



Marine & Offshore

Certificate number: 01955/10 BV

File number: ACM 145/2310/001

Product code: 2221I

*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*

**ARMATUREN WOLFF Friedrich H. Wolff GmbH & Co. KG**  
Hamburg - GERMANY

*for the type of product*

**EMERGENCY SHUT OFF VALVES, QUICK CLOSING VALVES**

Type AW 332, 333, 334, 335 (N, H, P)

Type AW 33004 to 33524

Type AW 33X16

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

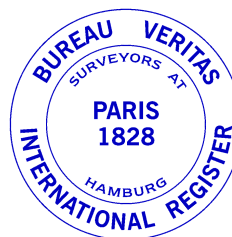
*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 01 Feb 2023**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 01 Feb 2018,

Adama Diene



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](http://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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

**Quick-closing Valves Type AW 332, 333, 334, 335 (N, H, P)**

**Quick-closing Valves Type AW 33004 to 33524**

**Quick-closing Valves with Bellows-seal Type AW 33X16**

*X-Code refers to body and bonnet material and straight or angle pattern (0 to 7) according to Manufacturer's List of Material*

#### **1.1 Technical data**

<b>Design</b>	Globe and angle type
<b>Operation Mode</b>	Locally manual operation Remotely controlled mechanical, hydraulic or pneumatic release
<b>Dimension (mm)</b>	DN 15 to DN 200 - AW 332, 333, 334, 335 (N, H, P) DN 15 to DN 150 - AW 33004 to 33524 DN 15 to DN 150 - AW 33X16
<b>Pressure rating</b>	PN 16 / PN 25 / PN 40 depending on material
<b>Max. working temperature</b>	150 °C

#### **1.2 Material specification**

##### **1.2.1 Quick-closing Valves Type AW 332, 333, 334, 335 (N, H, P) and Type AW 33004 to 33524:**

<b>Body</b>	G-CuSnZnPb / GS-C25 / GGG 40.3
<b>Disc</b>	G-CuSn5ZnPb / X20Cr13
<b>Stem</b>	CuZn35Ni / X20Cr13
<b>O-ring</b>	Viton

##### **1.2.2 Quick-closing Valves with Bellows-seal Type AW 33X16:**

<b>Body</b>	CC491K / GP240GH / EN-JS1049 / 1.4408
<b>Bonnet</b>	C20 / 1.4301
<b>Bellows</b>	X6CrNiMoTi17-12-2 (1.4571)
<b>Disc</b>	X20Cr13 (1.4021)
<b>Stem</b>	X20Cr13 (1.4021)
<b>O-ring</b>	Viton

### 2. DOCUMENTS AND DRAWINGS

#### **2.1 Drawings of quick closing valves:**

- Drawings N° 33X16-D1 Quick closing valve DN 15-50 dated 12/12/11
- Drawings N° 33X16-D2 Quick closing valve DN 65-100 dated 13/12/11

#### **2.2 Documents:**

- Operating manual FSV AN 7.4-4 Version 6 dated 08/12/11.
- Operating manual FSV, FSÖV, SSVF AN 7.4-4 Version 7 dated 21/01/15.

### 3. TEST REPORTS

Test carried out: Vibration resonance test according to test report N° 137-03 dated 11/03/2002.

### 4. APPLICATION / LIMITATION

- 4.1 May be used as emergency shut-off valves in oil fuel, lubricating oil, thermal oil systems and other flammable oil tanks.
- 4.2 The valves belong to class II of piping systems according to the relevant requirements stated in BUREAU VERITAS Rules.
- 4.3 The valves are to be installed according to manufacturer instructions and BUREAU VERITAS Rules requirements.

## **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 The valves are to be supplied by the manufacturer 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 BUREAU VERITAS Product Certificate is required.

5.4 Arrangements shall be made for a Society's Surveyor to attend the tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme, BV Mode I, has been arranged, in order to issue the BUREAU VERITAS certificate for the units to be fitted on board ships classed with BUREAU VERITAS.

5.5 **ARMATUREN WOLFF Friedrich H. Wolff GmbH & Co. KG** has declared to BUREAU VERITAS that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.

5.6 The valve body is subject to a test pressure at 1.5 times design pressure.

## **6. MARKING OF PRODUCT**

The valves are to be marked with at least:

- Manufacturer's name or logo
- Type designation
- Date of manufacture
- Society's brand as relevant

## **7. OTHERS**

7.1 This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **ARMATUREN WOLFF Friedrich H. Wolff GmbH & Co. KG, Hamburg/GERMANY** will accept full responsibility for informing shipbuilders, ship-owners or their subcontractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 This Certificate supersedes the Type Approval Certificate No. 01955/H0 BV issued on 16/07/2012 by the Society.

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