



Marine & Offshore

Certificate number: 27920/B0 BV

File number: ACM 145/2572/01

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

BIJUK HPC d.o.o.

Bregana - CROATIA

for the type of product

BUTTERFLY VALVES

Wafer type L1, L2, L3

Double flanged type L4

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: 08 Apr 2024

For Bureau Veritas Marine & Offshore,

At BV RIJEKA, on 08 Apr 2019,

Slaven Celic



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.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=6orku78k5y>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

- Butterfly Valve Wafer Type L1, L2, L3
- Butterfly Valve Double Flanged Type L4

1.1 Technical Specification

Type	Size	End Connection	Pressure Rating	Design
L1	DN 40 ~ DN 600	Wafer	PN 6/10/16	EN 593:2009 + A1:2011
L2	DN 40 ~ DN 600	Tapped lug	PN 6/10/16	EN 593:2009 + A1:2011
L3	DN 40 ~ DN 600	Monoflange	PN 6/10/16	EN 593:2009 + A1:2011
L4	DN 40 ~ DN 600	Double flange	PN 6/10/16	EN 593:2009 + A1:2011

1.2 Temperature range

Seat Material	Temperature Range (°C)
VMQ (Silicone)	-50/230
NBR (Perbunan N/ Europrene N/ Hycar)	-25/120
EPDM (Buna AP)	-45/130
FKM (Viton / Flourel / Technoflon)	-12/200

The maximum service pressure and temperature are not to exceed those specified by the manufacturer.

1.3 Material specification depending on type

Parts	Material	Material Designation
Body	Nodular Cast Steel	EN-GJS-400-15 / GGG-40 / A536 Gr.60-40-18
	Stainless Steel	GP240GH / GS-C25 / A216 WCB
	Bronze	GXRCrNiMo19-11-2 / W.Nr.1.4408 / A351 TpCF-8M
		CC480K W.Nr. 2.1050 / C91600; CC491K / 2.1096.01 / C83600; CC333G / 2.0975 / 95500
Disc	Nodular Cast Steel	EN-GJS-400-15 / GGG-40 / A536 Gr.60-40-18
	Stainless Steel	X5CrNi18-10 / W.Nr. 1.4301 / AISI 304 / X5CrNiMo17-12-2 / W.Nr. 1.4401 / AISI 316
	Bronze	CC480K W.Nr. 2.1050 / C91600; CC491K / 2.1096.01 / C83600; CC333G / 2.0975 / 95500
Shaft	Steel	C 45 W.Nr. 1.0503 / AISI 1045
	Stainless Steel	X5CrNi18-10 / W.Nr. 1.4301 / AISI 304 / X5CrNiMo17-12-2 / W.Nr. 1.4401 / AISI 316
Seal	NBR	Perbunan N/ Europene N/ Hycar
	EPDM	Buna AP
	FKM	Viton / Flourel / Technoflon
	VMQ	Silicone

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

2. DOCUMENTS AND DRAWINGS

- Drawings:

Type	Drawing N°	Dated
L1	D0139	13/03/2019
	D0143	13/03/2019
L2	D0140	13/03/2019
	D0144	13/03/2019
L3	D0141	13/03/2019
	D0145	13/03/2019
L4	D0142	13/03/2019
	D0146	13/03/2019

- Installation & Maintenance Manual issue 2019

No departure from the above documentation 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

- N° 001/2012 dated 15/05/2012 Butterfly valve Wafer type L1 (Shell and Seat pressure tests, Material Certificates)
- N° 002/2012 dated 15/05/2012 Butterfly valve Wafer type L2 (Shell and Seat pressure tests, Material Certificates)
- N° 003/2012 dated 15/05/2012 Butterfly valve Wafer type L3 (Shell and Seat pressure tests, Material Certificates)
- N° 004/2012 dated 15/05/2012 Butterfly valve Wafer type L4 (Shell and Seat pressure tests, Material Certificates)

4. APPLICATION / LIMITATION

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

- Shipside valves, bilge and ballast, sea water and fresh water cooling, fuel oil and lubricating oil, hydraulic oil, inert gas, compressed air, cargo oil for tankers, domestic and sanitary systems

4.2 - The butterfly valves belong to class II and class III according to the relevant requirements stated in Part C, Chapter 1, Sec 10 of the Bureau Veritas Rules. Valves under static pressure on fuel oil tanks or lubricating oil tanks and valves fitted on the ship side and collision bulkhead belong to Class II.

4.3 - The butterfly valve body, disc and sealing shall 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 - The approval does not include any operating gear for remote control of the valves.

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

4.6 - The valve is to be installed according to manufacturer's instructions.

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

5. PRODUCTION SURVEY REQUIREMENTS

5.1 - The products are to be supplied by **BIJUK HPC d.o.o.** 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 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.

5.4 - 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 shipside below the load waterline are to be tested by hydraulic pressure not less than 0,5 MPa.

5.5 - For information, **BIJUK HPC d.o.o.** has declared to Bureau Veritas the following production site:

BIJUK HPC d.o.o.: Klokočevac 6d, HR-10432 Bregana, CROATIA

6. MARKING OF PRODUCT

The butterfly valve shall be marked with at least:

- Manufacturer's name or trademark
- Type designation
- Size and pressure class
- Special marking acc. to fire testing standard where applicable
- Society's brand as relevant

7. OTHERS

It is **BIJUK HPC d.o.o.**'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 the Type Approval Certificate No. 27920/A0 BV issued by the Society.

*** END OF CERTIFICATE ***