



CERTIFICATE NUMBER	21-2138922-PDA
EFFECTIVE DATE	03-Sep-2021
EXPIRY DATE	02-Sep-2026
ABS TECHNICAL OFFICE	Gdynia Engineering Department

CERTIFICATE OF Product Design Assessment

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

HALTON MARINE OY

located at

PULTTIKATU 2, LAHTI, Finland, FIN-15700

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: Fire Damper
Model: FDL Marine Fire Dampers
Endorsements:
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 02/Sep/2026 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
MARSZEWSKI TOMASZ
Tomasz Marszewski, 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: Fire Damper
Model: FDL Marine Fire Dampers
Endorsements:

Intended Service:

Ventilation ducting which penetrates "A" Class divisions up to and including A-60

Description:

Single or multi-bladed rectangular fire dampers using the following means of actuation: Electrical with fusible link (FDL-EL); Linear pneumatic with fusible link (FDL-PNL); Rotating pneumatic with fusible link (FDL-PNR); Spring loaded with fusible link (FDL-SP).

The connections between the coaming and the damper frame and the extension duct are connected by means of flanges and are fastened with bolts and nuts and with a gasket between the flanges.

Mineral wool insulation A60 (75 mm thickness, density 110 kg/m³) is to be provided on both sides of the bulkhead coaming

Rating:

A-0 Fire dampers in vertical orientation;

Up to 1300x1200mm damper with Schischek In Max-15-F actuator only, six (6) blade of 20mm thickness, damper made of steel 3 mm thickness (acc. to VTT-S-8566-10/20-09-2010)

100x100mm damper with Belimo BF 230 and Siemens GGA126 actuators, one (1) blade 20 mm thickness, damper made of steel (acc. to VTT-S-8566-10/20-09-2010)

Up to 250x250 damper with Petz industries Pi Qt.Ex-MFD10 electrical actuator, one (1) blade 20 mm thickness, damper made of stainless steel EN 1.4404 (acc. to 712-18TD-IMO/19-01-2018)

A-0 Fire dampers in horizontal orientation;

1300x1200mm damper with Schischek In Max-15-F actuator, six (6) blade of 20mm thickness, damper made of steel (acc. to VTT-S-8567-10/11-10-2010)

100x100mm damper with Belimo BF 230 actuator only, one (1) blade 20 mm thickness, damper made of steel(acc. to VTT-S-8567-10/11-10-2010)

A-30 Fire Damper in Horizontal Orientation;

250x250mm damper with Belimo NF24 A-SR-S2 actuator only, one (1) blade of 20.5mm thickness, Damper made of Stainless Steel (1.4404), with gasket "Pyrocryl" (acc. to VTT-S-08754-13/22-11-2013)

A-60 fire damper in vertical orientation,

100mm x 100mm damper with Air torque AT100 S10B actuator only, one (1) blade of 20mm thickness; Damper made of Stainless Steel (AISI 316), with gasket "Intumex LSK" (acc. to VTT-S-10161-07/20-10-2007)

1300x1200 mm damper with Air Torque AT101 pneumatic actuator, six(6) blades of 20.5 mm thickness, Damper made of Stainless Steel (AISI 316), with gasket "Pyrocryl" (acc. to 570-16TD-IMO/20-01-2016)

100x100 mm damper with Belimo BFL electric actuator, one (1) blade 20.5 mm thickness, damper made of Stainless Steel (1.4404), with gasket "seal fire W200" , (acc. to 570-16TD-IMO/20-01-2016)

100x100 mm damper with Belimo BFN electric actuator, one (1) blade 20.5 mm thickness, damper made of Stainless Steel (1.4404) with gasket "seal fire W200" , (acc. to 570-16TD-IMO/20-01-2016)

100x100 mm damper with Belimo BF electric actuator, one (1) blade 20.5 mm thickness, damper made of Stainless Steel (1.4404) with gasket "seal fire W200" , (acc. to 570-16TD-IMO/20-01-2016)

A-60 fire damper in horizontal orientation,

1300x1200 mm damper with Belimo BF230-2 HL electric actuator, six(6) blades of 20.5 mm thickness, Damper made of Stainless Steel (1.4404), with gasket "Pyrocryl" (acc. to VTT-S-00480-16/26-11-2015)

100x100 mm damper with Belimo BFN230-T electric actuator, one (1) blade 20.5 mm thickness, damper made of Stainless Steel (1.4404), with gasket "seal fire W200" (acc. to VTT-S-00480-16/26-11-2015)

100x100 mm damper with Belimo BFL24 electric actuator, one (1) blade 20.5 mm thickness, damper made of Stainless Steel (1.4404), with gasket "seal fire W200" (acc. to VTT-S-00480-16/26-11-2015)

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Service Restriction:

1. Dampers manufactured from materials other than those used in the fire tests are not covered by this Type Approval.
2. The FDL damper dimension 1300 x 1200 with Schischek In Max-15-F actuator only have met the integrity requirements for A-60 and insulation requirements for A-0 installation in vertical and horizontal orientation. The FDL damper dimension 250x250 have met the integrity requirements for A-60 and insulation requirements for A-30 installation in horizontal orientation. It is at the discretion of the Administration to accept the said damper for the installation on an A-60 deck and bulkhead division.
3. Coaming thickness is to be in accordance with SOLAS Regulations II-2/16.3 and II-2/16.4.
4. Where Administrations require the dampers to satisfy both the insulation and integrity criteria of Appendix A.II of IMO Resolution A.754(18), insulation of the damper coaming is to be appropriate for the "A" Class divisions being penetrated.
5. Details of manual operation and indicator device are to be submitted for each application.
6. The damper is to be provided with an automatic closing arrangement.
7. The details of manual closing fire damper from both sides of divisions and visible indicator device which shows the operating position of the damper are to be verified for each application.
8. The length of coaming for the A-60 damper should be 650mm to the unexposed side and together with the damper frame 450mm to the exposed side; The coaming should be insulated along the whole length of the coamings on the both sides of the bulkhead.
9. This Type Approval is not to be considered a substitute for a Flag Administration's approval for the purpose of SOLAS (2020 Consolidated Edition), unless specifically directed by the Administration.
10. This certificate may not be used for EU and US flagged vessels (MED and/or USCG have their own specific/requirements).
11. The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006.
12. 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. Only actuators as indicated on the drawings are acceptable.
2. Automatic fire dampers with additionally installed "manual override system" are to be verified by ABS attending Surveyor, if un-energized (disconnected) will close automatically during two minutes on case by case basis.
3. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
4. All materials have been verified for compliance with IMO FTP Code Annex 1, Part 1, with exemption as noted in Annex 1, Part 3.5.1.

Notes/Drawing/Documentation:

1. Fire resistance test on "A" class fire dampers mounted in a bulkhead VTT-S-10161-07, 22-10-2007 (VTT Technical Research Centre of Finland Espoo, Otaniemi, Kivimiehentie 4)
2. Fire resistance test on "A-0" class fire dampers mounted in a bulkhead VTT-S-8566-10, 20-09-2010 (VTT Expert Services Ltd Espoo, Otaniemi, Kivimiehentie 4, FI-02044 VTT, Finland)
3. Fire resistance test on "A-0" class fire dampers mounted in a deck VTT-S-8567-10, 11-10-2010 (VTT Expert Services Ltd Espoo, Otaniemi, Kivimiehentie 4, FI-02044 VTT, Finland)
4. Fire resistance test on "A" class fire dampers mounted in an exposed side of the deck VTT-S-08754-13, 22-11-2013 (VTT Expert Services Ltd Espoo, Otaniemi, Kivimiehentie 4, FI-02044 VTT, Finland)
5. Fire resistance test on "A" class fire dampers mounted in an exposed side of bulkhead 570-16TD-IMO, 20-01-2016 (TUV Eesti OU, Vana-Narva road 24b, 74114 Maardu, Estonia)
6. Fire resistance test on "A" class fire dampers mounted in an exposed side of deck VTT-S-00480-16, 26-11-2015 (VTT Expert Services Ltd Espoo, Otaniemi, Kivimiehentie 4, FI-02044 VTT, Finland)
7. Fire resistance test on "A" class fire dampers mounted in an exposed side of bulkhead 712-18TD-IMO, 19-01-2018 (TUV Eesti OU, Vana-Narva road 24b, 74114 Maardu, Estonia)

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8. LH-55000, Assembly 1300x1200 drwg , Rev.: A (VTT-S-00480-16)
9. LH-55021, Assembly 100x100 drwg (Belimo BFL), Rev.: A (VTT-S-00480-16)
10. LH-55024, Assembly 100x100 drwg (Belimo BFN), Rev.: A (VTT-S-00480-16)
11. LH-5435 100x100 FDL - PNR (AT100) (VTT-S-10161-07)
12. LH-55042, Assembly 1300x1200 drwg (PNR), Rev.: A, (570-16TD-IMO)
13. LH-55021, Assembly 100x100 drwg (Belimo BFL), Rev.: A, (570-16TD-IMO)
14. LH-55040, Assembly 100x100 drwg (Belimo BFN), Rev.: A, (570-16TD-IMO)
15. LH-55041, Assembly 100x100 drwg (Belimo BF), Rev.: A, (570-16TD-IMO)
16. LH-5314, Assembly 1300x1200 drwg (EL), Rev.: A (VTT-S-8566-10-16 & VTT-S-8567-10)
17. LH-5830, Assembly 100x100 drwg (BELIMO BF-24/230& GGA126), Rev.: A (VTT-S-8566-10-16 & VTT-S-8567-10)
18. LH-55050, A60 Installation & Insulation, Revision: A, Pages: 1
19. LH-55051, A60 Installation & Insulation, Revision: B, Pages: 1
20. LH-55052, A15&A30 Installation & Insulation, Revision: A, Pages: 1
21. LH-5768, Module 4 dampers dimensions drawing, Revision: A, Pages: 1
22. LH-5772, 4 Damper module assembly instructions drawing, Revision: A, Pages: 1
23. LH-5799, 2 Damper module dimension drawing, Revision: A, Pages: 1
24. LH-5473 Assembly 250x250 drwg Belimo NF24 A-SR-S2, Rev.: A (VTT-S-08754-13)
25. LH5727 Assembly 250x250, PETZ Industries Pi QT.Ex-72 Petz Industry (712-18TD-IMO)

Terms of Validity:

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Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

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STANDARDS

ABS Rules:

2021 ABS Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4

2021 ABS Rules for Conditions of Classification – Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and A3

2021 ABS Rules for Conditions of Classification – High Speed Craft: 1-1-4/11.9, 1-1-A2 and A3

National:

NA

International:

International Code for Application of Fire Test Procedure 2010, 2012 Edition, Annex 1 Part 3,

International Convention for the Safety of Life at Sea (SOLAS), 1974, Chapter II-2 Regulation 3, Chapter II-2,

Regulation 9/7.1.2.1 and 7.3.1.2. (2020 Consolidated Edition)

Government:

NA

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EUMED:

NA

OTHERS:

NA

TERMS & CONDITIONS OF ABS DESIGN ASSESSMENT

1. AGREEMENT

Unless otherwise agreed in writing, all services rendered and certificates issued are governed by the terms and conditions of the "Request for Product Type Approval and Agreement" (the "Agreement") which are hereby incorporated by reference.

2. REPRESENTATIONS AS TO DESIGN ASSESSMENT

A certificate of design assessment represents that the product design meets the ABS, statutory, industrial or manufacturer's standard described on the reverse hereof and that the manufacturer has established a systematic quality monitoring system sufficient to show its capacity to consistently manufacture a product which meets the designated standards. ABS is not a substitute for the independent judgment of professional designers or engineers nor a substitute for the quality control procedures of constructors, steel makers, suppliers, manufacturers and vendors of marine structures, materials, machinery or equipment. ABS represents solely to the manufacturer or other client of ABS that it will use due diligence in developing Rules, Guides and standards and in surveying the plant as called for by ABS criteria for type approval.

3. SUSPENSION OF CERTIFICATION

Any of the following events will cause immediate suspension of the certificate of design assessment unless the change is submitted to ABS for a new review and audit.

- a) Redesign of the product or products covered by this certificate;
- b) Change in production methods;
- c) Substantial change in management organization;
- d) Substantial change in frequency or curriculum for personnel training;
- e) Refusing access to ABS personnel for periodic or annual audits;
- f) Failure to correct a non-compliance identified during an audit or in service;
- g) Failure to pay ABS fees.

4. VALIDITY

The validity, applicability and interpretation of a certificate issued under the terms of or in contemplation of ABS Type Approval are governed by the Rules, Guides and standards of American Bureau of Shipping which shall remain the sole judge thereof. Nothing contained in this certificate or in

any report issued 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, nor create any interest, right, claim or benefit in any third party. It is understood and agreed that nothing expressed herein is intended or shall be construed to give any person, firm or corporation other than the parties hereto, any right, remedy, or claim hereunder or under any of the provisions herein contained; all of the provisions hereof are for the sole and exclusive benefit of the parties hereto.

5. LIMITATION

ABS makes no representations beyond those contained herein and in the provisions of the Agreement regarding its reports, statements, plan review, surveys, certificates or other services.

6. HOLD HARMLESS

The party to whom this certificate is issued, and his assignee and successor in interest, agree to indemnify and hold harmless ABS from and against any and all claims, demands, lawsuits, or actions for damages, including legal fees, to persons or other legal entities and property, tangible, intangible, or otherwise which may be brought against ABS incidental to, arising out of or in connection with the work done, services performed or material to be furnished under this certificate, except for those claims caused solely and completely by the negligence of ABS, its agents, employees, officers, directors or subcontractors.

7. ARBITRATION

Any and all differences and disputes of whatsoever nature arising out of this agreement shall be put to arbitration in the City of New York pursuant to the laws relating to the arbitration there in force, before a board of three persons, consisting of one arbitrator to be appointed by ABS, one by Client, and one by the two so chosen. The decision of any two of the three on any point or points shall be final. Until such time as the arbitrators finally close the hearings either party shall have the right by written notice served on the arbitrators and on an officer of the other party to specify further disputes or difference under this Agreement for hearing and determination. The arbitration is to be conducted in accordance with the rules of the Society of Maritime Arbitrators, Inc. The arbitrators may grant any relief, other than punitive damages,

which they, or a majority of them, deem just and equitable and within the scope of the agreement of the parties, including, but not limited to, specific performance. Awards made in pursuance to this clause may include costs including a reasonable allowance for attorney's fees and judgment may be entered upon any award made hereunder in any court having jurisdiction. ABS and client hereby mutually waive any and all claims to punitive damages in any forum.

Client shall be required to notify ABS within thirty (30) days of the commencement of any arbitration between it and third parties which may concern ABS's work in connection with this Agreement and shall afford ABS an opportunity, at ABS's sole option, to participate in the arbitration.

8. TIME BAR TO LEGAL ACTION

Any statutes of limitation notwithstanding, Client expressly agrees for itself and its affiliated companies that its right to bring or to assert against ABS any and all claims, demands or proceedings whether in arbitration or otherwise shall be waived unless (a) notice is received by ABS within thirty (30) days after Client or its affiliates had notice of or should reasonably have been expected to have had notice of the basis for such claims; and (b) arbitration or legal proceedings, if any, based on such claims or demands of whatever nature are commenced within one (1) year of the date of such notice to ABS.

9. LIMITATION OF LIABILITY

The combined liability of American Bureau of Shipping, its officers, employees, agents or subcontractors for any loss, claim, or damage arising from negligent performance or non-performance of any services under this Agreement, of from breach of any implied or express warranty of workmanlike performance in connection with the services, or from any other reason, to any person, corporation, partnership, business entity, sovereign, country or nation, shall be limited to the greater of a) \$100,000 or b) an amount equal to ten times the sum actually paid for the services alleged to be deficient.

The limitation of liability may be increased up to an amount twenty-five times that sum paid for services upon receipt of Client's written request at or before the time of performance of service and upon payment by Client of an additional fee of \$10.00 for every \$1,000.00 increase in the limitation.