DNV·GL

Certificate No:
TAP000010K

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
Disc Type-A, Disc Type-B

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

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 all vessels classed by DNV GL.

Type:	Sizes:
Disc Type-A	50A, 65A, 80A, 100A, 125A, 150A, 200A, 250A, 300A, 350A, 400A, 450A, 500A
Disc Type-B	50A, 65A, 80A, 100A, 125A, 150A, 200A, 250A, 300A, 350A

Issued at **Høvik** on **2017-07-18**
This Certificate is valid until **2022-07-17**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Adel Samiei**

for **DNV GL**

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: **262.1-025542-1**
Certificate No: **TAP000010K**

Product description

Two types of air vent head with metallic floats (Disc Type A & B)

Material Body(*): SS400 (JIS G3101)– FCD (JIS G5502)– SC (JIS G5101)/SCPL (JIS G5152)
Flame Screen: Duplex Stainless Steel 2205 (UNS31803)
Float: Duplex Stainless Steel 2205 (UNS31803)
(*) Shall be protected by hot dip galvanizing. The zinc layer shall be 70 to 100 microns

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).

Product certificate is not required for air vent heads installed in ship class vessels.

Size	80% of blocking velocities resulted from discharge/reverse flow test on air vent heads in m/s:				Dynamic coefficient as per DNVGL-CP-0187 Sec.3 [5.3]:			
	Disc A		Disc B		Disc A		Disc B	
	6 mesh	30 mesh	6 mesh	30 mesh	6 mesh	30 mesh	6 mesh	30 mesh
50A	31,84	31,20	31,28	30,96	1,04	1,37	0,85	1,08
65A	37,44	37,36	37,68	37,76	1,55	1,64	1,55	1,79
80A	36,40	36,80	36,80	39,96	2,15	2,31	2,05	2,56
100A	41,12	40,72	40,80	41,52	2,66	3,12	3,12	3,71
125A	37,20	37,76	37,52	39,96	3,41	3,83	2,76	3,06
150A	39,04	39,68	39,28	41,52	4,85	5,65	3,16	3,41
200A	39,76	40,16	40,16	39,96	4,53	4,95	3,35	3,67
250A	40,24	40,80	40,80	40,40	4,00	4,12	4,12	4,25
300A	41,04	41,52	41,68	40,72	4,03	4,07	2,82	3,70
350A	40,40	40,80	42,72	40,72	3,34	3,45	3,45	3,57
400A	41,60	41,84	-	-	4,23	4,48	-	-
450A	42,40	43,20	-	-	4,04	4,17	-	-
500A	42,88	43,32	-	-	4,31	4,94	-	-

Type Approval documentation

Tests carried out

Flow Characteristics test, leakage test, discharge/reverse flow test, float 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 every second year and before the expiry date of this certificate. The scope of the periodical assessment survey, is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.