



Marine & Offshore

Certificate number: 52446/B0 BV

File number: AP4840

Product code: 3786I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

safetec Brandes und Niehoff GmbH

Scharnebeck - GERMANY

for the type of product

SAMPLE EXTRACTION SMOKE DETECTION SYSTEMS

SDS-72

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
 SOLAS 1974, as amended, Chapter II/2
 MSC.98(73), FSS Code Chapter 10
 EN 54-2:1997 incl. AC:1999 and A1:2006
 EN 54-4:1997 incl. AC:1999, A1:2002 and A2:2006
 EN 54-20:2006 incl. AC:2008
 IEC 60092-504:2016
 IEC 60533: 2015.

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: 24 May 2029

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 24 May 2024,

Dirk Hoepfner

This certificate was created electronically and is valid without signature



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/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=ihhno1wljx>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Product model or type designation:

SDS-72

Product description:

Sample extraction smoke detection system for up to 72 detection lines for cargo holds onboard ships. It is available in three main variants of system layout which is suitable for different sizes of vessel.

The main features of the system are:

- Simultaneously monitoring of air sample for smoke via sampling pipes;
- Separate smoke detectors for exhaust ventilation ducts;
- Using the CO2 extinguishing pipes up to DN150 for smoke sampling
- Possibility to connect the remote panel on the bridge or in the fire control station via two redundant data and power bus cable;
- Connection of signals for voyage data recorder (VDR) via three-wire NMEA interface;
- Flexible configuration settings, including on site configuration via configuration menu;
- High reliability via rich self-monitoring features

1.1 - Main Components:

Type	Name	Typical location	Remark
ADP-3500	Adapter module	near remote panel	required for remote panel
SDS-3000	Smoke detection panel	CO2 room or passage way	without integrated detection lines
SDS-3104	Smoke detection panel	CO2 room	1-4 detection lines
SDS-3108	Smoke detection panel	CO2 room	5-8 detection lines
SDS-3112	Smoke detection panel	CO2 room	9-12 detection lines
SDS-3208	extension panel	CO2 room	5-8 detection lines
SDS-3212	extension panel	CO2 room	9-12 detection lines
SDS-3216	extension panel	CO2 room	13-16 detection lines
SDS-3300	smoke detection unit SDU	CO2 room or passage way	1 detection line
SDS-3350	smoke detection unit SDU-EVD	Cargo holds or passageway	Monitoring of air samples at the exhaust ventilation ducts
SDS-3500	remote panel	bridge or fire control station	flush mount/ wall mount (in enclosure)
SDS-3600	junction box	passage way	for SDS-M0460
SDS-3700	junction box	safe area	for smoke detection unit SDU
SDS-3800	3/2-way flap	CO2 room or passage way	for fan modules SDS-M0460
SDS-M0440	fan unit	CO2 room or passage way	2 fans on a frame, 230V
SDS-M0441	fan unit	CO2 room or passage way	2 fans on a frame, 110V
SDS-M0450	fan unit	CO2 room or passage way	2 fans on a frame, 230V
SDS-M0460	fan module	CO2 room or passage way	1 fan

1.2 - Software Version:

- CM3100A-01.02.xxx
- CM3100B-01.02.xxx

1.3 - Technical Data:

Main supply: 220/230 V, 50 / 60 Hz or 110/115 V, 50 / 60 Hz

Operation temperature: 0-55°C

Enclosure protection of panels : IP22 (detector part : IP54)

Enclosure protection of fans: IP54

2. DOCUMENTS AND DRAWINGS :**Safetec:**

- Type Approval SDS-72 List of Hardware Description Documents Rev.1, dated 12-04-2018.
- Technical Documentation of Fan Unit SDS-M0440/SDS-M0441 No. DOK02.056 Rev.7, dated 28-03-2023.
- Software Quality Management Manual Rev. 2, dated 05-2016.
- Manual for Smoke Detection System SDS-72 No. DOK02.140 Rev. 14, dated 28-02-2023.
- Installation and Operation Instructions of Fan Unit SDS-M0440/SDS-M0450 No. DOK02.055 Rev.14, dated 01-06-2023.
- List of modification for SDS-72 Type approval, dated 18-01-2024.
- Software changes in CM3100A/B, No. DOK22.008 Rev.3, dated 31-08-2023.

IECEX:

- IECEX certificate No. IECEX BAS 12.0091X Issue 7, dated 19-08-2022.

3. TEST REPORTS :**TREO:**

- Inclination Test Report No. 058-16, dated 19-08-2016.
- Laboratory Test Report No. 313-17, dated 19-12-2017.
- Laboratory Test Report No. 320-16, dated 29-11-2016.
- Laboratory Test Report No. 042-23, dated 02-03-2023.

PAConsult:

- Environmental Test Report No. 15-7421, dated 10-08-2016.

TÜV NORD:

- EMC Test Report No. 16185-1-R01, dated 13-09-2016.
- EMC Test Report No. 16185-2-R00, dated 27-10-2016.
- EMC Test Report No. 15012-3-R01, dated 11-08-2016.
- EMC Test Report No. 16185-3-R00, dated 20-12-2016.
- EMC Test Report No. 17228-1-R01, dated 19-12-2017.
- EMC Test Report No. 22184-3-R00, dated 09-05-2023.

Safetec:

- Functional Test report No. DOK22.002 Rev. 1, dated 08-05-2017.

4. APPLICATION / LIMITATION :



- 4.1 - BUREAU VERITAS Rules 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 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.
- 4.5 - The equipments are to be installed in metallic cabinets except the remote control panel SDS-3500.
- 4.6 - This Certificate does not cover external piping arrangement.
- 4.7 - To be installed in compliance with Regulations and Rules as stated on front page of the certificate.
- 4.8 - For any application for a given ship, drawings showing the arrangement shall be submitted for Society's Approval.
- 4.9 - The equipment installed on board ship is to be tested in accordance with the above referred Rules and Regulations under the supervision of a Society's Surveyor.
- 4.10 - Such system is not permitted in special categories spaces, open ro-ro spaces, and open vehicle spaces.
- 4.11 - Shall not substitute a fixed fire detection and fire alarm system where required by the Rules.
- 4.12 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.13 - 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.
- 4.14 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 8.

5 PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The Sample extraction smoke detection system SDS-72 are to be supplied by **Safetec Brandes und Niehoff GmbH** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.
- 5.4 - For information, **Safetec Brandes und Niehoff GmbH** has declared to Bureau Veritas the following production site(s):

Safetec Brandes und Niehoff GmbH
Attn. Mr. Brandes
Kringelsburg 2a
21379 Scharnebeck
GERMANY

6 MARKING OF PRODUCT :

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.
-  or  conformity marking as relevant.

7 OTHERS :

7.1 - It is **Safetec Brandes und Niehoff GmbH**'s responsibility 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.

7.2 - This certificate supersedes the Type Approval Certificate No. 52446/A0 BV issued on 29 Apr 2019 by the Society

*** END OF CERTIFICATE ***