DNV·GL

Certificate No:
TAP00001DN

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
HX-L

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

is found to comply with
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0187 – Type approval – Air vent heads

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.
Sizes: DN50/65/80/100/125/150/200/250

Issued at **Høvik** on **2018-07-31**
This Certificate is valid until **2023-06-30**.
DNV GL local station: **Jiangyin**

for **DNV GL**

Approval Engineer: **Maheshraja Venkatesan**

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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Job Id: **262.1-028469-1**
Certificate No: **TAP00001DN**

Product description
Air Vent Head with non-metallic ball float.

Material of construction:-

Retainer ring, cover & body	:	ZL101 with material condition T6 according to GB/T1173
Screen	:	X2CrNiMoN22-5-3 (S31803 or SAF 2205)
Bolts	:	SUS316L coated with penguard primer (to be coated with Juton Jotacote Universal paint) or X2CrNiMoN22-5-3 (S31803)
Seat	:	Neoprene
Ball float	:	Poly Ethylene (PE)

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).

Surface preparation of bolts before coating shall be done in accordance with NORSOK standard M-501 section 6.

Maximal air velocities (80% of air flow and air velocity at blocking condition) resulted from vacuum test reports and dynamic coefficient factors resulted from flow charcteristics test are as follows:

Size	Result of Discharge test			Result of flow test	
	Air flow rate at block condition (m3/h)	Air velocity at block condition V_R(m/S)	Maximal Air velocity (80% V_R)	ΔP (kPa)	Dynamic coefficient
DN50	25	3.54	2.83	26.969	2.580
DN65	41	3.43	2.75	28.916	2.927
DN80	84	4.64	3.72	25.628	3.049
DN100	221	7.82	6.26	28.050	4.775
DN125	397	8.99	7.19	27.684	4.628
DN150	750	11.80	9.44	28.719	4.270
DN200	1101 (No blocking)	4.33	3.46	23.122	3.205
DN250	1220	4.80	3.84	15.128	4.892

The air pipe-closing device may not be used in lines from cargo tanks on tankers or chemical carriers.

Product certificate is not required.

Type Approval documentation

Tests carried out
Hydraulic performance (Determine of flow characteristics) – Tightness test – Reverse flow Test – Compression load test – Impact test

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
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.