

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fire Damper**with type designation(s)
Class H Fire Damper CFD-01

Issued to

Flamgard Engineering Limited
Torfaen SOUTH WALES, United Kingdomis found to comply with
DNV GL offshore standards**Application :****Approved for use in ventilation ducts in class H bulkheads and decks.**
The damper satisfies for 120 minutes the requirements to stability and integrity according to chapter II-2, reg. 3 of the SOLAS Amendments 2000.Issued at **Høvik** on **2017-05-10**This Certificate is valid until **2022-05-09**.DNV GL local station: **London**for **DNV GL**Approval Engineer: **Øyvind Hoff**

Marte Eknæs Edvardsen
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.



Product description

"Class H Fire Damper CFD-01",

A spring/actuator operated single- or multibladed fire damper with square shape.

The fire damper blades are formed by two layers of 1.5 mm thick and 150 mm high stainless steel sheets with a blade shaft in between.

The fire damper casing is 300 mm long, and formed by 3 mm thick stainless steel sheets.

All fire damper blade shafts are interlocked to the actuating device.

The fire dampers are flanged to a 5 mm thick coaming, and the coaming is seal welded to the steel deck/bulkhead. Length of coaming is min. 150 mm on exposed side for bulkhead installations and min. 200 mm on exposed side for deck installations. Length of coaming is min. 1500 mm on unexposed side for both bulkhead and deck installations. A gasket of 2 mm thick Kotherm Protect-A-Tape (KT2 tape) is fitted between the fire damper flange and the flange on the end of the steel coaming.

The damper assembly includes:

- Blade edge seal (0.25 mm thick edge seals made of curved stainless steel sheets, to be fitted between blade profiles to take up minor irregularities, thus improving the sealing between blades).
- Lipseal bearing boss (a viton lipseal to improve sealing between interior and exterior of the damper).

For further details, see the below Application/Limitation and Type Approval documentation.

Application/Limitation

Type	Fire damper size	Damper casing details	Thickness of each damper blade	Fire rating (Deck and Bulkhead)
CFD-01	Min. size 150 x 150 mm, and max. size 1000 x 1000 mm for bulkhead mounting and 1000 x 900 mm for deck mounting	300 mm length, 3 mm thick	2 x 1.5 mm (double skin)	Class H

Max. height of each damper blade: 150 mm. Max. number of blades in each damper unit: 6.

Insulation requirements for H-0:

- The H-0 steel deck/bulkhead to be insulated minimum 200 mm around the periphery of the damper coaming with H-120 approved insulation. The steel deck to be insulated on its stiffened, lower face, and the steel bulkhead to be insulated on its stiffened face.
- The damper coaming/ducting to be insulated with H-120 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 1500 mm.

All insulation to be fastened with welded pins, wired steel mesh (if applicable) and washers.

Insulation requirements for H-60 and H-120:

- As for H-0 and in addition the arrangement of the fire damper and necessary insulation of coaming and ducting in the vicinity of the partition is subject to approval in each case.

All insulation to be fastened with welded pins, wired steel mesh (if applicable) and washers.

Actuation is done automatically by thermal (bulb) triggering device combined with a pneumatic or electric spring return actuator (see below), or manually operated by handle.

Actuators that may be used:

Job Id: **262.1-025482-1**
Certificate No: **TAF00000NE**

- Pneumatic: Prisma PP20S3 Polyamide or PP10S6. (*)
 - Electric: Same make as Schischek Ex Max 15 SF, but compensated with sufficient torque. (*)
- (*) Actuators of same make but with different size as mentioned above may also be used, provided that they have sufficient torque, similar installation arrangement and equivalent fire technical and functional properties.

The fire damper shall be capable of being closed from both sides of the deck/bulkhead.

Steel thickness of damper casing to be equal to or greater than thickness of coaming/duct/sleeve required by the rules if the damper casing is part of the coaming/duct/sleeve.

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, October 2015.

Test report no. 329965 Issue 2 dated 05 September 2013 from Exova Warringtonfire, Warrington, UK.
Test report no. P100396-1001 Issue 1 dated 7 February 2017 from BRE Global Ltd, Watford, UK.

Tests carried out

Tested according to IMO 2010 FTP Code part 3 with the NPD h/c time-temperature curve.

Marking of product

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

Periodical assessment

DNV GL'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.