



Confirmation of Product Type Approval

Company Name: FIREPRO SYSTEM LIMITED

Address: 8 FALEAS STR. LIMASSOL CY-4101 Cyprus

Product: Fixed Aerosol Fire Protection and Detection System

Model(s): FP5700 & FNX5700

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	24-2527283-PDA	24-APR-2024	23-APR-2029
Manufacturing Assessment (MA)	20-4324795	07-JUL-2020	06-JUL-2025
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Fixed aerosol fire extinguishing system for machinery space up to 500 cubic meter.

Description

Pyrotechnically generated fire extinguishing aerosol system (condensed type) consisting of:

- Generator, type FP5700: non-pressurized 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
- Dimension 300x300x300 mm
- Electrical initiator
- Control panel

Discharge duration time: 15-20 seconds

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, FP1200S, FP2000, FP2000S, FP3000, FP3000S, FP4200T, FP4200TS, FP5700S, FNX20S, FNX40S,

FNX80S, FNX100S, FNX200S, FNX500S, FNX1200, FNX1200S, FNX2000, FNX2000S, FNX3000, FNX3000S, FNX4200T, FNX4200TS, FNX5700S

S indicates container in stainless steel available

Ratings

Rating and specification as per section 5.2 of Information, Instruction & User Manual

Installation of the generators in the machinery space:

- Maximum height of the protection space : 5.0 m
- Minimum design density : 120 g/cubic meter
- Minimum clearance from persons/escape route: 1.8 m
- Minimum clearance from combustible material: 0.8 m

Service Restrictions

- 1) 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.
- 2) The approval does not cover any Flag Administration requirements: acceptance by the Flag Administration is required prior to fitting onboard vessels. Evidence is to be provided for each installation.
- 3) The automatic release of the system is not allowed onboard ships subject to SOLAS and in general onboard vessel above 500 GT.
- 4) System shall be designed to allow evacuation of the protected space prior to discharge through the use of two separate controls for manual releasing the extinguishing medium.
- 5) Means shall be provided for automatically giving visual and audible warning of the release of fire-extinguishing medium inside the protected space in which personnel normally work or to which they have access. The alarms shall operate for the period of time necessary to evacuate the space, but not less than 20 seconds before the medium is released.
- 6) The system is permitted for spaces that are normally occupied only at a concentration where the aerosol particulate density does not exceed the adverse effect level. Evidence is to be provided for each installation.
- 7) Generators shall be separated from escape routes and other areas where personnel may be present by at least the minimum safe distances of 1.8 m. Evidence is to be provided for each installation.
- 8) Generators shall be separated from combustible materials by at least the minimum safe distances 0.8 m. Evidence is to be provided for each installation.
- 9) Quantity of generators to be determined in accordance with Manufacturer specification.
- 10) For each installation, the following details are to be submitted to the local ABS Technical office for review:
 - (a) The schematic arrangement of the system.
 - (b) Aerosol generator types, sizes, quantities and locations.
 - (c) Details of the material specifications, wiring diagrams and sources of power for the release systems and alarms.
 - (d) Calculations of the quantity of agent required for the protected space.
 - (e) Certification for certified components.

(f) Manuals and instructions for operation, safety, maintenance and testing.

(g) Protocols for testing and inspection of the system.

Comments

- 1) The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.
- 2) Means are to be provided to close all openings, which may admit air into the protected space.
- 3) Clear and legible safety labels are to be placed at all the entrances to the protected space, inside the protected space, at the system isolation switch and the manual release point.
- 4) Simple operation instructions are to be placed at the system operating position.
- 5) Clear and legible instructions for installation, maintenance, testing and operation, applicable for the specific system fitted on the vessel shall be issued for conclusion in a manual or folder, to be retained onboard the vessel for use by the operating crew.
- 6) Power circuit connecting the containers are to be duplicated and widely separated. Electric power circuits connecting the containers are to be monitored for fault conditions and loss of power. Visual and audible alarms are to be provided to indicate this.

Notes, Drawings and Documentation

1. Information, Instruction & User Manual, Revision: 8 (May 2020)
2. Annex 1 Marine Manual, Revision: 5 (August 2021)
3. B42TAS, FP-4200T - Assembly
4. BSI/MED/3.46/755612, BSI Type Examination Certificate
5. Declaration of Conformity
6. Test Report (Test Nos. 23, 24, 27, 50)
7. Test Report (Test Nos. 21, 22)
8. UL Solutions Confirmation Letter
9. UL Solutions Multiple Listing Correlation Sheet
10. EX16201, UL Solutions Certificate of Compliance (HOCHIKI AMERICA CORP.)
11. EX6960, UL Solutions Certificate of Compliance (FIREPRO SYSTEMS LTD.)
12. K21774/24, Kiwa Product Certificate
13. 50151217-KPS/TPE 02-6144, KEMA - Health and Environmental Aspects of FirePro Fire Extinguisher
14. U.S. Coast Guard Research and Development Center - An Evaluation of Aerosol Extinguishing Systems for Machinery Space Applications
15. 2011-Efectis-R1134, Efectis Nederland Report

Term of Validity

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

ABS Rules

2024 Marine Vessel Rules 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:

2024 Marine Vessel Rules 4-7-3/3.11

2024 Rules for Building and Classing Yachts 4-5-2/11.9

International Standards

IMO MSC.1/Circ.1270 Ed.2008 including Corr. 1

EU-MED Standards

NA

National Standards

UL 2775 Ed. 2022

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'James W. ...', is positioned above the printed text.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 29-May-2024 9:57

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does

not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.



CERTIFICATE NUMBER	24-2527283-PDA
EFFECTIVE DATE	24-Apr-2024
EXPIRY DATE	23-Apr-2029
ABS TECHNICAL OFFICE	Hellenic - Piraeus Eng Department

CERTIFICATE OF Product Design Assessment

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

FIREPRO SYSTEM LIMITED

located at

8 FALEAS STR., , LIMASSOL, Cyprus, CY-4101

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: Fixed Aerosol Fire Protection and Detection System

Model: FP5700 & FNX5700

Endorsements:

Tier: 3 - Type Approved, unit certification not required

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American Bureau Of Shipping

Evangelos K. Kourtis, 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)

FIREPRO SYSTEM LIMITED

8 FALEAS STR.

LIMASSOL

Cyprus CY-4101

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Fax: +357 2535 4432

Email: i.lambrou@firepro.com

Web: www.firepro.com

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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.

STANDARDS

ABS Rules:

2024 Marine Vessel Rules 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:

2024 Marine Vessel Rules 4-7-3/3.11

2024 Rules for Building and Classing Yachts 4-5-2/11.9

National:

UL 2775 Ed. 2022

International:

IMO MSC.1/Circ.1270 Ed.2008 including Corr. 1

Government:

NA

EUMED:

NA

OTHERS:

NA



Certificate Number 20-PP4324795
Effective Date 07-JUL-2020
Expiration Date 06-JUL-2025
ABS Port Office PIRAEUS
Website www.firepro.com

CERTIFICATE OF
Manufacturing Assessment

This is to certify that the Undersigned evaluated the manufacturing quality procedures of

FIREPRO SYSTEM LIMITED

located at

8, Faleas Str., CY-4101, Limassol, Cyprus

The quality monitoring systems during production were verified to reflect the specific surveys, required by the ABS Rules, Guides, the associated Specifications and Standards for the manufacture of

**Fixed Aerosol Fire Protection and Detection System
Model FP5700 & FNX5700**

Below listed types, of similar generators (same design with lower aerosol capacity), may be used, as declared by the Manufacturers;

**FP20S, FP40S, FP80S, FP100S, FP200S, FP500S,
FP1200, FP1200S, FP2000, FP2000S, FP3000,
FP3000S, FP5700S-FNX20S, FNX40S, FNX80S,
FNX100S, FNX200S, FNX500S, FNX1200, FNX2000,
FNX3000.**

(‘S’ denotes container in Stainless Steel)

This manufacturer presented a sample or specimen of the product, representative of the “type” approved for the purpose of verifying that the “type” has been manufactured in conformance with the Manufacturer’s Product Design Assessment(s).

NOTE: This Certificate evidences compliance with one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a fuller description of any restrictions or limitation on the vessel’s service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



ABS

This Certificate is manufacturer and location specific and is subject to annual audits. Consult the ABS Type Approval website to confirm the continued validity of this certificate and the status of products.

The ABS Office issuing the certificate is to be kept updated with changes to the production methods, quality control systems, products and models and any changes made.



Spyridon Kostopoulos, Surveyor

Annual Endorsement
First

Evangelos Katsiras
Surveyor
4817021/16 January 2023
WO and Date



Second

Evangelos Katsiras
5368347/13 July 2022



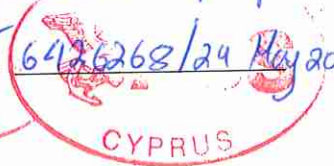
Third

Evangelos Katsiras
5940310/12 July 2023



Fourth

Christos Polykarpou
6426268/24 May 2023



NOTE: This Certificate evidences compliance with one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a fuller description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.