DNV·GL

Certificate No:
TAP00001AG

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure-Vacuum Relief Valve

with type designation(s)
WIN2000HIASPV

Issued to
Winteb B.V.
Winschoten, Netherlands

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 January 2018
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.
Design: Spring loaded pressure vaccum valve
Sizes: DN50,65,100,125,150,200,250,300,350

Issued at **Høvik** on **2018-04-19**
This Certificate is valid until **2023-04-18**.
DNV GL local station: **Rotterdam, Offshore & Newbuilding**

for **DNV GL**

Approval Engineer: **Adel Samiei**

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: **262.1-025102-1**
Certificate No: **TAP00001AG**

Product description
Pressure vacuum valves with a non-metallic float (PE) and Aluminium (AlMg7Si according to DIN1725) housings, NBR gasket

Application/Limitation
This certificate covers the design assessment of the pressure vacuum valve. Installation and other additional requirements related to installation are out of scope of this certificate.

The products covered by this certificate fulfils the functionality requirements of air vent heads as described in DNVGL-CP-0187. They may be installed on vessels in lieu of air vent heads (e.g. inerted or not inerted ballast water tanks).

Pressure vacuum valve opening pressures: Over pressure: 0.07 to 0.2 bar (Tolerance:±0.01 bar) (*)
Vacuum: 0.03 to 0.07 bar (Tolerance:±0.01 bar)

(*) Intermediate over pressure settings are accepted; if a class surveyed pressure test is available.

Products covered by this certificate is not intended to prevent the passage of flame and shall not be used on tanks containing fluids with a flashpoint below 60 °C.

Products covered by this certificate are watertight up to 4 bar, when submerged in water..

80% of maximum blocking velocity (resulted from Discharge/reverse test):

Size	DN50	DN65	DN100	DN125	DN150	DN200	DN250	DN300	DN350
80% of velocity (m/s)	55.28	35.28	29.44	23.28	17.84	14.40	15.28	21.36	20.80

Flowe diagrams shall be in accordance with test Synthesis Report No. WINTEB 1702 dated 2017-12-16.

A product certificate is not required for installation on DNV GL classed vessels.

Type Approval documentation

Tests carried out
Flow test, tightness test according to DNVGL-CP-0187, vacuum test, overpressure test, Discharge test, compression loading and impact test on non-metallic float

Marking of product
Each device shall be permanently marked indicating the following:
- manufacturer’s name or trademark;
- manufacturer’s designation;
- size;
- set pressure (both over pressure and vacuum conditions);

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.