

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006YH

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the Fire dampers

with type designation(s)
Class A Fire Damper CFD-01

Issued to

Flamgard Engineering Limited
Pontypool, Gwent, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2020/1170,
item No. MED/3.22. SOLAS 74 as amended, Regulation II-2/9 and IMO 2010 FTP Code

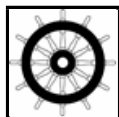
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-05-26**.

Issued at **Høvik** on **2021-05-27**

DNV local station:
Manchester

Approval Engineer:
Helge Bjørnara



Notified Body
No.: **0575**

for **DNV AS**

.....
Sverre Olav Bergli
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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

"Class A Fire Dampers CFD-01"

Spring/actuator operated square multiblade fire dampers used as single fire dampers or assembled together to form banked damper assemblies.

The fire damper blades are formed by two layers of 1.5 mm thick 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 coaming, and the coaming is seal welded to the steel deck/bulkhead. Length of coaming is min. 150 mm on exposed side and 1200 mm on unexposed side.

The assembly of banked fire dampers are fitted inside a common casing with a grid of mullions and transoms, which constitutes beams that are welded together and to the casing. Each beam is made of boxed profiles formed from 3 mm thick stainless steel sheets, including internal stiffening.

The banked damper assembly may be fitted with:

- A demountable fishplate connection (bolted) to allow splitting and installation in areas with limited access. The fishplate is made of a 3 mm thick and 95 mm wide stainless steel plate (beam).
- Split linkage (arrangement for split shaft drive in combination with fishplate connection).
- 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 application/limitation below.

Application/Limitation

Approved for installation in class A steel bulkhead/deck. Other applications are subject to case-by-case approval.

Table 1: Approved fire dampers.

Type	Size	Damper casing details	Thickness of each damper blade	Fire rating	Deck	Bulkhead
CFD-01: Single dampers	Fire dampers of min. size 150 x 150 mm and max. size 1000 x 1000 mm.	300 mm length, 3 mm thick	2 x 1.5 mm	A-0 to A-60	X	X
CFD-01: Banked damper assembly	Up to 3x3 fire dampers, each of size 1000 x 1000 mm, assembled together as described above.	300 mm length, 3 mm thick	2 x 1.5 mm	A-0 to A-60	X	X

Max. size of 3x3 fire damper assembly: 3100 x 3100 mm.

Max. number of blades per single fire damper: 6 pcs.

Max. blade height (top and bottom): 210 mm.

Max. blade height (middle): 152 mm.

The steel deck to be insulated to A-60 class on its stiffened, lower face, and the steel bulkhead to be insulated to A-60 class on its stiffened face. The damper coaming/ducting to be insulated 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 according to the below table, using the same specification of insulation as the protection of the division, and fully insulated for all fire ratings (A-0 to A-60). Insulation to be fastened with welded pins, wired steel mesh and washers.

Table 2: Length of coaming insulation on unexposed side.

Application and fire damper sizes	Insulation length on unexposed coaming/ducting (L_{unexp})
Bulkhead mounted single size 150 x 150 mm	900 mm
Deck mounted single size 150 x 150 mm	450 mm
Bulkhead mounted single size 1000 x 1000 mm	1200 mm
Deck mounted single size 1000 x 1000 mm	900 mm
Bulkhead mounted banked damper assemblies up to 3100 x 3100 mm	1200 mm
Deck mounted banked damper assemblies up to 3100 x 3100 mm	900 mm

For single fire damper sizes greater than 150 mm square and less than 1000 mm square it is acceptable to interpolate the length of insulation required based on the lengths (L_{unexp}) above.

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.

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

Pneumatic or electric actuators that may be used:

- Prisma PI30S4, Prisma PI20S3 or Prisma PP20S3. (*)
- Schischek NOT/EXT-15/59. (*)
- Belimo BF24/230, Belimo AF230 240 AC or Belimo BF230-T, 240 AC. (*)
- Alpha ACL-A60 stainless steel, spring return. (*)
- Matic – Q05 stainless steel, single acting spring return (5 bar minimum mains air supply). (*)
- Flamgard Calidair Manual Reset Mechanism with thermal probe. (*)
- Air Torque type SB AT254 S10, stainless steel. (*)

(*) 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 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 Examination documentation

Test report No. 315797 dated 27 April 2012 from Exova Warringtonfire, Warrington, UK.

Test report No. 319231 dated 6 August 2012 from Exova Warringtonfire, Warrington, UK.

Assessment report No. 317021 issue 4 dated 14 May 2012 from Exova Warringtonfire, Warrington, UK.

Reference testing (actuators Alpha ACL-A60, Matic – Q05 and Flamgard Calidair manual reset type):

Test report No. 195615 dated 25 October 2010, including Supplement No. 1 dated 12 December 2013 from Exova Warringtonfire, Warrington, UK.

Test report No. 195616 dated 25 October 2010, including Supplement No. 1 dated 11 December 2013 from Exova Warringtonfire, Warrington, UK.

Reference testing (actuator Air Torque SB AT254 S10):

Test report No. 346501 dated 5 February 2015 from Exova Warringtonfire, Warrington, UK.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Reference testing (actuators Alpha ACL-A60, Matic – Q05 and Flamgard Calidair manual reset type) according to BS 476 Part 20: 1987.

Reference testing (actuator Air Torque SB AT254 S10) according to BS EN 1366-2: 1999.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, MED Mark of Conformity and USCG approval number if applicable (see first page).