



Marine & Offshore

Certificate number: 44304/B0 BV

File number: ACM 180/2509/02

Product code: 7152I

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

TALLERES ZITRON

Gijón - SPAIN

for the type of product

ANTISPARKING AXIAL FANS

V1AM, V1AMC, V1AMT, V1AMT2, ZVNA & V1SAM

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units
- BUREAU VERITAS Rules for the Classification of Naval Ships
- BUREAU VERITAS Rules for the Classification of Yachts

This certificate is issued to attest that Bureau Veritas Marine & Offshore 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: 30 Apr 2025

For Bureau Veritas Marine & Offshore,

At BV BILBAO, on 30 Apr 2020,

Juan Jose GUTIERREZ GARCIA



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 Marine & Offshore. 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 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 Marine & Offshore 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 electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=zruzlixqq>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Marine Axial Fans Series V1AM, V1AMC, V1AMT, V1AMT2, ZVNA & V1SAM

1.1 Design

Serie	Description	Options
V1AM	Long casing, direct drive	Ext/int electric box, inspection hatch, T/V bench, Anti-Sparking Track
V1AMC	Short casing, direct drive	T/V bench, Anti-Sparking Track
V1AMT	Short casing, direct drive, flanged	Anti-Sparking Track
V1AMT2	Long casing, direct drive, flanged	Anti-Sparking Track
ZVNA	Long casing, direct drive	Anti-Sparking Track
V1SAM	Long casing, direct drive	Anti-Sparking Track

1.2 Technical Data

Axial Fan Serie	Inlet Diameter (mm)	Casing Thickness (mm)	Max. Airflow (m3/h)	Max Speed (rpm)
V1AM / V1AMC / V1AMT / V1AMT2 / V1SAM	250 to 1800	3/6/8/10 to 8/10	3600 to 413000	3600 to 1200
ZVNA	1000 to 1800	4/6/8/10 to 6/8/10	115000 to 579000	1800

1.3 Materials

Casing	S235, AISI 304, AISI 316, Aluminium (AlMg2, AlMg3)
Impeller	Carbon + glass fibre reinforced antistatic polyamide PACAS-V0 Aluminium, EN AC-ALSi12Cu1(Fe), EN AC-ALSi9Cu3 Aluminium (AlMg2, AlMg3)
Hub	Aluminium, EN AC-ALSi12Cu1(Fe), EN AC-ALSi9Cu3 Aluminium (AlMg2, AlMg3)
Anti-spark track*	Aluminium, Brass, Copper

* Only used when any or both casing and impeller are made of steel

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

2. DOCUMENTS AND DRAWINGS

- Drawing N° V1AM Rev.0 dated 26/04/2013
- Drawing N° V1AMC Rev.0 dated 26/04/2013
- Drawing N° V1AMT Rev.0 dated 26/04/2013
- Drawing N° V1AMT2 Rev.0 dated 26/04/2013
- Drawing N° ZVNA Rev.0 dated 26/04/2013
- Drawing N° V1SAM Rev.0 dated 26/04/2013

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

Not required.

4. APPLICATION / LIMITATION

4.1 Fans used in marine and offshore ventilation for hazardous or non-hazardous applications. Non-sparking type driven by Explosion-proof motor are approved for hazardous areas. Fans are suitable for vertical and horizontal installation.

4.2 Fans are to be suitably earthed to the hull in order to prevent electrostatic charges during operation where necessary.

4.3 Protective screens of not more than 13 mm square mesh are to be fitted in the inlet and outlet of ventilation housing to prevent any accidental contact-protection.

4.4 The installation on board is to be carried out in compliance with manufacturer's instructions and in accordance with the provisions of Requirements stated on the front page of this certificate.

4.5 Electrical motors are excluded from this certificate. Electrical motors Ex-protected will have to comply with the relevant class for the ship. The certificate for the motors will be provided for the ship Surveyor at each classification/visit. The certificate of the complete non-sparking fan, including running test at the factory, will be provided.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **TALLERES ZITRON** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.

5.3 BV product certificate is required for the finished product.

5.4 For information, **TALLERES ZITRON** has declared to Bureau Veritas the following production sites:

- **TALLERES ZITRON: Autovía AS-II, N° 2386, Polígono de Roces, 33392 Gijón, SPAIN**

- **TALLERES ZITRON marine Division: Polígono Industrial Gelidense - Nave 11A, C/ Luis Cuso n° 19-33, 08790 Gelida, SPAIN**

6. MARKING OF PRODUCT

The product shall be marked with at least:

- Manufacturer's name or logo
- Serial number
- Fan type designation
- Motor type designation
- Air flow capacity
- Additional information for every fan with ex-protection used for hazardous areas
- Society's brand as relevant

7. OTHERS

It is **TALLERES ZITRON** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

This certificate supersedes the Type Approval Certificate No. 44304/A0 BV issued by the Society.

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