DNV·GL

Certificate No:
TAF000001M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Damper

with type designation(s)
PFGD-H1SS-2

Issued to
HI AIR KOREA Co., Ltd.
Gimhae-si Korea, Republic of Korea

is found to comply with
Det Norske Veritas' Offshore Standards

Application :

The damper is approved for use in ducts penetrating bulkheads or decks class H-120.
For applications/limitations, see overleaf.
Size of damper: Max 1200 x 1200 mm.

This Certificate is valid until **2019-07-01**.

Issued at **Høvik** on **2015-07-02**

for **DNV GL**

DNV GL local station: **Gimhae MC & FIS**

Approval Engineer: **Synnøve Bolstad Eri**

Petter Langnes
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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

"PFGD-H1SS-2"
is a pneumatic operated rectangular fire damper. The blades are made of 1.5 mm thick stainless steel (double skin), with insulation of type "cerakwool new bio" of density 96 kg/m³ (manufactured by KCC CORPORATION). Maximum breadth of blades is 255 mm. The fire damper casing is made of 4-10 mm stainless steel, and the length is 275 mm. The damper is fitted with automatic Actuator of type "SR125" (from Valbia) with a thermo bulb trigger of type "F3" (from JOB).

The fire damper is to be bolted to the 5 mm thick coaming with bolts at a maximum spacing of 150 mm apart and sealed with non-combustible gasket, or fully welded. The coaming is welded to the steel bulkhead/deck, and bolted to a 5 mm thick steel duct with bolts at a maximum spacing of 150 mm apart and sealed with non-combustible gasket.

Length of coaming: 550 mm

For installation in Deck:
The fire damper and coaming are insulated on both exposed and unexposed side with two layers of insulation (50 + 38 mm) of same type as mentioned above. The coaming/duct is insulated 2550 mm on the unexposed side and 450 mm on exposed side.

For installation in Bulkhead:
The fire damper and coaming are insulated on both exposed and unexposed side with three layers of insulation. First layer of insulation, 38 mm thick, is of the same type and density as mentioned above. Second layer of insulation, 38 mm thick, is of same type as mentioned above and of density 128 kg/m³. Third layer of insulation, 50 mm thick, is of same type as mentioned above and of density 128 kg/m³. The coaming/duct is insulated 2550 mm on the unexposed side and 450 mm on exposed side.

For further details, see approved drawings listed under Type Approval documentation below.

Application/Limitation

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.

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

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.

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

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

Type Approval documentation

Certification in accordance with Standard for Certification No. 1.2, Type Approval, January 2013.

Test report No. KOMERI-0402-14T2093 dated 13 April 2015 from Korea Marine Equipment Research Institute (KOMERI), Korea. (Deck)

Test report No. KOMERI-0402-14T2090 dated 13 April 2015 from Korea Marine Equipment Research Institute (KOMERI), Korea. (Bulkhead)

Drawing No. PFGD-H1SS-2 (9 pages) dated 20 August 2014 from the manufacturer.

Job Id: **262.1-018443-1**
Certificate No: **TAF000001M**

Tests carried out

Tested according to IMO 2010 FTP Code part 3 and with the HC time-temperature curve specified in ISO 834-3.

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 Standard for certification No. 1.2 Type Approval Item 4.