DNV·GL

Certificate No:
MEDB00006DW

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Devices to prevent the passage of flame into the cargo tanks in tankers

with type designation(s)
SFA and SGF

Issued to
Se-Won Ind. Co., Ltd.
Haman-gun, Gyeongsangnam-do, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397,**
item No. MED/3.12. SOLAS 74 as amended, Regulation II-2/4 & II-2/16, IMO Res.MSC.98(73)-(FSS Code) 15

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

This Certificate is valid until **2025-03-29**.
Issued at **Høvik** on **2020-03-30**

DNV GL local station:
Gimhae Station

Approval Engineer:
Adel Samiei

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

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

Product description

Flame screen unit SFA:

Design: Flanged with circular, double wire mesh as flame screen.
Material of body: SS400/SUS316. Screen is made of SUS 316 and cover is made of SUS 304/SUS316.

GAS freeing cover SGF:

Design: Flanged with circular, double wire mesh as flame screen.
Material of Body & Cover: FCD450 according to G5502. Screen is made of SUS316.

Devices covered by this certificate are designed and tested according to:

- IMO MSC/Cric. 677 (as amended by MSC.1/Circ. 1324) Revised Standards for The Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers
- ISO 16852:2016: Flame arresters - Performance requirements, test methods and limits for use

Application/Limitation

The products covered by this certificate may be used on tankers carrying cargo with different apparatus group as below table:

Type	Sizes	Apparatus Group	MSEG
SFA	300A, 350A, 400A, 450A, 500A	Group IIB	MSEG≥0.65
	550A, 600A, 650A, 700A, 750A, 800A	Group IIA	MSEG≥0.90
SGF	80A, 100A, 125A, 150A, 200A	Group IIB	MSEG≥0.65
	250A, 300A, 350A	Group IIA	MSEG≥0.90

Products covered by this certificate shall only be used on tankers protected by inert gas system (Reference is made to IMO MSC/Circ.677 [1.2.2]).

A copy of the instruction manual shall be kept on board which shall include:

- installation instructions;
- operating instructions;
- maintenance requirements, including cleaning;
- copy of the laboratory report;
- flow test data, including flow rates under both positive and negative pressures, operating sensitivity, flow resistance and velocity, should be provided.

Type Examination documentation

Tests carried out

Hydraulic pressure test, Corrosion test, Dimensional check test and Flash-back test

Marking of product

For traceability to this Type Examination each device is to be marked with:

- Manufacturers name or trademark
- Name and address of the manufacturer
- Type designation
- Size of the outlet
- Serial number and the year of construction
- Explosion group