DNV·GL

Certificate No:
TAF000003Z

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Damper

with type designation(s)
LFD & MFD Dampers

Issued to
Wozair Limited
Gillingham KENT, United Kingdom

is found to comply with
DNV GL offshore standards
DNV GL rules for classification – Ships

Application :

Approved for use in ducts penetrating class A decks and bulkheads.

Limitations and size of dampers, see page 2.

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.

This Certificate is valid until **2018-12-31**.

Issued at **Høvik** on **2015-10-13**

for **DNV GL**

DNV GL local station: **Southampton**

Approval Engineer: **Tessa Biever**

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.

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Product description

"LFD Damper"
composed of single or multi-bladed rectangular fire damper with manual/automatic/pneumatic actuation. Damper blades made from 1.5 mm mild steel and damper casing made from min. 1.5 mm mild steel (*see application/ limitation below).

"MFD Damper"
composed of single or multi-bladed rectangular fire damper with manual/automatic/pneumatic actuation. Damper blades made from 1.2 mm mild steel and damper casing made from min. 2.0 mm mild steel (*see application/ limitation below).

The bulkhead mounted MFD fire damper of maximum size 2100 x 2500 mm (HxW) is fabricated as a 4-sectioned mullion and transom arrangement.

The fire dampers can be manufactured at the following locations:
- Wozair Ltd., Gillingham, UK
- Nam Hoe Metal Industries Pte. Ltd., Singapore
- Mechtametic Holding Systems (M) Sdn. Bhd. Johor, Malaysia
- Wozair (USA) Ltd, Houston, Texas, USA
- SAE-A HVAC IND, Gyeongju, Korea.

For further details see application/limitation below and test reports given under type approval documentation.

Application/Limitation

Approved for use in ventilation ducts penetrating A-class bulkheads/decks. The damper satisfies for 60 min. the requirements to stability and integrity according to Chapter II-2, regulation 3 of the SOLAS Convention.

The arrangement of the fire damper and necessary insulation of damper frame and ducting in the vicinity of the partition is subject to approval in each case. Insulation to be used for all fire ratings, using steel pins, wire mesh and washers.

Size of LFD damper:

	A-class (H x W)	
Size	Deck [mm]	Bulkhead [mm]
Min.	100 x 100	100 x 100
Max.	800 x 800	800 x 800

Size of MFD damper:

	A-class (H x W)	
Size	Deck [mm]	Bulkhead [mm]
Min.	100 x 100	100 x 100
Max.	1000 x 2500 1200 x 1200	2100 x 2500

Pneumatic or electric actuators that may be used:
- Belimo type BF and BLF. (*)
- Powertork PT series and corresponding Alpha products. (*)
- Schischek type EX. (*)

(*) 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 dampers shall be capable of being closed from both sides of the bulkhead/deck.

* 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 and use.

Type Approval documentation

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

Test reports Nos. 122471 dated 15th April 2002, 143263 (A-60 bulkhead) and 143264 (A-60 bulkhead) dated 21 December 2004, 143265 (A-60 deck) and 143453 (A-60 bulkhead) dated 22 December 2004 and 144277 (A-60 deck) dated 14 March 2005, 352434 dated 20 August 2015 from Warrington Fire Research Centre, Warrington, UK.

Tests carried out

Tested (in 2002-2005) according to IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8.
Tested (in 2015) 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)",* Det Norske Veritas confirms that the products listed in this certificate 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 Standard for certification No. 1.2 Type Approval Item 4.