DNV·GL

Certificate No:
TAP00000HA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gas Freeing Cover

with type designation(s)
KSGFH

Issued to
Tanktech Co., Ltd.
Busan, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships Pt.5 Ch.5 Oil tankers
DNV GL rules for classification – Ships Pt.5 Ch.6 Chemical tankers

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Sizes: DN80/100/125/150/200/250/300 mm

This Certificate is valid until **2021-09-19**.

Issued at **Høvik** on **2016-09-20**

for **DNV GL**

DNV GL local station: **Pusan**

Approval Engineer: **Mehdi Rowshan**

Marianne Spæren Marveng
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

Gas freeing cover unit made of a Cylindrical flame screen mounted on a flanged pipe (JIS 5K flange) and protected with weather hood.
This device is designed and tested in accordance with:

1. IMO MSC/Circ. 677 as ammended by IMO MSC/Circ.1009 & IMO MSC/Cric.1324
2. EN ISO 16852:2010 - Flame arresters - Performance requirements, test methods and limits for use.

Material:

ITEM NO.	COMPONENTS	MATERIAL		
		SPEC 1.	SPEC 2.	SPEC 3.
1	BODY	FCD 450	SCS 13A	SCS 14A
2	COVER	FCD 450	SCS 13A	SCS 14A
3	NET-RING	SUS 316	SUS 316	SUS 316
4	FLAME SCREEN	SUS 316L	SUS 316L	SUS 316L
5	O-RING	NBR	VITON	VITON

Application/Limitation

The Gas freeing cover may be used on tanks for crude oil, petroleum products and flammable chemicals with Maximum Experimental Safe Gap (MESG) of 0.9 or above (group IIA) and (MESG) of 0.65 or above (group IIB) as per column i, of the IBC Code, chapter 17.

A copy of the instruction manual shall be kept on board. It shall at least contain the following information:

- Installation instructions
- Operating instructions
- Maintenance requirements including cleaning
- A copy of the laboratory report
- Flow test data, incl. flow rates under both positive and negative pressures, operating pressures, operating sensitivity, flow resistance and velocity.

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]).

DNV GL product certificate is not required with reference to DNV GL Ship rules Part 5 Chapter 5 Section 1, Table 7 and DNV GL ship rules Pt.5 ch.6 Sec.1 Table 6.

Type Approval documentation

- Drawing No. GFH03000-S Rev.0 dated 2002-05-06
- Drawing No. GFH04000-S Rev.3 dated 2002-12-10
- Drawing No. GFH05000-S Rev.1 dated 2002-05-02
- Drawing No. GFH06000-S Rev.0 dated 2002-05-06
- Drawing No. GFH08000-S Rev.0 dated 2002-05-06
- Drawing No. GFH10000-S Rev.0 dated 2002-05-06
- Drawing No. GFH12000-S Rev.0 dated 2002-05-06
- Drawing No. GFH03003-SB Rev.1 dated 21.06.2013
- Drawing No. GFH0400301-SB Rev.4 dated 29.04.2013
- Drawing No. GFH05003-SB Rev.2 dated 21.06.2013
- Drawing No. GFH06003-SB Rev.1 dated 21.06.2013
- Drawing No. GFH08003-SB Rev.1 dated 21.06.2013
- Drawing No. GFH10003-SB Rev.1 dated 21.06.2013
- Drawing No. GFH12003-SB Rev.1 dated 21.06.2013
- KIMM test report 2003071320-3 dated March 27, 2003
- KIMM test report 2003071320-8 dated August 22, 2003
- KIMM test report KIMM-13-0466 dated November 15, 2013
- KIMM test report no. KIMM-16-0194 dated 2016-03-09

Tests carried out

Corrosion, Flash Back, Flow Condition and Hydraulic Pressure Test.

Marking of product

For traceability to this type approval each product is to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Additional marking acc. IMO MSC/Circ. 677 sec. 4.1

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey – every second year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with.