

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Vent Head for Tank**with type designation(s)
HJQE(FS)

Issued to

Taixing Haixing Marine Machinery Co., Ltd.
TAIXING, JIANGSU, China

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**DNV GL class programme DNVGL-CP-0187 – Type approval – Air vent heads****DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018****Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.****Sizes: DN50 to 700**Issued at **Høvik** on **2019-08-13**This Certificate is valid until **2024-06-30**.for **DNV GL**DNV GL local station: **Jiangyin**Approval Engineer: **Adel Samiei**

Zeinab Sharifi
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.



Job Id: **262.1-018580-2**
Certificate No: **TAP00001WF**

Product description

Air vent heads with non-metallic float ball for sizes DN50 to DN450 and metallic float for DN500 to DN700

Materials:

Body & side cover: Q235B
Ball float: PE for sizes DN50 to DN450 ; SS31803/SAF2205 for DN500 to DN700
Protection Screen: SS31803/SAF2205
Seal: Neoprene
Bolt: SS31803/SAF2205

Application/Limitation

The certificate covers design assessment of air vent heads. Installation and other additional requirements related to installation are out of scope of this certificate.

The air vent heads are not considered as devices to prevent the passage of flame into cargo tanks. They shall not be installed on oil tanks (flash point < 60°C).

Material for body and cover shall be hot dip galvanized. The inner surface of air pipe heads should be painted with Epoxy.

Average blocking velocity resulted from Discharge/Reverse test are as follows:

Size	80% of blocking velocity (m/s)	Dynamic coefficient (ζ) resulted from flow characteristic tests at $\Delta P = 250$ mbar
50	5.77	1.64
65	4.15	2.58
80	4.95	3.05
100	6.23	3.88
125	14.86	4.77
150	13.78	3.08
200	9.20	3.11
250	4.60	4.08
300	4.57	5.18
350	4.74	5.21
400	5.54	5.78
450	11.04	6.56
500	13.40	6.94
550	14.57	8.53
600	13.47	9.21
650	13.48	9.51
700	11.69	8.53

Type Approval documentation

Tests carried out

Discharge/reverse test, Flow characteristic test, Tightness test, impact test on metallic float, impact and compression loading test on PE float

Marking of product

For traceability to this type approval the products are to be marked:

- Manufacturer's name or trade mark
- Type designation
- Size

Periodical assessment



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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 approval are complied with. Reference is made to DNVGL-CP-0338.