DNV·GL

Certificate No:
MEDB0000527

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Fire dampers

with type designation(s)
Rectangular Fire Dampers, Type HXFD Class A60

Issued to
Changshu Haixin Ship Machinery Manufacture Co., Ltd.
CHANGSHU, Jiangsu, China

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773,**
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 **2024-06-19**.

Issued at **Hamburg** on **2019-06-20**

DNV GL local station:
Shanghai

Approval Engineer:
Roland Priebe

Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
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 European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

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 GL SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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Product description

Rectangular Marine Bulkhead Fire Dampers, Type HXFD

HXFD-RP-1000x1000-00: Multi blade rectangular fire damper, type HXFD-RP-1000x1000-00, clear opening size: 1000mm x 1000mm; Actuation of the fire damper: pneumatic; acc. to drawings in the test report FT19024: Figures 1, 2 and 6 to 9 and FT19023: Figures 1 and 2 to 6.
Length between coaming flange and steel bulkhead is min. 325 mm on exposed side, and min. 650 mm on unexposed side.
Thickness of coaming: 6mm.
Maximum number of blades: 5

Actuation is done manually or automatically by thermal triggering device (bulb) combined with an pneumatic spring return actuator (see below).

Actuator to be used:
- Type SK-105 pneumatic actuator was installed outside the damper, which was produced and provided by Wuxi Shengke Stainless Steel, Pneumatic Automatic Control Valve Factory (*)
(*) 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.

When constructed and insulated as described in the test report the fire damper fulfilled the temperature requirements for Class A-60 Bulkhead / Deck.

HXFD-RM-420x710-00: Multi blade rectangular fire damper, type HXFD-RM-420x710-00, tested in vertical and horizontal position, clear opening size: 420 mm x 710mm; Actuation of the fire damper: manuel; acc. to drawings in the test report FT19024 Figures 1 to 5 and FT19023: Figures 1, 2 and 7 to 9.
Length between coaming flange and steel bulkhead is min. 325 mm on exposed side, and min. 450 mm on unexposed side.
Thickness of coaming: 5mm.
Maximum number of blades: 2

Actuation is done manually or automatically by thermal triggering device (bulb).

Actuator to be used:
- Type DL-CII-4 manual actuator was installed outside the damper, which was provided by Ningbo Dongling Air Conditioning Parts Co., Ltd. (*)
(*) 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.

When constructed and insulated as described in the test report the fire damper fulfilled the temperature requirements for Class A-60 Bulkhead / Deck.

HXFD-RE-240x730-00: Multi blade rectangular fire damper, type HXFD-RE-240x730-00, tested in horizontal position, clear opening size: 240 mm x 730mm; Actuation of the fire damper: electrical; acc. to drawings in the test report FT19023: Figures 1, 2 and 10 to 12.
Length between coaming flange and steel bulkhead is min. 325 mm on exposed side, and min. 450 mm on unexposed side.
Thickness of coaming: 5mm.
Maximum number of blades: 1

Actuation is done manually or automatically by thermal triggering device (bulb) combined with an electric actuator (see below).

Actuator to be used:

- Type Belimo SFU-S2 type electric actuator was installed outside the damper, which was produced and provided by Shanghai Wisdom Ship Science Tech Co.,ltd. (*)
(*) 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.

When constructed and insulated as described in the test report the fire damper fulfilled the temperature requirements for Class A-60 Bulkhead.

Insulation material

The insulation material used on damper body, external surface of coaming/spigot and in the interior of the damper blades is TG type ceramic wool (measured thickness = 20 mm, density = 170 kg/m³) produced by Zhejiang Deqing Pusen New Material Technologiy Co., Ltd., Zhejiang Province.

Actuator: Besides the a.m. actuators each damper is also fitted with automatic closing function set to 70° ± 3° C.

For further details please see under Type Examination documentation.

Application/Limitation

The fire dampers are may approved for installation in A-class steel bulkhead/deck.

Other applications are subject to case-by-case approval.

The fire damper shall be capable of being closed from both sides of the bulkhead and shall be fitted with open/close indicator.

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

Actuators of same brand but with different size as mentioned above may also be used, provided that they have sufficient torque similar installation arrangement and functional properties.

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

Type Examination documentation

Test Report Nos.:
- FT19023, dated on February 26th 2019 and issued by Far East Fire Testing Centre Shanghai, P.R. China.
- FT19024, dated on February 25th 2019 and issued by Far East Fire Testing Centre Shanghai, P.R. China.
-FT19025, dated on February 26th 2019 and issued by Far East Fire Testing Centre Shanghai, P.R. China.

Tests carried out

Tested according to IMO 2010 FTP Code, Annex 1, part 3.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).