

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vent Head for Tank

with type designation(s)
R-series

Issued to

Rotmak San. ve Tic. Ltd. Sti
Kocaeli, Turkey

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition July 2015
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.

Sizes: DN50,65,80,100,125,150,200

Issued at **Høvik** on **2017-11-14**

This Certificate is valid until **2021-06-30**.

DNV GL local station: **Istanbul**

for **DNV GL**

Approval Engineer: **Adel Samiei**

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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 HD Polyethylene ball with a 9 MESH flame screen. Material of body, cover, seat and flame screen holder is GG25 - 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.

Results of discharge test and flow test on air vent heads with wire mesh:

Size	80% of flow velocity before blockage	Dynamic coefficient at $\Delta P = 50$ mbar
DN50	6,0480 m/s	1,1755
DN65	6,8584 m/s	0,8113
DN80	8,6752 m/s	0,2702
DN100	9,1440 m/s	0,3368
DN125	11,2000 m/s	0,1711
DN150	15,5056 m/s	0,1664
DN200	18,0008 m/s	0,1739

Type Approval documentation

Tests carried out

Flow Characteristics test, leakage test, discharge/reverse flow test, compression test of float, float impact

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.