



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **F-20506**

This is to certify that the
Fire Damper

with type designation(s)
FGD Dampers

Manufactured by

Wozair Limited
GILLINGHAM KENT, United Kingdom

is found to comply with
Det Norske Veritas' Offshore Standards
Det Norske Veritas' Rules for Classification of Ships

Application

Approved for use in ventilation ducts in class H bulkheads and decks.

The damper satisfies for 120 minutes the requirements to stability and integrity according to chapter II-2, reg. 3 of the SOLAS Amendments 2000.

This Certificate is valid until **2016-12-31**.

Issued at **Høvik** on **2013-07-04**

DNV local station: **London**

Approval Engineer: **Martin Gjelstad**

for **Det Norske Veritas AS**



Digitally Signed By: Langnes, Petter

Location: DNV Høvik, Norway

Signing Date: 2013-07-04

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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Product description

"FGD Damper"

A single- or multi-bladed fire damper with a spring powered operating system triggered to close automatic by a temperature sensing device. Damper blades made from 1.5 mm mild steel and damper casing made from min. 3 mm mild steel (*see application/ limitation below). Damper size may range from 150 x 150 mm to 1200 x 1200 mm (width x height).

The fire dampers can be manufactured at the following locations:

- Wozair Ltd., Gillingham, UK
- Nam Hoe Metal Industries Pte. Ltd., Singapore
- Matromatic Holding Systems (M) Sdn. Bhd. Johor, Malaysia
- Wozair (USA) Ltd, Houston, Texas, USA
- SAE-A HVAC IND, Gyeongju, Korea.

Application/Limitation

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.

Multiple damper assemblies fitted by means of transoms and/or mullions with a maximum configuration of 2 units high by 3 units wide, with each module having internal dimensions up to 1200 x 1200 mm, may be used. The transoms and mullions are to be welded to the casing perimeter.

In both cases of increased damper size or combined dampers a damper shaft interlock is to be mounted, to ensure the uniform and simultaneous actuation of adjacent damper blades.

*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 reports No. 132889 dated 23rd October 2003 and No. 132886 dated 24th October 2003, assessment report No. 138538 dated 13th April 2004 from Warrington Fire Research Centre, Warrington, UK and drawings No. 870.2092, Rev. 0, dated 25th July 2003 and No. 870.2093, rev. 0, dated 25th July 2003 from manufacturer.

Tests carried out

Tested according to IMO FTPC Part 3 and with the hydrocarbon time-temperature curve specified in ISO 834-3. In compliance with IMO 2010 FTP Code Ch. 8.

Marking of product

The product is to be marked with name of manufacturer, type designation and fire-technical rating.

Periodical Assessments for Retention of the Type Approval Certificate

DNV'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.