DNV·GL

Certificate No:
TAP00001KC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
533HF-FS, 533HF-FSa

Issued to
Changzhou Huifeng Marine Accessory Manufacture Co., Ltd.
Changzhou, Jiangsu, China

is found to comply with
DNV GL class programme DNVGL-CP-0187 – Type approval – Air vent heads
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems

Application :

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

Type:	**Sizes:**
533HF-FS	**DN50 - DN250**
533HF-FSa	**DN50 - DN250**

Issued at **Hamburg** on **2019-06-11**
This Certificate is valid until **2024-06-10**.
DNV GL local station: **Nanjing**

for **DNV GL**

Approval Engineer: **Andrii Pishchanskyi**

Olaf Drews
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

The air vent head of types 533HF-FS and 533HF-Fsa consist of a valve body with soft sealing, metallic float (ball shape) made of stainless steel wire mesh for application on water tanks and tanks containing flammable fluids.

The material of the main components is as follows:

Component \ Type	Type 533HF-FS	Type 533HF-FSa
Body	Q235B (non-alloy steel)	QT400-15 (Nodular cast iron)
Seal gasket	NBR	NBR
Float	022Cr25Ni7Mo4N (Stainless steel)	022Cr25Ni7Mo4N (Stainless steel)
Protection screen (net)	022Cr25Ni7Mo4N (Stainless steel)	022Cr25Ni7Mo4N (Stainless steel)
Side cover	Q235B (non-alloy steel)	Q235B (non-alloy steel)

Application/Limitation

The air vent heads are type approved for application on air/overflow pipes of tanks as required by DNVGL Rules Pt.4 Ch.6 Sec. 4 - 11 "Air, overflow and sounding pipes".

The air vent heads are not approved as devices to prevent the passage of flame into cargo tanks of tankers and which carry petroleum product with a flashpoint <60°C (closed cup). Moreover, it shall not be installed on oil tanks containing oil with flash point <60°C.

On fuel oil service tanks, settling tanks and any other oil tanks with media temperatures above 60°C, the air vent heads are to be fitted with flame screens as specified in the assembly drawings.

Air vent heads on ballast water tanks are not approved for permanent discharge/exchange of ballast water flowing through the closing device of the air pipe heads.

Manufacturer's instructions are to be observed for selection and installation of the air vent heads.

Flow characteristics

Size \ Type	Flowrate at 0.25 bar pressure drop [m³/h]	
	533HF-FS	533HF-FSa
DN 50	18	20
DN 65	39	40
DN 80	58	58
DN 100	90	99
DN 125	144	135
DN 150	204	213
DN 200	418	400
DN 250	612	598

Discharge / reverse flow

To prevent blocking of the air vent head by a float during tank discharge the following maximum allowable air velocity shall be observed.

Size \ Type	80% of blocking velocity [m/s]	
	533HF-FS	**533HF-FSa**
DN 50	12.7	30.0
DN 65	21.5	22.2
DN 80	15.7	20.3
DN 100	22.7	15.3
DN 125	16.3	20.6
DN 150	15.2	16.2
DN 200	14.4	16.1
DN 250	10.9	17.2

Type Approval documentation

Tests carried out

1. Impact test on metallic floats;
2. Shape and wall thickness for ball floats;
3. Flow characteristic test;
4. Tightness test;
5. Discharge / reverse flow test.

Marking of product

For traceability to this type approval certificate each air pipe head is to be provided with a name plate with at least product type, size and manufacturer's name. For example refer to drawing No.533HF-FS(O)-MP(W) dated 2019-03-13.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNVGL-CP-0338, Sec.4.