD CERT GmbH EMC Test Report dated 19 December 2017, Revision: 01, Pages: 30

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, Pages: 53

Test report No. 320-16_V1U, TREO Labor Fur Umweltsimulation, Environmental Tests for SDS-M0440 dated 29 November 2016, Revision: 1, Pages: 50

Drawing No. DOK02.055, Installation and Operation Instructions for Fan Unit, Revision: 6, Pages: 20

Drawing No. DOK02.056, Fan Unit Technical Documentation, Revision: 4, Pages: 71

Drawing No. DOK02.140, Manual Smoke Detection System SDS-72 (System Manual), Revision: 6, Pages: 90

Drawing No. DOK22.002, Functional Tests (Surveyor Witness), Revision: 1, Pages: 112

Drawing No. DOK22.003, List of required Environmental Tests, Revision: 0, Pages: 12

Drawing No. DOK22.004, List of required EMC Tests, Revision: 1, Pages: 19

Drawing No. DOK22.007, Modifications of SDS-72 Components, Revision: 1, Pages: 4

Drawing No. DOK22.008, List of Software modifications, Revision: 1, Pages: 2

Drawing No. IECEx BAS 12.0091X, XP95 Series Fire Detectors, Revision: 3, Pages: 4

Terms of Validity:

This Product Design Assessment (PDA) Certificate 19-HG1835873-PDA, dated 04/Apr/2019 remains valid until 03/Apr/2024 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

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Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

ABS Rules for Conditions of Classification (2019) 1-1-4/7.7, 1-1-A3 and A4, which covers the following:

2019 Marine Vessels Rules 4-7-3/13.1, 4-7-3/13.3, 4-7-3/13.7

2019 Steel Vessels Rules 4-7-3/13.1, 4-7-3/13.3, 4-7-3/13.7

2019 Offshore Support Vessels Rules 4-7-3/13.1, 4-7-3/13.3, 4-7-3/13.7

2019 Steel Vessels Under 90 Meters in Length Rules 4-5-2/23

ABS Rules for Conditions of Classification – High Speed Craft (2019) 1-1-4/11.9, 1-1-A2 and A3, which covers the following:

2019 High-Speed Crafts Rules 4-5-2/21

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