



Marine & Offshore

Certificate number: 31670/C0 BV

File number: ACI 1800/015/001

Product code: 5562H

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

FirePro Systems Limited
LIMASSOL - CYPRUS

for the type of product

AEROSOL FIXED FIRE EXTINGUISHING SYSTEMS

FIREPRO Aerosol fire extinguishing system (condensed type) for machinery spaces
(limited to aerosol generator and its performance)

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships, Part C Ch 4
SOLAS 74 convention as amended, Regulations II-2/10, X/3
IMO Res. MSC.36(63) -(1994 HSC Code)- as amended, 7
IMO Res. MSC.97(73) -(2000 HSC Code)- as amended, 7
IMO Res. MSC.98(73)-(FSS Code) 5
IMO MSC/Circ.1007
IMO MSC.1/Circ.1270 incl. Corr.1

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: 31 Jan 2028

For Bureau Veritas Marine & Offshore,

At BV PIRAEUS, on 31 Jan 2023,
Spyros KONTOULIS

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.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=eoipsf4a88>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

FIREPRO AEROSOL fire extinguishing system units with dry condensed extinguishing agent

Pyrotechnically generated fire extinguishing aerosol system (condensed type) consists in:

- Generator, type FP-5700 : non-pressurised canisters capped with non-permeable membrane filled with:
 - chemical coolant,
 - solid aerosol generating compound (5.7 kg).

Total weight of the generator 26.4 kg

Dimensions 300 x 300 x 300 mm

- Electrical initiator
- Control panel

Discharge duration = 15-20 seconds

Maximum volume of the protected space (as tested) = 500 m³

As per manufacturer recommendations, other types of similar generators (same design with lower aerosol capacity) may be used.

Types declared by the manufacturer: FP20S / FP40S / FP80S / FP100S / FP200S / FP500S / FP1200 / FP2000 / FP3000 / FP5700.

2. DOCUMENTS AND DRAWINGS :

2.1 - FirePro Information, Instruction & User Manual, Version 6 (24-06-2016) and complementary Marine Manual Annex 1, Version 3 (24-06-2016).

2.2 - FirePro drawings:

Drawing n°	Rev/Issue	Date	Title
C20EASS	1	27/05/2014	FP20SE – General Assembly Drawing
C40ASS	1	27/05/2014	FP40S – General Assembly Drawing
C80ASS	1	27/05/2014	FP80S – General Assembly Drawing
C1AS	4	27/05/2014	FP100S – General Assembly Drawing
C2AS	4	27/05/2014	FP200S – General Assembly Drawing
C5AS	4	27/05/2014	FP500S – General Assembly Drawing
B12AS	0	05/01/2016	FP1200 – General Assembly Drawing
B57AS	0	05/01/2016	FP5700 – General Assembly Drawing
B12EH	0	05/01/2016	FP1200 – External Housing Construction Drawing
B12IH	0	05/01/2016	FP1200 – Internal Housing Construction Drawing
B12IAS	0	05/01/2016	FP1200 – Internal Assembly Drawing
B20AS	0	05/01/2016	FP2000 – General Assembly Drawing
B20IAS	0	05/01/2016	FP2000 – Internal Assembly Drawing
B30AS	0	05/01/2016	FP3000 – General Assembly Drawing
B30IAS	0	05/01/2016	FP3000 – Internal Assembly Drawing
B2030EH	1	01/01/2008	FP2000&FP3000 - External Housing Construction Drawing
B2030IH	0	05/01/2016	FP2000&FP3000 - Internal Housing Construction Drawing
B57EH	1	05/01/2016	FP5700 – External Housing Construction Drawing
B57IH	0	05/01/2016	FP5700 – Internal Housing Construction Drawing
B57IAS	1	05/01/2016	FP5700 – Internal Assembly Drawing
B122030BRKT	1	01/08/2012	FP1200/S, FP2000/S, FP3000/S–Mild Steel-S/S Mounting Bracket
B12EHBC	1	01/08/2012	FP1200/1200S - External Housing Bottom Cover
B12EHSW	1	01/08/2012	FP1200/1200S - External Housing Side walls
B12EHTC	1	01/08/2012	FP1200/1200S- External Housing Top Cover
B203057EHBC	1	02/10/2014	FP2000/S,FP3000/S,FP5700/S-Ext Housing Bottom Cover
B203057EHTC	1	01/08/2012	FP2000/S, FP3000/S, FP5700/S-External Housing Top Cover
B2030EHSW	2	01/08/2012	FP2000/S, FP3000/S - External Housing Side walls
B57BRKT	2	02/10/2014	FP5700/S – Mounting bracket
B57EHSW	2	01/08/2012	FP5700/SS – External Housing Side Wall

3. TEST REPORTS :

3.1 - Test report n° 2011-Efectis-R1134 dated January 2012 as per IMO MSC.1/Cir.1270 from Efectis Nederland BV.

3.2 - USCG R&D Center Final Report dated December 2005 as per IMO MSC/Cir.1007 (with DNV letter MTPN0374/AUB/262-J-49620 dated 2006-06-28 - tests witness).

3.3 - Report N° 50151217-KPS/TPE 02-6144 dated October 18th 2002 from KEMA, The Netherlands (Health and Environmental Aspects of the FirePro Fire Extinguisher).

4. APPLICATION / LIMITATION :

4.1 - For machinery spaces with **maximum volume (net) of 500 m³** and **maximum height of 5 m**.

4.2- Quantity of aerosol agent: $W = (V \times q) / f$,

where :

- W = agent mass (g)

- V = volume of enclosure to be protected (net volume in m³)

- q = design density = 120 g/m³

- f = efficiency coefficient of the manufacturer's generator (%) as per below

FP20S (60%) / FP40S (61%) / FP80S (59%) / FP100S (61%) / FP200S (59%) / FP500S (66%) / FP1200 (63%) / FP2000 (60%) / FP3000 (61%) / FP5700 (59%)

4.3 - Installation of the generators in the machinery space:

Maximum height of installation	5 m
Minimum clearance from persons / escape routes	1.8 m
Location	Evenly distributed within the risk area
Projection	Vertical, downwards
Minimum clearance from combustible materials	0.8 m

4.4 - Minimum holding time: 15 min.

4.5 - Clear and legible safety labels shall be placed at the entrance to the protected space, inside the protected space, at the system isolation switch and the manual release point. Also, simple operating instructions are to be placed at the system operating position.

4.6 - Means are to be provided to close all openings, which may admit air into the protected space.

4.7 - A means should be provided to relieve any initial overpressure in the protected space when the aerosol generators are activated, to prevent structural damage to the boundaries of the enclosure.

4.8 - The following documentation is to be submitted in each separate application, prior to installation onboard: System design and operation principles; capacity calculations (calculated at both minimum and maximum expected temperatures, i.e 0 - 55 °C); wiring diagram and cable specifications showing cable layout, alarm circuitry (pre-alarm required for at least 20 s + alarm during discharge) and location of the release station; control system and service manual. Separate review and testing for the control panel may be required on a case-by-case basis.

4.9- The fitting aboard to be the same as used for the test.

4.10 - To be used and maintained in accordance with the manual(s) for installation, use and maintenance.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **FIREPRO AEROSOL** is to be supplied by **FirePro Systems Limited** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **FirePro Systems Limited** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **FirePro Systems Limited** has declared to Bureau Veritas the following production site(s):

FirePro Systems Limited
FIREPRO SYSTEMS LTD
8 FALEAS STR.
AGIOS ATHANASIOS INDUSTRIAL AREA
CY-4101 LIMASSOL - CYPRUS

6. MARKING OF PRODUCT :

The product or packing is to be marked with manufacturer name, type, designation and fire-technical rating.

7. OTHERS :

7.1- It is FirePro Systems Ltd'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 31670/B0 BV issued on 15th November 2017 by the Society.

*** END OF CERTIFICATE ***