

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Vent Head for Tank**with type designation(s)
CB20037-2012(CB/T3594-94)

Issued to

Jiangsu Xinzhou Ship Fitting Co., Ltd.
JINGJIANG, 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**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, 300 & 350**Issued at **Høvik** on **2019-01-07**This Certificate is valid until **2023-06-30**.for **DNV GL**DNV GL local station: **Nanjing**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.



Product description

Air vent heads with disc float.

Material of construction:-

Body : QT400-15 from GB/T1348
Side cover : Q235-A from GB/T700
Disc float : 0Cr26Ni5Mo2 (with minimum Molybdenum content equal to 2%) from GB/T3280
Screen : 0Cr26Ni5Mo2 (with minimum Molybdenum content equal to 2%) from GB/T3280
Seal : NBR

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 approved as devices to prevent the passage of flame into cargo tanks of tankers and combination carriers carrying crude oil and petroleum products having a flashpoint of 60°C (closed cup) or less and shall not be installed on oil tanks containing oil with flash point <60°C. Reference is made to DNV GL Rules Pt.4, Ch.6 Sec.4 [11].

The side cover shall be hot dip galvanized and the inner chamber should be coated with epoxy aluminium paint. The zinc layer shall be 70 to 100 microns.

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 characteristics test are as follows:

Size	Result of Discharge test			Result of flow test	
	Flow rate at blocking condition (m ³ /h)	Air velocity at block condition V_R (m/s)	Maximal Air velocity (80% V_R)	ΔP (kPa)	Dynamic coefficient
DN50	134.9	19.10	15.28	92.57	9.460
DN65	206.4	17.29	13.83	93.13	10.300
DN80	415.0	22.94	18.35	30.19	5.710
DN100	555.0	19.64	15.71	14.65	6.050
DN125	754.1	17.08	13.66	12.33	7.140
DN150	1491	23.45	18.76	36.02	4.780
DN200	1757	15.54	12.43	6.292	9.500
DN250	3062	17.34	13.87	10.71	6.390
DN300	4573	17.98	14.38	3.406	4.962
DN350	5222	15.08	12.06	6.011	5.600

No product certificate is required.

Type Approval documentation

Job Id: **262.1-010019-3**
Certificate No: **TAP00001EC**

Tests carried out

Tightness test, impact test, flow characteristic, discharge/reverse flow test.

Marking of product

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

- 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.