DNV·GL

Certificate No:
TAF000015C

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Damper

with type designation(s)
FGD-A0MS-P2, FGD-A0MG-P2

Issued to
Hi Air Korea Co., Ltd.
Gimhae-si, Gyeongsangnam-do, Republic of Korea

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.

Application/Limitations see overleaf.

This certificate is recognized by Transport Canada.

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

Issued at **Høvik** on **2019-03-20**
This Certificate is valid until **2024-03-19**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Krzysztof Kolakowski**

for **DNV GL**

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.

Product description

"FGD-A0MS-P2, FGD-A0MG-P2" are fire dampers with the following specifications:

"FGD-A0MS-P2"
Pneumatic operated rectangular mullion type fire damper with 1.5 mm thick stainless steel blades (double skin) and 2500 mm x 2100 mm x 300 mm (width x height x length) casing with mullion, made of 3 mm stainless steel. Two blades in each row are mounted on the same axle passing through dividing mullion. The fire dampers are fitted with a frangible bulb trigger of type F3 from JOB, Germany. The fire dampers are fixed to 2500 mm x 2100 mm x 600 mm (width x height x length) coamings made of 5 mm thick steel which are welded into the structural core. The actuator is fitted on exposed side.

The fire damper is to be bolted to the steel coaming at a maximum spacing of 150 mm apart and sealed with non-combustible gasket, or fully welded.

"FGD-A0MG-P2"
Pneumatic operated rectangular mullion type fire damper with 1.6 mm thick galvanized steel blades (double skin) and 2500 mm x 2100 mm x 300 mm (width x height x length) casing with mullion, made of 3 mm galvanized steel. Two blades in each row are mounted on the same axle passing through dividing mullion. The fire dampers are fitted with a frangible bulb trigger of type F3 from JOB, Germany. The fire dampers are fixed to 2500 mm x 2100 mm x 600 mm (width x height x length) coamings made of 5 mm thick steel which are welded into the structural core. The actuator is fitted on exposed side.

The fire damper is to be bolted to the steel coaming at a maximum spacing of 150 mm apart and sealed with non-combustible gasket, or fully welded.

For further details, see the documents listed under Type Approval documentation.

Application/Limitation

The fire dampers are approved for installation in A-0 class steel bulkheads and decks. Other applications are subject to case-by-case approval.

Approved sizes:

Type of fire damper	Max. size of fire damper (W x H x L mm)	Max. number of blades	Max. blade size (H x W mm)
FGD-A0MS-P2	2500 x 2100 x 300	20	295 x 1190
FGD-A0MG-P2	2500 x 2100 x 300	20	295 x 1190

The fire dampers are operated with fusible link by actuators of following types:

Pneumatic:
FGD-A6MS-P2:
- SR160 from Valbia, Italy (*)

FGD-A6MG-P2:
- SR160 from Valbia, Italy (*)

(*) 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 equivalent fire technical and functional properties.

The arrangement of the fire damper and necessary insulation of damper frame and ducting in the vicinity of the partition are subject to approval in each case.

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

The fire damper is to be operated automatically and manually according to SOLAS II-2, Reg. 9.7.

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

Type Approval documentation

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

Test reports:

- No. KOMERI-0402-15T1480 dated 15 July 2015 (FGD-A0MG-P2, Bulkhead)
- No. KOMERI-0402-15T1481 dated 15 July 2015 (FGD-A0MG-P2, Deck)
- No. KOMERI-0402-16T0366 dated 2 August 2016 (FGD-A0MS-P2, Bulkhead)
- No. KOMERI-0402-16T0365 dated 2 August 2016 (FGD-A0MS-P2, Deck)

all from Korea Marine Equipment Research Institute, Busan, Republic of Korea.

Drawings:

- No. FGD-A0MG-P2 (8 pages) dated 10 April 2015
- No. FGD-A0MS-P2 (8 pages) dated 21 January 2016

both from Hi Air Korea.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product is to be marked with name of manufacturer, type designation and fire-technical 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 GL confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

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.