



Marine &amp; Offshore

Certificate number: 61010/B0 BV

File number: .

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*

**WOUTER WITZEL EUROVALVE B.V.**  
LOSSER - NETHERLANDS

*for the type of product*

**BUTTERFLY VALVES**

Butterfly Valves Wafer and Double Flanged types  
EVS-i, EVTLS-i, EVFS-i, EVCS-i and EVCLS-i

### 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 is a renewal of certificate N° 61010/A1 BV expiring on 30/04/2025*

**This certificate will expire on: 30 Apr 2030**

**For Bureau Veritas Marine & Offshore,**

At BV GRONINGEN, on 03 Mar 2025,

Olaf RUITER

***This certificate was created electronically and is valid without signature***



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 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

Butterfly valves wafer type EVS-i, EVTLS-i, EVCS-i and EVCLS-i

Butterfly valves double flanged type EVFS-I

#### 1.1 - Ratings

Range	Body type	Size	Design Pressure (bar)	Pressure rating Class	Design Temperature* (°C)
EVS-i	Flangeless Wafer type	DN 400 to DN 1000 NPS 16"- 40"	16	PN 6, 10, 16 Class 150	-20 to +200
EVTLS-i	Lugged Wafer type	DN 40 to DN 1000 NPS 1-1/2"- 40"	16	PN 6, 10, 16 Class 150	-20 to +200
EVFS-i	Double Flanged type	DN 40 to DN 1400 NPS 1-1/2"- 56"	16	PN 6, 10, 16 Class 150	-20 to +200
EVCS-i	Flangeless Wafer – Semi lug type	DN 40 to DN350 NPS 1-1/2"- 14"	16	PN 6, 10, 16 Class 150	-20 to +200
EVCLS-i	Flangeless Wafer – Semi lug type with long neck	DN 40 to DN 300 NPS 1-1/2"- 12"	16	PN 6, 10, 16 Class 150	-20 to +200

\*Design temperature depending on the material of the sealing:

EPDM	-20°C/+120°C
NBR	+0°C/+90°C
FPM	+0°C/+160°C
Silicone	+0°C/+200°C

#### 1.2 - Materials

Part	Material	Grade
Body	Stainless Steel: Carbon Steel: Alu-Bronze: Ductile Iron: Ductile Iron: Bronze: Bronze: Bronze:	1.4408 EN 10213, ASTM A351 CF8M 1.0619 EN 10213, ASTM A216 - WCB CC333G EN1982, C95800 ASTM B148 / C95500 ASTM B148 5.3106 EN 1563 (JS1030), ASTM A395 60.40.18, ASTM A536 60.40.18 5.3103 EN 1563 (JS1049) - <i>For low temperatures</i> 2.1096.01 DIN 1705 (CC491K, EN 1982), ASTM B584 C83600 2.1086.01 DIN 1705 (CC482K, EN 1982), ASTM B584 C90500 CC493K EN 1982, ASTM B584 C93200
Shaft	Duplex SS: Super Duplex SS: Martensitic SS: Aluminium Bronze: Monel K500®: Hastelloy-C®:	1.4462 EN 10088, ASTM A182 Grade F51 1.4501 EN 10272 1.4057 EN 10088 ASTM A276 Grade 431 CuAl10Ni5Fe4 EN 12163, ASTM B150 C63000 NA 18 BS 3076 ASTM B547 N10276
Disc	Austenitic SS: Duplex SS: Duplex SS: Super Duplex SS: Ductile Iron / Rilsan coated: Aluminium Bronze: Hastelloy-C®:	1.4408 EN 10213, ASTM A351 CF8M 1.4517 EN 10213, ASTM A351 CD-4MCu 1.4470 EN 10213, ASTM A351 Grade 4A 1.4469 EN 10213, ASTM A995 Grade 5A/6A 5.3106 EN 1563 (JS1030), ASTM A395 60-40-18 CC333G EN 1982, ASTM B148 C95800 ASTM A494 CW-12MW
Sealing	Non-metallic	EPDM, NBR, FPM, Silicone

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

## **2. DOCUMENTS AND DRAWINGS**

- Drawing N° DTAFA006 Rev.C dated 15/05/2023: *For EVS-i DN400-1000.*
- Drawing N° DTAFA007 Rev.C dated 15/05/2023: *For EVTLS-i DN400-1000.*
- Drawing N° DTAFA018 Rev.B dated 15/05/2023: *For EVTLS-i DN40-350.*
- Drawing N° DTAFA008 Rev.C dated 15/05/2023: *For EVFS-i DN400-1000.*
- Drawing N° DTAFA019 Rev.B dated 15/05/2023: *For EVFS-i DN40-350.*
- Drawing N° DTAFA025 Rev.A dated 16/01/2023: *For EVFS-i DN1200-1400.*
- Drawing N° DTAFA020 Rev.B dated 15/05/2023: *For EVCS-i DN40-350.*
- Drawing N° DTAFA021 Rev.B dated 15/05/2023: *For EVCLS-i DN40-300.*
- Production drawing N° FBA1601 Rev.A dated 19/07/2018: *Body Casted EVS-i DN400 PN16.*
- Production drawing N° FBA1800 Rev.B dated 23/03/2018: *Body Casted EVS DN450 PN16.*
- Production drawing N° FBA2000 Rev.B dated 23/03/2018: *Body Casted EVS DN500 PN16.*
- Production drawing N° FBA2400 Rev.A dated 23/03/2018: *Body Casted EVS-i DN600 PN16.*
- Production drawing N° FBC1600 Rev.A dated 23/03/2018: *Body Casted EVFS-i DN400 PN16.*
- Production drawing N° FBC1800 Rev.A dated 23/03/2018: *Body Casted EVFS-i DN450 PN16.*
- Production drawing N° FBC2000 Rev.B dated 23/03/2018: *Body Casted EVFS-i DN500 PN16.*
- Production drawing N° FBC2400 Rev.A dated 23/03/2018: *Body Casted EVFS-i DN600 PN16.*
- Production drawing N° FCA1601 Rev.B dated 12/09/2018: *Body Machined EVS-i DN400 PN16.*
- Production drawing N° FCA1800 Rev.B dated 26/03/2018: *Body Machined EVS-i DN450 PN16.*
- Production drawing N° FCA2000 Rev.B dated 27/03/2018: *Body Machined EVS-i DN500 PN16.*
- Production drawing N° FCA2400 Rev.B dated 27/03/2018: *Body Machined EVS-i DN600 PN16.*
- Production drawing N° FCC1600 Rev.B dated 29/03/2018: *Body Machined EVFS-i DN400 PN16.*
- Production drawing N° FCC1800 Rev.B dated 26/03/2018: *Body Machined EVFS-i DN450 PN16.*
- Production drawing N° FCC2000 Rev.C dated 27/03/2018: *Body Machined EVFS-i DN500 PN16.*
- Production drawing N° FCC2401 Rev.B dated 11/09/2018: *Body Machined EVFS-i DN600 PN16.*
- Product datasheet N° PDS 01.61.001 dated 22/05/2023: *EVS-i.*
- Product datasheet N° PDS 01.62.001 dated 22/05/2023: *EVFS-i.*
- Product datasheet N° PDS 01.63.001 dated 22/05/2023: *EVTLS-i.*
- Product datasheet N° PDS 01.64.001 dated 22/05/2023: *EVCS-i.*
- Product datasheet N° PDS 01.65.001 dated 22/05/2023: *EVCLS-i.*
- Material datasheet N° M16 Rev.G dated 28/06/2023: *For EPDM.*
- Material datasheet N° M113 Rev.C dated 28/06/2023: *For FPM.*
- Material datasheet N° M141 Rev.C dated 28/06/2023: *For Silicon.*
- Material datasheet N° M200 Rev.B dated 28/06/2023: *For NBR.*

*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**

### **3.1 - Design calculations:**

- N° TB - FBC1800 dated 28/01/2020: *Body EV-i -Series Double Flange - Size 450.*
- N° TB - FBC2000 dated 28/01/2020: *Body EV-i -Series Double Flange - Size 500.*
- N° TB - FBC2401 dated 28/01/2020: *Body EV-i -Series Double Flange - Size 600.*
- N° TB - FCA1601 dated 28/01/2020: *Body EV-i -Series Wafer - Size 400.*
- N° TB - FCA1800 dated 28/01/2020: *Body EV-i -Series Wafer - Size 450.*
- N° TB - FCA2000 dated 28/01/2020: *Body EV-i -Series Wafer - Size 500.*
- N° TB - FCA2400 dated 28/01/2020: *Body EV-i -Series Wafer - Size 600.*

### **3.2 - Fire resistance test not performed.**

#### **4. APPLICATION / LIMITATION**

4.1 - May be used for the following services on board:

- Shiplside valves - Sea water and fresh water - Bilge and ballast transfer - Compressed air - Cargo oil for tankers - Inert gas systems - Fuel-oil and lubricating oil transfer - Domestic and sanitary systems - washing and fire extinguishing - Hydraulic oil -

4.2 - The valves belong to Class I, Class II and Class III according to the relevant requirements stated in *NR 467, Pt C, Ch 1, Sec 10*. Valves fitted on the ship side and collision bulkhead, and valves fitted on fuel oil and lub oil tanks under static pressure belong to Class II.

4.3 - The valve body, disc and seat 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 and the temperature.

4.4 - The approval does not include any operating gear for remote control of the valves.

4.5 - Bilge valves will be fitted in association with a non-return valve.

4.6 - The valves are to be installed according to the manufacturer's instructions and Society's Rule requirements.

4.7 - Installation on board ships where a fire safe design is required remains to be approved on a case-by-case basis.

4.8 - The use of stainless steel and grey cast iron is restricted according to Bureau Veritas Rules *NR 467, Pt C, Ch 1, Sec 10, Table 5*.

4.9 - When the butterfly valves are not fitted with flanges their use may be accepted as shiplside valves provided that arrangements are made to allow a possible disassembling at sea of the pipes immediately inboard without any risk of flooding.

#### **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 - The products are to be supplied by **WOUTER WITZEL EUROVALVE B.V.** 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 *NR 320*.

5.3 - Bureau Veritas product certificate is required.

5.4 - Bureau Veritas product certificate is required for materials of valve housings of class I (DN $\geq$ 50) or class II (DN $\geq$ 100). Materials of valve housings of class I (DN <50) or class II (DN <100) and for other parts are to be with Work's certificates.

5.5 - Each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure. Valves intended to be fitted on the shiplside below the load waterline are to be tested by hydraulic pressure not less than 0.5 MPa

5.6 - For information, **WOUTER WITZEL EUROVALVE B.V.** has declared to Bureau Veritas the following production site:

**WOUTER WITZEL EUROVALVE B.V.:**

**Industrieterrein De Pol 12,  
7581 CZ LOSSER,  
NETHERLANDS**

#### **6. MARKING OF PRODUCT**

Each valve shall be permanently marked with at least:

- Manufacturer's name or logo
- Type designation
- Maximum working Pressure
- Society's brand as relevant

#### **7. OTHERS**

It is **WOUTER WITZEL EUROVALVE B.V.**'s 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 a previous Type Approval Certificate N° 61010/A1 BV issued by the Society.*

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