



Marine & Offshore

Certificate number: 21560/C0 BV

File number: ACM 145/502/2

Product code: 2205I

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

EBRO ARMATUREN Gebr. Bröer GmbH
Hagen - GERMANY

for the type of product

BUTTERFLY VALVES

BUTTERFLY VALVES, types: HP 111, HP 112, HP 114, T 211-A and T 214-A

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

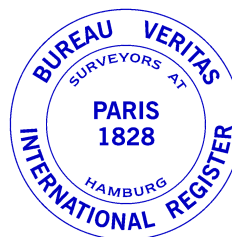
This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 19 Dec 2023

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 19 Dec 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. 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

Butterfly valves, types: HP 111, HP 112, HP 114, T 211-A and T 214-A

Technical data:

Type	Size [DN]	Temperature range [°C]	Maximum operating pressure [bar]
HP 111	50 – 1200	-60 to +600	# DN 150 max. 40 bar > DN 150 max. 25 bar
HP 112	80 – 600	-60 to +600	# DN 150 max. 40 bar > DN 150 max. 25 bar
HP 114	50 – 1200	-60 to +600	# DN 150 max. 40 bar > DN 150 max. 25 bar
T 211-A	40 – 300	-40 to +200	16
T 214-A	40 – 300	-40 to +200	16

2. DOCUMENTS AND DRAWINGS

According to the following documents:

Description	Document no.	Date
HIGH PERFORMANCE BUTTERFLY VALVE HP 111	HP 111 3.1	10.2017
HIGH PERFORMANCE BUTTERFLY VALVE HP 112	HP 112 3.6	04.2017
HIGH PERFORMANCE BUTTERFLY VALVE HP 114	HP 114 3.2	10.2017
PTFE-LINED BUTTERFLY VALVE T 211-A	T 211-A	04.2017
PTFE-LINED BUTTERFLY VALVE T 214-A	T 214-A	04.2017

3. TEST REPORTS

Not applicable.

4. APPLICATION / LIMITATION

- 4.1 Butterfly valves intended to be used for the following services on board:
- Shiplside
 - Ballast and bilge
 - Sea water and fresh water
 - Domestic and sanitary systems
 - Fuel oil and lubricating oil
 - Hydraulic oil
 - Cargo oil
 - Washing and fire extinguishing
 - Compressed air
 - Oil products and chemical products for type HP
- 4.2 The valves belong to Class I or Class II according to the relevant requirements stated in Part C, Chapter 1, Sec 10 of BUREAU VERITAS Rules.
- 4.3 The valves housing, disc and sealing should be suitable for the intended service. In particular the nature of materials, joints included, is to be selected according to the fluid to be conveyed.
- 4.4 This approval does not include any operating gear for remote control of the valves
- 4.5 The use of aluminium, grey cast iron and stainless steel is to be according BUREAU VERITAS Rules Part C, Ch 1, Sec 10
- 4.6 The fire-safe Valves type HP could be used for handling of propylene oxide or ethylene / propylene oxide mixtures.

- 4.7 On board installation and maintenance requirements have to be in accordance with Society's Rules requirements and manufacturer's recommendations.
- 4.8 When the butterfly valves are not fitted with flanges their use may be accepted as shipside valves provided that arrangement are made to allow a possible disassembling at sea of the pipes immediately inboard without any risk of flooding.
- 4.9 Bilge valves will be fitted in association with a non-return valve.

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 **EBRO ARMATUREN Gebr. Bröer GmbH** 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 Material certificates according BUREAU VERITAS Rules.
- 5.7 Each valve is to be hydraulically pressure tested to 1.5 times the maximum design pressure under witnessing of a Society's Surveyor.

6. MARKING OF PRODUCT

Each butterfly valve should be marked with:

- Manufacturer's name or logo
- Type designation
- Size
- Maximum working pressure
- Maximum operating temperature
- BUREAU VERITAS' marks

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 the manufacturer 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 N° 21560/B0 BV issued on 20 Mar 2014 by the Society.

*** END OF CERTIFICATE ***