DNV·GL

Certificate No:
TAP00001VA

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
QV 34, QV 35

Issued to
Qingdao Huanghai Marine Valve Co., Ltd.
Qingdao, China

is found to comply with
DNV GL class programme DNVGL-CP-0187 – Type approval – Air vent heads
Det Norske Veritas' Rules for Classification of 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:**
QV 34	**DN 50 - DN 300**
QV 35	**DN 50 - DN 250**

Issued at **Hamburg** on **2019-07-16**
This Certificate is valid until **2024-07-15**.
DNV GL local station: **Qingdao**

Approval Engineer: **Andrii Pishchanskyi**

for **DNV GL**

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 QV 34 and QV 35 consist of a valve body with soft sealing, metallic float (disk shape for type QV 34 and ball shape for type QV 35) 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:

Part \ Model	**QV 34**	**QV 35**
Body	QT400-15 (cast iron)	QT400-15 (cast iron)
Jack bolt	QAl9-2 (copper alloy)	N/A
Float	00Cr24Ni6Mo3N (stainless steel)	00Cr24Ni6Mo3N (stainless steel)
Side cover	Q235A	Q235A
Cover	QT400-15 (cast iron)	QT400-15 (cast iron)
Seal seat	HN 8433 (NBR)	HN 8433 (NBR)
Protect net	Q235A (carbon steel) and 00Cr24Ni6Mo3N (stainless steel)	Q235A (carbon steel) and 00Cr24Ni6Mo3N (stainless 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.

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]**	
	QV 34	**QV 35**
DN 50	16	32
DN 65	24	37
DN 80	45	46
DN 100	90	80
DN 125	128	152
DN 150	180	220
DN 200	316	348
DN 250	427	530
DN 300	530	N/A

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]	
	QV 34	QV 35
DN 50	45.2	50.9
DN 65	23.7	37.5
DN 80	14.6	30.6
DN 100	17.5	31.9
DN 125	17.4	33.1
DN 150	22.9	26.8
DN 200	18.6	30.2
DN 250	13.6	14.8
DN 300	11.7	N/A

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:

Marking content	Example
Type	QV34
Nominal diameter	DN 300
Manufacturer	Qingdao Huanghai Marine Valves Co. Ltd.
Production date	2019-07

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.