



Marine & Offshore
Division

Certificate number: 42241/A0 BV

File number: ACM 167/2303/05

Product code: 2236H

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

WINTEB B.V.

WINSCHOTEN - NETHERLANDS

for the type of product

OPEN TYPE TANK VENTING SYSTEMS

WIN 2000 and WIN 2000 HIAS with closing device

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- IACS UR P3 (Rev. 3 Nov 2012)

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: 13 Oct 2020

For BUREAU VERITAS,

At BV GRONINGEN, on 13 Oct 2015,

John Mondt



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 & Offshore 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 Pipe Heads - Type WIN 2000 with manual operated closing device

1.1 Design Specifications

WIN 2000 Type 1

Size (DN)	50	65	80	100	125	150	175	200	250	300	350	400	450
Wall Thickness (mm)	6	6	6	7.5	7.5	7.5	7.5	7.5	8.5	10	10	10	10
80% of the max. air flow velocity (m/s)	8	7.6	8	6.4	7.6	8	6.8	8	7.6	12	15.2	16.4	12.4

WIN 2000 Type 1-B

Size (DN)	50	65	80	100	125
Wall Thickness (mm)	6	6	6	7.5	7.5
80% of the max. air flow velocity (m/s)	7.2	7.6	8.4	5.6	8.6

WIN 2000 Type HIAS (High Inlet Air Speed)

Size (DN)	50	65	80	100	125	150	175	200	250	300	350	400	450	500
Wall Thickness (mm)	6	6	6	7.5	7.5	7.5	7.5	7.5	8.5	10	10	10	10	10
80% of the max. air flow velocity (m/s)	15.8	15	32.7	50.7	48	34.9	32.8	22.4	12.5	32.9	28.8	22	27	24.5

- Ball Diameter (mm): 60, 75, 90, 105, 130, 155, 200, 240, 250, 325, 360, 400, 480 & 530

The Balls are covered by GL Type Approval Certificate n° 83 852-96HH valid until 22/05/2016

- Flange connections according to international standards

1.2 Material specification

Casing / Handwheel / Cover / Closing device	G-AlMg3Si, G-AlMg5Si, GG-25, GGG-40, G-CuAl10Ni, CuNi10Fe1Mn, G-CuSn10Zn, G-CuZn33Pb, G-AlSi7Mg
Ball	PE Polyethylene
O-rings	NBR Nitrile Rubber

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

2.1 Manufacturer's brochure as submitted on 17/06/2015

2.2 Drawings:

- N° WIN150-01 Rev.P for WIN 2000 General Drawing

- N° WIN2000HEATED-01 Rev.J dated 22/12/2010 for WIN 2000 Heated General Drawing

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

- Tightness test and flow characteristics test report for WIN 2000 type 1 / 1B N° WINTeB 2005/1 dated 31/05/2005 & N° WINTeB 2010/1 dated 07/06/2010

- Flow characteristics test report for WIN 2000 type HIAS N° Winteb 4145336 dated 12/05/2014

- Reverse flow test report for WIN 2000 type 1 / 1B performed at Dresden University dated 03/2011

- Reverse flow test report for WIN 2000 type HIAS performed at Dresden University dated 04/2014

- Fire resistance test dated 31/03/2011 at 1100°C during 1 hour

4. APPLICATION / LIMITATION

4.1 WIN 2000 and WIN 2000 HIAS with closing device mounted on top of steel pipes of minimum required thickness may be used as ventilator openings of dry compartments.

4.2 Regarding SOLAS II-2, Reg. 5.2.1.1 main inlets and outlets of all ventilation system shall be capable of being closed from outside the spaces being ventilated.

4.3 Not to be used for liquid tanks.

4.4 The air pipe head characteristic curves as stated in the test reports are to be taken into consideration.

4.5 The height of vent pipes above deck is to be in accordance with the Bureau Veritas Rules.

4.6 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].

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **WINTEB B.V.** in compliance with the type described in this certificate and in compliance with the requirements stated on the front page of this certificate. This type of product is within the category HBV of BUREAU VERITAS Rule Note NR 320.

5.2 **WINTEB B.V.** has to make the necessary arrangements to have its works recognized by BUREAU VERITAS in compliance with the requirements of NR 320 for HBV products.

5.3 No BUREAU VERITAS Certificate is required.

Place of production

WINTEB B.V.

Parallelweg 1

9672 AD WINSCHOTEN

NETHERLANDS

6. MARKING OF PRODUCT

WIN 2000 and WIN 2000 HIAS with closing device shall be marked with:

- Manufacturer's name or logo
- Model
- Size

7. OTHERS

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 products and of the conditions of this approval.

***** END OF CERTIFICATE *****