



MARINE DIVISION

Certificate number: 06653/C0 BV

File number: ACM 167/0701/004

Product code: 2237H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

JOHN GJERDE A/S
GJERDSVIKA - NORWAY

for the type of product

AUTOMATIC OPEN TANK VENTING SYSTEMS

Air Vent Heads type AERO 1.01 to 1.06

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units
- IACS P3 (1991) Rev. 2 - Mar 2004

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 16 Dec 2014

For BUREAU VERITAS,

At BV OSLO, on 16 Dec 2009,

Rune Marstein

Rune Marstein



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Air Vent Heads type AERO 1.01 to 1.06

1.1 Design*

- Aero 1.01 Tank vent check valve (standard)
- Aero 1.02 Tank vent check valve with overflow
- Aero 1.03 Tank vent check valve with closing device
- Aero 1.04 Tank vent check valve with sounding cap
- Aero 1.05 Tank vent check valve with elbow
- Aero 1.06 Tank vent check valve (inverted)

* with and without flame screens depending on applications

1.2 Technical Data

Size	Wall thickness body parts (mm)	Total height (mm)	Total height (mm)	Total height (mm)	Float diameter * (mm)
		<i>Aero 1.01; 1.02; 1.05; 1.06</i>	<i>Aero 1.03</i>	<i>Aero 1.04</i>	
DN 50	6	260	347	411	81
DN 65	6	260	347	411	81
DN 80	6	310	426	478	113
DN 100	6	310	426	478	113
DN 125	6	335	459	485	138
DN 150	6	448	579	560	187
DN 200	6	517	686	600	265
DN 250	6	660	874	793	300
DN 300	6	731	945	834	430

* The maximum allowable tolerances for wall thickness of floats are not to exceed $\pm 10\%$ of thickness.

- Flange rating as per user's requirements

1.3 Material specification

Body, top cover	Hot galv. carbon steel St37 or 316L Stainless steel
Seal	Neoprene
Cover	Hot galv. carbon steel St37 or 316L Stainless steel
Closing device	316L Stainless steel
Float	PE disc, ABS coated
Guide pin	316 Stainless steel

- For hot dip galvanised, the thickness is to be 70 to 100 microns
- Aluminium bearing epoxy is provided at areas susceptible to erosion

2. DOCUMENTS AND DRAWINGS

- Main drawing N° A0S000001
- Drawings N° A1S000001(1995), N° A2S000001(2008), N° A3S000001(2008), N° A4S000001(2008), N° A5S000001(2008) and N° A6S000001(2008).

3. TEST REPORTS

- 3.1 The tightness of the closing devices was tested in normal and in inclined position of 40°. Flow test reports John Gjerde AS for valve type Aero 1.1 and Aero 1.2 with and without flame screens representing all Aero valves type.
- 3.2 Test of PE/ABS float acc. to type test report N° 5550/94074 from MOREFORSKING Alesund.

4. APPLICATION / LIMITATION

- 4.1 May be used as automatic closing devices on air and overflow pipes from tanks which terminate above the open deck according to requirements stated in Part C, Chapter 1, Sec 10, § 9 of Bureau Veritas Rules.
- 4.2 These air pipes are not to be used for cargo tanks of tankers.
- 4.3 The height of air pipes above deck is to be in accordance with Bureau Veritas Rules.
- 4.4 As per Rule requirements and the manufacturer's instructions .
- 4.5 The additional strength requirements to resist green sea forces shall be considered for ships having to comply with Bureau Veritas Rules Pt C, Ch 1, Sec 10 [9.1.9].
- 4.6 A general examination of each air pipe head will be carried out by the Society's Surveyor during the ship survey.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the approved type described in this certificate and Requirements stated on the front page of this certificate.

5.2 Production sites are to be recognized by Bureau Veritas as per NR 320 for HBV products. To this end, the manufacturer has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 The manufacturer has declared to Bureau Veritas that the products detailed in this certificate are manufactured at Saldus Welding in Saldus, Latvia.

5.4 Bureau Veritas certificate is not required for the product to be fitted on board units to be classed with Bureau Veritas.

6. MARKING OF PRODUCT

Air pipe heads shall be marked with at least:

- Manufacturer's name or logo
- Product name and type
- Size

7. OTHERS

7.1 This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the air pipe heads and of the conditions of this approval.

7.2 This certificate supersedes the Type Approval Certificate N° 06653/B0 BV issued on 05/04/2002 by the Society.

*** END OF CERTIFICATE ***

