

Certificate No:  
**MED-B-9810**  
Item No:  
**A.1/3.22**  
Job Id:  
**344.1-004672-1**

## EC TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2013/52/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL under the authority of the Government of the Kingdom of Norway.

### This is to certify:

**That the Fire dampers**

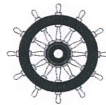
with type designation(s)  
**Marine Fire damper FSD-E60**

Issued to  
**Kyodo-Allied Technology Pte Ltd**  
**Singapore, Singapore**


is found to comply with the requirements in the following Regulations/Standards:  
**Annex A.1, item No. A.1/3.22 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/9 and IMO FTP Code**

Further details of the equipment and conditions for certification are given overleaf.

**Høvik, 2015-03-02**  
for **DNV GL**



This Certificate is valid until  
**2020-01-15**

  
**Marianne Strand Valderhaug**  
Head of Department

Notified Body No.: **0575**

DNV GL local office:  
**Singapore**

  
**Rolf Emilsen**  
Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

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## Product description

"Marine Fire Damper FSD-E60"

spring/actuator operated single/multiblade fire dampers with dimensions and casing/blade thickness as specified below:

The fire dampers, actuators and coaming are insulated with 2 x 20 mm TG type ceramic wool with density 170 kg/m<sup>3</sup> in a length of 600 mm on unexposed side and 450 mm on exposed side.

The fire damper flange is bolted with M12 bolts to the coaming, and protected with an additional layer of 10 mm ceramic wool. The coaming is seal welded to the bulkhead/deck.

The fire dampers are automatically operated with fusible link (72 °C) by actuators of the following types:

- Belimo BF230-T, BF230 and BF 24-T , BF 24, BLF 24-T, BLF 230-T, BLF 24, BLF 230
- Schischek ExMax, InMax and RedMax 50 BF3, 30 BF3, 15BF 1 nd 5-10 BF3
- AirTorque AT 101 DA/SR F04, AT501 DA/SR F04, AT 251 SR/DA F05-F07, AT 201 DA/SR and AT 301 DA/SR
- Electrical actuator types ADS-B101-L/R and ADM B102-L /R.

The fire dampers may also be spring loaded with fusible link or manually operated by handle.

For further details, see the drawings given in the test reports.

## Application/Limitation

The fire damper is approved for installation in steel bulkheads and deck as shown below.

Min./Max Size Single (mm)	Length (mm)	Casing thickness	Blades thickness	Class A bulkhead	Class A deck
150 x 150	300	3.0 mm	2 x 1.5 mm + insulation	A-60	A-60
1600 x 1600	300	6.0 mm	2 x 1.5 mm + insulation	A-60	N/A
750 x 750 x 4 (1600 x 1600)	300	6.0 mm	2 x 1.5 mm + insulation	N/A	A-60

Fire rating of the dampers is given in the above table. The insulation (ref. above ) shall not to be removed if the fire damper is to be used in divisions with lower fire ratings. Other fire rating arrangement of the dampers with necessary insulation of damper casing and ducting in the vicinity of the partition is subject to approval in each case.

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

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

## Type Examination documentation

Test reports No. FT09229 and FT09230, both dated 14 October and 13 October 2009 from Far East Fire Testing Centre, Shanghai, China.

Test reports No. FT00003, FT00004 and FT00005 dated 2 March 2000, from Far East Fire Testing Centre, Shanghai, China. (Electrical actuators)

## Tests carried out

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)) and in compliance with IMO 2010 FTP Code Ch.8..

## Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, MED Mark of Conformity and USCG approval number if applicable (see page 3).



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### Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

- Module D: The quality system for production and testing shall be approved by the Notified Body.
- Module E: The quality system for inspection and testing shall be approved by the Notified Body.
- Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a of Certificate Conformity.

### USCG Approval

An 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 United States of America and the EEA EFTA states on the mutual recognition of certificates of conformity for marine equipment" signed 17 October 2005.

