



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAF0000DD**  
Revision No:  
**2**

## This is to certify:

**That the Fire Damper**

with type designation(s)  
**FDL-EL, FDL-PNR, FDL-SP**

Issued to

**Halton Marine Oy**  
**LAHTI, Finland**

is found to comply with

**DNV GL offshore standards**  
**DNV GL rules for classification – Ships**  
**DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations**

## Application :

**The damper is approved for use in ducts penetrating bulkhead or deck Class A-0 and A-60 as shown on page 2 under Application/Limitation.**

**Size of damper: max. 1300 x 1200 mm; min. 100 x 100 mm.**

**This certificate is recognized by Transport Canada.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Høvik** on **2021-03-08**

for **DNV**

This Certificate is valid until **2026-03-07**.

DNV local station: **Helsinki FIS**

Approval Engineer: **Tessa Biever**

**Mårten Schei-Nilsson**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

"Fire damper type FDL-EL, FDL-PNR, FDL-SP"

Actuator operated rectangular multiblade and square single bladed fire dampers consisting of casing (length: 220 mm, thickness 3 to 5 mm) made of galvanised painted steel plates or stainless steel (AISI 304, 316 or 316L). Bearings made of brass, bronze, ball bearings or stainless steel (AISI 304, 316 or 316L). The 3-5 mm coaming is welded to the casing and is welded or bolted to the bulkhead/deck by Ø12 mm bolts spaced 150 mm apart. For FDL 350 x 350 mm to FDL 950 x 950 mm bolt spacing may be increased to 194 mm.

The blades are composed from 20-21 mm thick stainless steel EN 1.4404 and provided with Intumex gaskets.

### Insulation requirements for A-0 Class:

Fire dampers of A-0 class may be installed without any insulation on damper frame and ducting.

### Insulation requirements for For A-60:

The damper coaming/ducting to be insulated with A60 approved insulation on both exposed and unexposed side. Length of coaming insulation on exposed side is the full length between the fire damper and the deck/bulkhead. Length of coaming insulation on unexposed side to be minimum 650 mm. Length of coaming insulation on exposed side to be minimum 450 mm.

The minimum distance between the fire damper and bulkhead/deck is 230 mm.

The insulation used is to be regarded as minimum insulations for A-60 Class fire rating.

## Manufactured by

- Halton Marine Oy, Lahti, Finland
- Halton Ventilation (Shanghai) Co., Ltd, Lingang New City, Pudong Shanghai, The people's Republic of China

## Application/Limitation

The fire damper is approved for installation in steel bulkheads/decks. Other applications are subject to case-by-case approval.

Max. number of blades: 6  
Max. blade height: 200 mm  
Max. blade width: 1300 mm

The fire dampers to be automatic operated with fusible link by actuators of following type (\*):

- Belimo BF24-2HL, BF24, BF24-T, BF230, BF230-T, or any Belimo actuators with a minimum torque of 12 Nm
- Siemens GGA 3261E
- Schischek RedMax, Schischek ExMax or Schischek InMax
- Pneumatic rotating actuator EI-O-matic ES 40/A/N5 or Air Torque AT100 S 10 B

(\*) Actuators of same make but with different size as mentioned above may also be used, provided that they have similar installation arrangement and equivalent fire technical and functional properties.

The fire dampers may also be spring loaded with fusible link or manual operated by handle without fusible link.

The fire damper shall be capable to be closed from both sides of the bulkhead or deck.

The insulation used is to be regarded as minimum insulations for all fire ratings and is not to be removed if the fire damper is to be used in division with lower fire ratings.

Each product is to be supplied with its manual for installation, use and maintenance.

## Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test report Nos.:

- 570-16TD-IMO dated 2016-02-05 from TUV Eesti OU, Maardu Estonia (Class A-60 Fire Dampers bulkhead)
- VTT-S-00480-16 dated 2016-02-01 from VTT, Espoo, Finland (A-60 Fire Damper-deck)
- VTT-S-8566-10 dated 2010-10-27 from VTT, Espoo, Finland (Class A-0 Fire Dampers FDL-EL Bulkhead)
- VTT-S-8567-10 dated 2010-10-27 from VTT, Espoo, Finland (Class A-0 Fire Dampers FDL-EL Deck)

Statement Nos.

- RTE 3861/04 dated 2004-11-17 from VTT, Espoo, Finland (different actuator types have no influence to insulation).
- VTT-S-00593-16 dated 2016-02-05 from VTT, Espoo, Finland (fire resistance with new manual override accessory)
- Fire Test Statement dated 2007-01-08 from Shisschek GmbH, Langenzenn, Germany (Actuators).
- S-04522-18 dated 2018-09-17 from VTT, Espoo, Finland (largest outmost spacing between flange mounting bolts for FDL 350x350 mm to FDL 950x950 mm).

Drawings Nos.:

- SaL1500789 rev. 3, LH-55042 Rev. A, LH-55021 Rev. A, LH-55041 Rev. A, LH-55040 Rev. A (A-60-bulkhead), all from Halton
- SaL1500698 Rev. 1, LH-55000 Rev. A, LH-55021 Rev. A, LH-55024 Rev. A, (A-60-deck), all from Halton
- LH-55050 Rev. A from Halton (insulation FDL - A60).

**Tests carried out**

Tested according to IMO FTP Code Part 3 and in accordance with IMO 2010 FTP Code Ch. 8 and IMO 2010 FTP code Part 3.

**Marking of product**

The product or packing is to be marked with name and address of manufacturer, type designation, fire technical rating, the Mark of Conformity and USCG approval (see first page).  
rating.

**Transport Canada Approval**

Based on the procedures laid down in the Transport Canada Publication entitled "*Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)*", DNV confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

**Periodical assessment**

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.